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# NEW WRITINGS IN SF-5

EDITED BY JOHN CARNELL

The fifth volume of *New Writings in S.F.* contains a chilling and well-contrived novelette by Eric C. Williams. In *Sunout* he depicts the thoughts and actions of men faced with the disaster of a dying sun. *Potential* by Donald Malcolm and *The Liberators* by Lee Harding both deal with the evolution of the computer, but arrive at wildly differing results. John Baxter's *Takeover Bid* draws a prophetic picture of Australia as the future larder of the world and, at the same time, offers some unusual ideas on space flight. David Stringer and R. W. Mackelworth reflect on human reaction to events outside present-day life and, set in the far future, Joseph Green's *Treasure Hunt* is an intriguing action story concerning the mating of man with a strange alien bird.

Also edited by JOHN CARNELL

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Edited by

# John Carnell

# New Writings in S.F.—5

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# FOREWORD

## BY

## JOHN CARNELL

RECENTLY, watching a television programme dealing with computerization and the wonderful robotic world now developing beneath our fingertips, I suddenly realized that today we are actually living in the science fiction age depicted by many authors only thirty years ago. In fact, so vast have been the strides of progress during the past fifty years that a man of 1915, if he could be transported forward in Time to 1965, would be completely bewildered by everything he saw, even terrified.

This thought led me to think forward thirty-five years to the magic-sounding date of A.D. 2000 and to wonder what the world will look like then as the exponential curve of our technology gathers momentum—and the picture comes out almost as frightening as that for the man of 1915! Adding factors like population explosion, the speed with which raw materials are being eaten up and the frantic search for new sources (already we are surveying the seabeds), more and more buildings climbing higher into the sky, town planning, country planning, road and transport planning; demands for more food, water, power, light, cars, radios, television sets, washing machines; the increasing tide of waste; packaging, cans, bottles, broken gadgets—an endless cycle of everything rushing through the maw of production and destruction—in comparison with the world we are apparently rushing towards, the shadow of the H-bomb pales into an insignificant ghost! In a brief flash of Time's scythe, the possible future in Thea von Harbou's 1927 published novel *Metropolis*, or a very good analogy of it, is almost upon us.

Some of these impressions must have been in the mind of Australian author Lee Harding when he was writing "The Liberators", a beautifully developed study of a self-sufficient city in the far distant future, where computerization has been taken to its logical conclusion and the City roams the face of an Earth devoid of humanity, dreaming fantasies of the past as senility creeps into its memory banks.

Still in the far future, American author Joseph Green presents a bizarre almost macabre adventure on a silicon-based world in "Treasure Hunt", where the mating habits of an alien bird will provide a fascinating study for anyone interested in ornithology.

Much closer to home are the stories by Donald Malcolm, David Stringer and Australian John Baxter—the latter I would commend for his theoretical development of Australia as the future larder of the world as well as his ideas on space flight. With the prospect of manned flights to the Moon by 1970 the plot of his "Takeover Bid" is particularly apt.

Purposely placed last is Eric Williams' novelette "Sun-out", describing the thoughts and actions of a small group of astronomers who discover the Sun is about to die in a matter of days. It is a well-contrived story not of the magnitude of the disaster but of the human emotions involved and the fallibility of human nature.

Basically, then, the stories in this fifth volume of *New Writings in S-F* are a great deal more realistic than they would have seemed a few decades ago.

JOHN CARNELL

May 1965

# POTENTIAL

*by*

DONALD MALCOLM

*A great deal of research has been done on the subject of dreams in recent years, but experts are still not too sure what does happen down in the subconscious when the conscious mind is at rest. Four-fifths of the brain mechanism is still a big mystery —within it there could be a latent power stronger than anything we know.*

# POTENTIAL

## ONE

DR. EDWARD MAXWELL, Director of D.R.E.A.M., became conscious that he had been staring at the same passage in *Hamlet* for at least a minute: "To die; to sleep; to sleep: perchance to dream . . ." His mind was on his wife, Jill, a former assistant at the Dream Research Establishment. Their first baby was due any time. Why did they always seem to enter the battle-ground that was life in the early hours, he asked himself, absently noting that it was 1.46 a.m., when the slender thread of existence was at its thinnest. The sound of a soft but insistent buzzer impinged on his drifting thoughts as he sat in the control-room, which was lit only by the harsh light of the few close-circuit television screens in use.

Had he been paying attention, he would have noticed that the electro-oculogram recording pen of research subject 177-6-65 had settled down after almost nine minutes of hectic activity. Maxwell thumbed Screen 177's button and in the cubicle, an all but inaudible bell, keyed to the subject's alpha rhythms so that only he would respond, rang.

177 roused himself from the cot, looking like a monster out of a third-rate horror film. Electrodes were pasted to his scalp, the bony ridges of his eye sockets, his back and chest. Wires sprouted like spiky grass from his head.

Behind the screens, a cardiotachometer and an electro-encephalograph converted his heartbeats and brain rhythms into inked traces on calibrated rolls situated in transparent windows under the larger, close-circuit screens.

Maxwell activated a tape-recorder and the twenty-year-old Gerry McLean began to dictate his dream. The Director decided to listen. McLean was spending his first night in the

research establishment and had dreamed once already that night, in a fragmentary way, at 11.21. While there had been nothing obviously unusual about the dream, intuition born of experience told him that volatile undercurrents surged in the subject's mind. It could be nothing more than frustrated sexual urges: or it could be something important. He sensed a familiar dryness on the roof of his mouth. He leaned his square, blue chin on the backs of clasped, hirsute hands as the tousle-haired young man began hesitantly:

"Clouds . . . or maybe swirling mists. Pale pink and yellow, with patches of grey. They didn't seem to fill the whole area of the dream, only the centre, leaving the edges murky. Lots of sharp, bright sparks are darting about at random, some rushing into the dark portions, but most of them seem to be pouring *out* of the pink and yellow mass." He paused and passed his hand across his brow in a curiously odd gesture. "There's a pattern forming, now. The sparks are beginning to line up into definite shapes. I can't understand them. They mean nothing to me. Some of the shapes are moving slowly, others are still, but pulsing, like small frightened mice. Now and again, some of the still ones, usually in a group, move to another place in the pattern, then stop. Wait! There's someone there!" Maxwell jerked himself to full awareness. "I can see only the back of a head—no, the top. Dark hair, big, protruding ears . . . It's gone, now. Some words . . . '. . . where firing commences . . .' and '. . . shift and it must be emphasized that it occurs . . .' and 'tends to be lowered until it fires for . . .' That was the end of the dream."

Maxwell, nonplussed, lounged back with his hands behind his head as McLean lay down and went back to sleep. There were only two subjects at the establishment that night and, as the other one had dreamed shortly before, there would be no more activity for at least an hour. That would give him time to think. The body of the dream itself—the mists and the sparks—wasn't all that unusual;

but those infuriatingly unfinished sentences were something else again. What could they mean?

He activated the tape-recorder again so that it would play back through a microphone in the control-room and not disturb the sleeper, although from the looks of him, that was unlikely. Already, his body, twitching and jerking, was sunk deep in the well of sleep. When the general movement of the limbs ceased, it would be a sign that the subject had a dream coming on.

Maxwell listened again to the strange, incomplete sentences and noted that two references were made to variations of the word "fire". Was that significant, he wondered? Finding a clean page on his pad, he began to put his thoughts on paper.

Fire fires
Boss fires (ha ha)
gun fires (and weapons in general)
neuron fires
enthusiasm/imagination is fired

A motley list, he considered. There was a hiatus in his thinking and he wished, briefly, that he hadn't been quite so precipitate in giving up smoking. He'd even set his face against the subterfuge of "planting" a packet in a convenient place for emergencies such as this. However, he was off the habit and that was that. He'd take up chewing nails, or something similar.

He sat tapping the pencil on the list. It was too soon to start jumping to clever conclusions that would probably be all wrong anyway. In any case, the words might not necessarily be connected with the other aspects of the dream, or even with the dream itself. Many people had dreams which were always a hotch-potch, showing no discernible pattern or form. Even the weird logic applicable to dreams was missing.

He let his mind drift off the immediate problem and fell to thinking about the work being done on the fascinating

questions posed by dreams and dreaming. The initial research programme had started at the University of Chicago in 1953. Now, in 1979, there were nineteen centres throughout the world, all attached to universities or hospitals. Maxwell's centre in London was the third largest. The official designation was Dream Research Establishment, but some wag had added the letters "a.m." because most of the work took place in the wee small hours of the morning. The tag had stuck, and the men in the research group were known to the regular nurses as the Dream Boys.

Many of the popular fallacies attributed to dreams had been shown the door. Almost without exception, everyone dreams, every night. People who claim that they don't dream have simply failed to recollect their dreams, which occupy about twenty per cent of their sleeping time. Their dreams may have been subconsciously suppressed.

Dreaming was as natural as breathing, and the latest research revealed that a person deprived of sleep, and therefore of the opportunity to dream, soon suffered a decline in both physical and mental health. Day-dreaming, some authorities considered, was one of nature's ways of making up such a deficiency. And it had also been shown that dream actions took the same time to perform as they did in waking hours.

The sequence and times of occurrence and duration of dreams had been thoroughly investigated and reduced to a line on a graph. Dreaming occurs several times in a night, but only at one particular stage of sleep. The times of dreaming were matched against a master graph, kept current with data from all nineteen centres, to derive more information on the mystery of dreaming and why people dream.

When a person drifts into sleep, his first dream is fragmentary, transitory and disconnected, as if takes on a moving film were blocked off at random.

The plunge into the deepest sleep is sudden, like stepping over a precipice. This period lasts about thirty minutes. The

sleeper then approaches the lightest phase of sleep, reaching it just over an hour after falling asleep. On the average, the sleeper remains in this stage for nine minutes and has his first organized dream during this time. A sleep not quite as deep as the first thirty-minute period again claims the person. Dream passages of nineteen, twenty-four and twenty-eight minutes occur at intervals until the final dream which lasts until awakening.

All the establishments were at present participating in research initiated at the University of Tokyo. A group of students whose examination results had been consistently poor had been divided into two sections. One section had been allowed the normal quota of sleep and their results had not shown any significant increase for the better. The second section had been allocated more sleeping, and therefore more dreaming, time. Their results had shown an amazing upward trend, the corollary being that additional dreaming increased the potential for their work. This hypothesis was now being subjected to a rigorous investigation.

Maxwell's part in the experiment didn't, properly speaking, begin until the following night, when twenty volunteers would take up residence for two weeks, including week-ends. This would yield an average of seventy dreams per subject, and an approximate total of one thousand four hundred dreams. The total for all the establishments would be in the region of twenty-six thousand dreams. Application of exhaustive analytical techniques would produce data proving or disproving Tokyo's claims.

He glanced again at the list he'd written down, then went into the small adjoining kitchen to brew himself a cup of tea. He boiled up some water, gave a tea-bag the fateful drop into the cup, poured in the water and let it infuse. He decided to have it without milk and added an extra spoonful of sugar to his usual two. He was about to sip this nectar when the buzzer summoned him. He almost dropped his cup in surprise. Taking his drink with him, he returned to the control-room. Screen 177! Routine took

over and Maxwell awakened McLean and set the tape-recorder going. Only then did he have time to check his watch: 2.27. But that couldn't be! Two dreams within forty-one minutes. He remonstrated with himself for not paying more attention to the screens. That way he would have been at least partially prepared. The tea forgotten, he settled to listen to what the boy had to say.

If McLean realized that his sleep period between the dreams had been abnormally short, he gave no sign of it.

"There are no clouds, now, only a uniform blue-grey background that seems to extend everywhere. There are no random sparks, either. All are in some pattern or other. There's much more activity . . . looks purposeful, as if a stimulus were being applied . . . or—or supplied."

Maxwell was really puzzled and not a little apprehensive, now. McLean's language was too concise and information-loaded to be true. He'd have to talk to the boy and find out more about him. There was much more to this than was apparent, and Maxwell was beginning to feel worried.

"The pattern moves . . . it's as if the mechanical action of a typewriter were being translated into terms of light . . . I see the head again; the hair is wavy and parted on the left. I also see something else, but I can't make out any details. It's like—well—a roll of white paper. It seems to be running in the background, coming from nowhere and going nowhere. When the sparks stop moving, the paper does also. There's something else not actually depicted in the dream: a long, rounded mass with thin extrusions at various places." *That's you!* Maxwell knew with certainty. His forehead was covered in sweat. "And there are more words. '. . . lengths 1,2,3 . . . $n-1$, $n$, $n$ . . .' and '. . . practice, a language such as English is highly redundant so that its information content is less than a . . .' and '. . . gaps do not occur so that we can consider average conditions in the store . . .' There's also a bit that looks as if it might be a chapter heading or something similar: '. . . level in the

store'. There's a lot of mathematics on the roll of paper——" A loud intake of breath was followed by an exclamatory, "Of course, I see——" Abruptly McLean stopped speaking, an ecstatic expression in his eyes. He lay down and resumed his sleep.

## Two

It took Maxwell some time to regain control of his breathing. He'd been holding it in. With great noisy gulps, he drank the tea, although it was practically cold. The physical activity seemed to calm him.

Once again, he played back the partial sentences, seeking what might possibly be key words. Two phrases struck him. "Conditions in the store" and "level in the store". He wrote them down and underlined them as he wondered about their meaning. What kind of store was meant? And what connection, if any, was there with the previous lot of words?

He gave his attention back to the screens and the electro-oculogram record. It was practically going crazy. A quick scrutiny of McLean revealed that his body was perfectly still and relaxed. Occasionally, his eyeballs flickered, although the comparative inaction suggested that not much dream activity was taking place. There was nothing physically exhausting going on, of that much he could be certain. There was, rather, an implication of almost manic concentration.

Maxwell tapped his large white teeth with the pencil. McLean shouldn't be dreaming at all. He'd just finished dreaming. That made three dreams in under an hour, something unheard of in all the years of dream research.

He waited until the subject's limbs began to show signs of movement again, then tried to waken him. But he wouldn't—or couldn't—be roused.

Maxwell ran out of the control-room and down to the cubicle. McLean looked peaceful. Maxwell checked his

pulse and made a couple of other tests. Everything was normal. McLean simply couldn't be wakened from his deep slumber.

Pensively, Maxwell returned to the control-room and resumed his seat. 165 started to dream again and Maxwell was thankful for the return to routine. Keeping an eye on Screen 177, he decided to listen in on 165. The dream was fairly predictable, except for a phrase that almost eluded the Director. ". . . synthetic language made up of letters of the English . . ." the old man said, apparently unaware of the incongruous statement.

Maxwell thought back. Could that phrase be connected to any of those spoken by McLean? He thought it could and played the tape back to refresh his memory. He wrote down: ". . . a language such as English is highly redundant so that its information content is less than a synthetic language made up of letters of the English (alphabet?) . . ." It fitted; although it probably wasn't complete at the end.

There was definitely something very odd going on, here. But what?

The old man's "intervention" in McLean's dream was seemingly impossible and inexplicable. But it *had* happened.

And except that he now had a more or less complete sentence, he was no farther forward in his search for a solution to the puzzle. Fire—store—English. There was a fire in the English store? The pen of my aunt—— Maxwell gave a mirthless laugh at the trend of his thoughts.

He continued to watch 177 and the slowly unrolling chart. (Question: could that be the roll the boy was referring to?) McLean's nondescript features were in repose. If the evidence could be believed, he was obviously dreaming again, when he had no natural right to be. Maxwell discarded that negative line of thought and accepted the fact that the subject was dreaming. And with something to spare, unless the mechanism working the recording pen had gone haywire. He studied the ink traces more closely and compared the various groups. Erratic though they

seemed, there was order—powerful order—evident under careful analysis. However, as Maxwell didn't know what particular dreams were allied to most of the traces, he could draw no valid conclusions.

The night-maintenance engineer poked his head round the door and asked if he wanted a cup of tea.

Maxwell yawned. "Make it coffee, Sammy, will you? Thanks."

He listened absently to Sammy's idle chatter as the coffee was prepared.

Sammy brought in the cups and some ginger-nuts. The engineer looked casually at the screens, then seated himself in a chair beside Maxwell's and started to drink his coffee.

"Any word of Mrs. Maxwell, yet, Doctor?"

Maxwell dunked a biscuit and pushed it into his mouth in one piece, and followed it with a long sip of hot liquid. "Not yet. The little perisher's had nine months to scheme and plan and no doubt it's going to make a grandstand entrance."

Sammy was about to reply when their attention was drawn to Screen 177. McLean was laughing in his sleep, quietly. It wasn't an expression of amusement or gaiety. It was the type of laughter used by an aristocrat to a peasant before he has him killed; frighteningly, supremely superior.

Maxwell felt as if the temperature of his spine had plummeted to zero. That laughter, for all its softness, was the most horrible sound he'd ever heard. Sammy sensed it, too. There was terror in his eyes, and his cup rattled against the saucer as he set it down.

Maxwell's eyes had flashed to the inked roll as the laughter started. The traces were fused solid.

"I—I think I'll be getting back, Doctor." Sammy's voice was quavering, and he carefully avoided looking at the screen.

"Yes, of course, Sammy," Maxwell responded, striving to keep his words calm. "Thanks for making the coffee. And I'll let you know when the baby arrives."

But Sammy had already gone.

Although he dreamed almost continuously for the remainder of the time until morning, McLean didn't waken until around 8 a.m.

Maxwell was feeling edgy and some of the frustration must have revealed itself in his voice, for McLean was withdrawn.

"Can you come into the office for a few minutes, Gerry?"

McLean's glance wandered to the box of tapes under Maxwell's arm and he nodded briefly.

In the office, Maxwell played the two tapes, all the while watching the subject's face. There was no change of expression throughout the play-backs. And yet Maxwell sensed that there was something behind the too-close muddy blue eyes returning his scrutiny.

"Does any of that mean anything to you, Gerry?" Maxwell failed miserably in his attempt to be casual and the boy knew it. More than ever, Maxwell wished he had a cigarette. "Does it trigger off any scene, any memory . . . ?" He let the question hang about in the silence.

"Not a thing, Doctor." McLean had a flat, monotonous way of speaking, and yet he managed to convey nuances of sarcasm that inwardly riled the Director. He changed his tack and leafed through a file that happened to be lying handy.

"What kind of work do you do, Gerry?" He knew perfectly well, but he wanted to try and draw the reticent youth out.

"Labouring, mostly." As if he had divined Maxwell's sudden craving for a smoke, he produced a crumpled stub and lit it. Maxwell's dark chin tightened. McLean was a most unlikable young man.

"Building sites, anything that comes along." He hooked Maxwell's waste-bin with a pointed toe and made a great pretence of tapping non-existent ash into it. That one has a malicious empathy, Maxwell told himself. It was an in-

teresting point to keep in mind and might be significant in some, as yet, unknown way.

"Why did you take this particular job on?"

"The money's good. And it saved me being out in the rain." He gave an exaggerated shrug and pulled heavily on the stub.

Maxwell was puzzled briefly, then he saw what McLean meant. He probably hadn't worked yesterday—and it had been raining—but had lazed around instead. And he'd probably do the same today.

"What kind of things are you interested in?" Maxwell dropped the "Gerry". "Hobbies, things like that."

The muddy eyes were wary. But when he spoke, he was casual enough. "Darts, snooker, billiards, the horses, puzzles——"

"Puzzles? Crosswords, you mean?"

Scornfully: "No. Mathematical puzzles."

Maxwell rode that one out. "You liked maths at school, then?" He put the tapes away carefully in a box.

"Top of the class every time until I left." The voice was boastful. And not without good reason, apparently!

"Good for you," Maxwell complimented him, standing up. "What school was that?"

"Earlton," McLean responded, dropping the still-burning stub into the bin. "Little village outside of Shoebury-ness."

"I think you'd better put that out, Gerry, or neither of us will have any place to come to, tonight." He walked out, not stopping to see if McLean complied with his order.

He waited at the door, the box of tapes under his arm. McLean came out hesitantly. "I—wasn't thinking of coming, tonight."

"Oh?" Maxwell made himself sound as if he didn't care. "That'll be all right. Plenty of other people on the list for free cash and bed. If you change your mind, come along at the same time."

He left McLean standing there.

He'd be along, Maxwell was certain. Those tapes had intrigued him and if, as Maxwell suspected, he had some inkling of what was going on—consciously or subconsciously—he'd be back. Fervently, Maxwell hoped so.

Maxwell had a quick wash and shave and left the establishment and, taking his car, drove by the back roads to the nursing home to see how Jill was. The Matron, a small, friendly person, met him and explained that Jill had just started labour, that she was perfectly well and that he'd be informed as soon as the baby was born. He'd left his phone number, of course?

Of course.

Thanking the Matron, he went outside and sat in the car for a few minutes, gathering his wits. Pregnancy was hell for fathers! He remembered that he had data to collect from the University of London Computing Centre. As he was fairly near, he might as well pick it up. He could look at the latest results and conclusions over breakfast before he took a sleep.

He was, by now, a familiar figure to the receptionist and she greeted him brightly as he entered the spacious foyer, with its murals with themes centred around mathematical symbols.

They reminded him of McLean's dreams.

"Any word of your son and heir yet, Doctor?" she teased him.

"My legs are worn up to the knees with pacing up and down," he grinned. "Seriously, it could be any time now. Labour's started. Ah, worry! Ah, care!" Hand on brow, he left her laughing.

He made his way to the office of Dr. Jason Brown—"my parents had to atone for that surname, somehow!"—uncrowned king of the computers, knocked on the door and was called in.

"Daddy!" Brown exclaimed, on seeing who his visitor was, but inserting enough of an inflection to let him know if he were wrong.

Maxwell shook his head, smiling.

"Damn! I was bursting for a cigar. Have a seat."

Maxwell removed a pile of files off a chair and seated himself.

Commenting that Maxwell was upsetting his filing system, Brown added, "Everything *is* all right, I take it?" He stopped threshing around in mountains of paper long enough to catch Maxwell's answer, then dived in again with gusto.

Maxwell shook his head in wonder. This great bull of a man—a modern Falstaff with brains, as someone had described him—seemed more like a circus strong-man than the brilliant mathematician and computer expert that he was. He had more degrees than a heat wave of thermometers, and he could converse intelligently on most subjects at the drop of a capacitor. Brown gave a snort of disgust through hairy nostrils and abandoned the search. He sat back and stroked his voluminous eyebrows. "Just in case you're worried, I haven't misplaced *your* papers. They're right here." Lifting them out of a drawer, he passed them over.

Maxwell thanked him. "Jason—perhaps you can help me." After sketching in the background, he played over the two tapes, then said, "I'm stabbing at random, Jason: is there anything that strikes a chord to you in either or both of these tapes? I'm sure that what he described in the dreams was, in some way, significant and progressive. The partial sentences obviously have some meaning. But what? Any ideas?"

Brown took a cigarette. He didn't offer the box to his friend. He said, "I'd have to think about it, of course, but at first sight, it's all Greek to me. The two lots of key words could have any of a wide number of meanings, and to guess at any particular one without having the sentences complete and in their context——" His meaning was clear.

"I can't help looking downcast," Maxwell replied, "although I realized that, at this stage, there isn't enough to

go on. I was hoping that your wide and varied experience of computer programmes might have enabled you to come up with something." He returned the tapes to the box.

"I don't have direct supervision over the programmes. By that I mean that I don't see them at every stage. I get called in if something goes wrong and see that everything runs smoothly. What's your next move?" Jason was sympathetic.

"I'm going along to McLean's school, to have a chat with his old teacher. It might help. McLean said he might not come back to the establishment, but I think he will. He's as intrigued as I am. He knows that something strange is afoot, and he wants to find out what."

Rising, he concluded, "Thanks for listening, Jason. If you do think of anything, you know where to find me." They shook hands.

## THREE

BY the time he'd driven to Earlton he'd worked up quite an appetite. He stopped the car in a small, cobbled square, neat and clean, and went into a tea-shop and found a window that gave him a view of the sea. He was the only customer—three women had just left—and the owner was inclined to talk. After he'd demolished a generous plateful of crisp bacon and eggs and exchanged a few pleasantries, Maxwell asked, "Do you know a young man called Gerry McLean? I believe he went to school hereabouts."

A distinctly guarded expression replaced the previous one of open good cheer on the proprietor's round healthy features. "I know him." He clicked his yellowed dentures thoughtfully. "Been in trouble again, I suppose?"

Maxwell helped himself to a piece of toasted brown bread and spread it with the butter and marmalade so liberally supplied. He didn't show that this little revelation surprised him. "As a matter of fact, no, he isn't."

"I didn't think you looked like a policeman," the man remarked candidly, relaxing.

"I'm a doctor," Maxwell explained.

"Oh, he's ill, then? I always thought he was a bit—you know." He made circular motions with a finger at his forehead.

Maxwell detected a slight trace of malicious glee in the man's comment. He didn't bother to alter the impression. "He's been attending me," he went on ambiguously, crunching noisily on the crisp toast. "It was something that came up during consultation that brings me down here."

The proprietor's small shrewd eyes lit up at this. Maxwell let him think what he was thinking. McLean wouldn't care, anyway. Obviously, he hadn't been liked here and the feeling had probably been mutual.

"I hear he was very good at figures . . ." He let the man take this up, if it meant anything to him. It did, but not in the way Maxwell expected.

"Oh, yes!" the man said with relish. "He liked figures all right . . . both kinds."

Maxwell maintained an interested silence and poured himself some more strong tea. He wasn't one to stem the tide when it was running for him.

The proprietor sat down astride a chair and winked broadly. "*Cherchez la femme,* you know." Maxwell said he did, and waited for the rest. The atrocious accent did nothing for Anglo-French relations. It was surprising, he reflected, what people picked up on day-trips across the Channel.

"I know," Maxwell repeated, encouraging him and lending the impression that they were both men of the world.

This made the proprietor expansive. "McLean worked here for a time. He was so good at figures that he managed to get at my books and he helped himself to a considerable amount of money. Then there was the girl I employed as a temporary waitress during the summer seasons—she used to come here from Southend, curvy piece, she was—well, he got her into bother——"

"About the embezzlement," Maxwell interrupted,

upending the large tea-pot, only to find that it contained barely half a cup, "you called in the police, I suppose?"

Lifting the pot, the man said evasively, "Why, no. But that's another story." He went off to fetch more tea.

Well, well, well, Maxwell thought to himself while he waited. Mr. McLean must have been quite a boy! And he thought he had a good idea as to why the police hadn't been called in. The look in the man's eye when he'd mentioned the waitress meant, unless he missed his guess, that the proprietor had been paying her attention, and McLean had probably caught him at it. Nice people. At least he had a little more evidence for McLean's mathematical ability.

The man returned, the determined set of his jaw warning Maxwell that the subject was closed. He put the pot down on the mat, asked perfunctorily if Maxwell wanted any more toast and, getting a negative answer, disappeared into the kitchen. Some of the locals came in, seated themselves and scrutinized the stranger.

Maxwell nodded to them civilly, finished his tea and while he was paying his check, found out the whereabouts of the village school. It wasn't hard to find. The day was pleasant and he decided to walk.

He could tell before he reached the school that it was playtime. The noise was an excellent clue. When he rounded the corner, he noted that there were many more children running about than there ought to be, but some of them were probably under school age and had gone into the playground to join in the fun. He fielded a ball and slung it back at a thin little boy, then asked him who the headmaster was.

"That's me," a warm voice said from the school doorway. "I knew by the sudden silence that a stranger was here. Can I help you in any way? Please come in."

Maxwell followed the headmaster, a man of around sixty, who wore a crumpled grey suit and a patched, but clean shirt—probably a widower, Maxwell judged—and

found himself in the dominie's room. The chair he was given was very old and shiny, as if it had been used by generations of anxious parents. Or were anxious parents a symptom of modern times? Maxwell didn't know.

"The name's Dix. Headmaster here for twenty-nine years."

"I'm Edward Maxwell. Doctor," he added.

Dix already had him weighed up, Maxwell felt sure. Headmasters were such omnipotent persons! At least his had always known when he had been doing something he shouldn't; which was often. He grinned slightly.

"Old memories, Doctor?" the headmaster said with sly gentleness.

Maxwell laughed openly and nodded. "Yes, Mr. Dix. Schooldays really were the happiest days."

"But that's not what brought you here. Smoke if you want, by the way."

Maxwell thanked him. "I'm off them."

Dix smiled and produced an old pipe.

"No, it isn't," Maxwell answered Dix's statement. "I came down in connection with Gerry McLean——"

Dix puffed hard on his pipe and raised weary eyebrows. "Still in trouble?" There was no cynicism in his words, merely pity and sorrow.

"You're the second person who's jumped to that conclusion within the last hour," Maxwell told him. "McLean's not in any trouble that I know of. I'm not a head shrinker, by the way. I'm the Director of the Dream Research Establishment."

A wide grin split Dix's face. "I've read all the popular articles. It must be very interesting work and I'm sure the articles don't do its importance justice."

Maxwell warmed even more to the man. "It's pleasant not to be laughed or sneered at, Mr. Dix."

The headmaster prodded his pipe-bowl and philosophically began to relight it. "How does McLean fit into the picture, Doctor Maxwell? A research establishment is the

last place I'd expect to find him." The statement carried no malicious undercurrent.

Maxwell shrugged slightly. "As far as McLean is concerned, he's doing it for money and to save himself from working."

"That fits," Dix interjected knowingly.

Maxwell agreed and went on: "We aren't selective in the people we take, for obvious reasons, so we get ones like McLean. Not, I might add, that I am in the least interested in my subjects' morals, or lack of them. It would surprise you the types of people who have the erotic and twisted dreams. But that's something else again. I'm interested in McLean for his mathematical abilities, and that's why I've come down here."

Briefly, he related the object of the latest experiments.

Dix contemplated his pipe, his eyes hooded. "Would it surprise you if I told you that McLean had—maybe still has—the makings of a mathematical genius?"

Maxwell contented himself with a shake of the head.

Dix continued, "He spent the whole of his school career here and he could do fantastic feats with figures from his first days. But even when he was of an age enough to realize the nature of the gift he had, he didn't treat it seriously. He used it for petty ends."

"So I've heard!" Maxwell couldn't refrain from grinning a little. There was something likable about a boy who dissipated talent in a talent-conscious world. Parental pressure was missing—his family had been lost at sea—but that didn't account for it all. Perhaps McLean wasn't so flippant as it would appear. Who knew what went on in any mind, let alone his? And yet, for all he knew, the answer to that question might be within his grasp. Whether he would like that answer was another matter and, suddenly, Maxwell felt curiously depressed and not a little afraid. Dissecting a mind was much more dangerous than dissecting an appendix.

He yawned and excused himself. "It's long past my bedtime. I hope you won't think me rude if I leave now.

You've been a great help to me, sketching in a bit of McLean's background. It gives him depth for me."

Dix said as they shook hands. "I'm very interested in your work, especially now that an old pupil of mine is involved. Would it be too much if I asked you to let me know how your experiments are progressing?"

"I'll be very happy to keep you in the picture, Mr. Dix," Maxwell replied warmly, as they left the headmaster's little room and walked to the school door. "If you're in London any time, call me and I'll arrange a visit for you. This card has my number on it."

Playtime was just finishing and the children were reluctant to leave the autumn sunshine and the freedom from discipline and restriction.

"Playtimes are all too much like life, Doctor Maxwell," Dix observed, watching the children with stern affection, "frantic, fleeting and over too soon."

Maxwell wished him good-bye and when he looked back from the school gate, the headmaster was still gazing out at the now-deserted playground, populated only with the many memories of his past pupils. Maxwell waved to him.

As he reached his car and got in, a prominently curved young girl passed him with a saucy stare and entered the tea-shop. Another recruit to the oldest profession, Maxwell thought cynically, taking the car away smoothly. Bed, here I come!

Once home, he phoned the nursing home again, got a negative reply, took a quick shower and kept his date with dreams into which no one pried.

## Four

Maxwell awakened at eight in the evening, just as the phone rang. He was the father of a healthy son, at seven-thirty. He could see his wife for a very brief visit. After a brisk toilet and an even brisker cup of coffee, he exceeded the speed limit in reaching the home.

Jill, sitting up and looking radiant, laughed when she saw his haggard appearance and said, "Edward! You look like a major disaster area!"

He kissed her fondly, let his hand linger on her plump breast, then said, "No one has any sympathy for expectant fathers."

"You keep your distance," she warned him. "That's how it all started."

He sat by the bedside, examining her face minutely, noticing the lines of strain that skilful make-up couldn't conceal, and the tiredness in her eyes. "You look wonderful," he said, and meant it. Whether they admit it or not, new mothers had a deep inner beauty all of their own. Physical appearance had nothing to do with it.

A Sister knocked and came in. "I think that's enough for the first visit, Doctor Maxwell. You can come and see the baby, now."

He kissed Jill again and went to see his son and heir. A feeling of great tenderness swept over him as he gazed down at the tiny puckered face and the mop of black hair. "A wrinkled prune wired for sound," someone had described a baby.

"A fine, healthy boy," the Sister said, with a smugness that suggested that she had had something to do with it. She accompanied him to the door.

"He is indeed," Maxwell agreed, thinking that she probably said that to all the fathers. "My wife—did she have a bad time?"

"Not particularly. Labour was prolonged, but some women are like that."

Maxwell felt better. "Thank you for your kindness, Sister."

"I'll do the same for you next time," she said, with the ghost of a smile, closing the door.

Maxwell stood speechless, then started chuckling. He drew one or two odd looks on the way to the car.

Sammy, the night-maintenance engineer, was waiting for him when he arrived at the establishment. "He's back," he announced in a tone he might have used to describe a rattlesnake. "Slouched in half an hour ago, that same distrustful light in his eye. Wanted a cup of tea. I told him we weren't running a canteen. Layabout."

"A layabout with a difference, Sammy," Maxwell said soberly, handing over the nightly fish suppers that had become a firm habit since Jill had gone into the nursing home a fortnight previously.

"Oh, how's that?" Sammy brought the kettle to the boil, sloshed water into the pot, swirled it round, tipped it out, spooned in tea-leaves, poured in the water and left it to infuse. There were no shortcuts for Sammy. Even if the Last Trumpet were to sound, he would have to make his tea the right way.

"He's a budding mathematical genius," Maxwell told him, passing the tomato sauce across the small table.

"And I'm Bertrand Russell!" the wiry engineer scoffed, dousing the steaming fish and chips liberally. "The only genius he's got is for doing nothing."

"It happens to be true, Sammy," Maxwell contradicted, crunching through batter and tearing at the succulent white flesh of his fish.

"You look as if you haven't eaten for a week," Sammy said parenthetically, then answered the main point with: "If you say so, it must be right. He's a queer bird, all the same. More bread?"

"They say you never overhear good about yourself," a cool sarcastic voice came from the doorway of the kitchen.

Both men stopped chewing and turned their heads to stare at the indolent figure lounging against the wall.

Before Maxwell could say anything, Sammy said harshly, "I bloody well despise people who listen in to private conversations."

That had its effect. McLean left abruptly. Maxwell eyed Sammy. He'd never heard the little man swear before. And

he could see from the engineer's jerky actions that he was seething with anger. They finished their meal in silence and Sammy cleared the dishes away, while Maxwell went off to supervise the night's activities.

Nurse Wilson came forward, clip-board at the ready, while three other nurses efficiently went about the job of taping up the subjects.

"Good evening, Jan," Maxwell greeted the slim brunette.

She returned his greeting and reported: "Eighteen people in, doctor, ten males and eight females. They should be ready for your inspection in"—she consulted her watch—"ten minutes' time. The two people who haven't turned up phoned in." She smiled faintly as she said, "Colds," and Maxwell found it both charming and not a little disturbing. He'd always been susceptible to girls, especially ones of such high voltage as Jan. Or did he have his ohms and his watts mixed up? No matter; the effect was the same.

He thanked her, admiring her precise ways. Brains *and* beauty. She'd been a great help to him since Jill had left.

She excused herself and went to assist the other nurses, while Maxwell returned to the control-room, to find there his companion for the night, Dr. Duncan Livingstone, universally known as "Dunc the Head Shrinker". The psychologist, a cheery-faced character (not beery-faced, as some malicious people were wont to think) who'd never quite lost his student sense of the ridiculous, grinned and said, "Welcome to Erotica, most Noble Doctor!"

"Hullo, you dirty old man," Maxwell replied, smiling.

"Hey!" Livingstone protested. "Less of the 'old', if you don't mind. How's Jill?"

Maxwell caught Nurse Wilson's signal on the monitor. "Her's was the greatest labour since that of Hercules! but we now have a son." After the congratulations, Maxwell said, "Come on, Dunc, inspection time. Don't ask any leading questions or put ideas into their heads, especially the ladies."

"They've got 'em already," he said slyly. "Or didn't you know?"

Shaking his head in mild exasperation, Maxwell led the way. He'd listened to Livingstone conducting patients through interviews and there was none shrewder. His sense of humour went a long way to relaxing them.

Nurse Wilson accompanied them on what were jokingly referred to as "the rounds".

Maxwell, with Nurse Wilson as very efficient and subtle prompter, had a word for everyone. Where there were signs of tension, the psychologist said his words of comfort. They paused at McLean's cot. The hostility in his face was evident. "All right, Mr. McLean?" He nodded rather curtly and didn't speak. A strange smile hovered around his mouth.

"Who's laughing boy?" Livingstone asked, when they'd settled down in the control-room.

Maxwell filled him in on the details and Livingstone was very quiet when he'd finished.

"No wise-cracks, Dunc?"

"There's a time for everything, Edward, and this isn't the time for jokes."

"It's got you intrigued, then?" Maxwell watched the night-maintenance electrician testing out some equipment.

"Yes, I am. I think it'll be very worth while listening in on his dreams as they occur."

Maxwell stretched. "That means we'll be listening rather often—if he wakens to tell us what's been happening. You'll remember I said earlier that I couldn't get him to waken last night, and yet he dreamed a number of times."

His companion was thoughtful. "It wouldn't do to waken him forcibly——"

Maxwell shook his head. "It wouldn't work, Duncan. He might refuse to tell us anything. I think we'd better let things take their course."

"Uum. There's something strange going on here, and I'd like to find out what."

"So would I!" Maxwell noted that everyone had lain down, prepared for sleep. It was 10.28 p.m.

"I wonder . . ." Livingstone mused. "Yes!"

The sharp ejaculation caused Maxwell to look round quickly, jerking his neck.

"Ouch!" he groaned, massaging the tender spot. "Don't bark like that, Duncan. This is one more crick than I need. What's up, anyway?"

"I was thinking that it would be interesting to tell McLean—if he does refuse to divulge his dreams to us—that he would have to be considered of no further use to the experiment. That should make him jump one way or the other."

Maxwell agreed, saying, "We'll wait and see what happens." He thought to himself that McLean wouldn't be difficult. Somehow, he sensed, McLean *needed* the dreams. He was puzzled with himself for thinking that, but he had no opportunity to pursue it, as Nurse Wilson brought them coffee.

"Aren't you having any yourself?" Maxwell was surprised; and, if he'd dared admit it, even to himself, a little disappointed.

"Not just now, thanks. I've a few things to do." She left them to it.

"Rather . . . starchy, that one," Livingstone commented and added, a trifle lasciviously, to Maxwell's mind, "but very nice."

"No doubt you'd like to get her on that couch of yours and analyse her," he remarked, finding the coffee too hot and putting the cup down.

"*Analyse* her!" Livingstone's voice was somewhere between a laugh and squeak. "Good God! Is this what happens to married men? There's a——"

" '—time for everything, and this isn't the time'," Maxwell quoted.

"That's copyright." Livingstone grinned over the lip of his cup.

"Sue me," Maxwell riposted, glancing expertly along the banks of screens.

Livingstone's reply was still-born as a buzzer sounded and the light winked warningly on Screen 177. Both men were instantly alert, and reading the time off the clock, exchanged raised-eyebrow looks. 10.43.

"This one likes his dreaming," Livingstone said, leaning forward, as if to improve his vantage point. "He's got no natural right to be dreaming as soon as this."

Maybe that was the key word: natural. Perhaps he had an unnatural right. Maxwell told himself he'd be on Dunc's couch if he didn't watch out.

Livingstone said, at the same time as he noticed the fact, "Look, Ed, there's practically no eye movement."

Maxwell examined the roll. The pen was going berserk again. He drew Livingstone's attention to it. "If that's any guide, he should be involved in frantic physical activity."

"Don't be misled," the other cautioned soberly. "Mental activity can be much more exhaustive and exciting than purely physical stimulation."

"You're right!" Maxwell took a quick drink of coffee. "I think we're on to something, here. You said a minute ago that he'd no *natural* right to be dreaming so soon. But need it *be* natural? Then there's your remark about mental activity. And I was thinking a short time ago that, somehow, McLean needs these dreams——"

"Like some sort of aphrodisiac . . . yes, you could be right. But *why?*"

"I've a feeling if we hold on long enough, we'll find out. This should be a fragmentary dream, but let's wait and see."

Both men crouched forward silently, their eyes fixed on the dreaming figure. Maxwell had his finger poised above the button that would activate the bell in the cubicle and cut in the tape-recorder. After what seemed an age, McLean stopped dreaming and Maxwell thrust stiffly at the button.

McLean awakened and started to dictate his dream. There was a fierce light in his eyes.

"Reminds me of someone adoring a saint," Livingstone whispered.

"He doesn't look as if he's actually wakened up, or aware of what he's saying."

McLean was reciting a long list of mathematical equations. This went on for three minutes, with the two listeners getting more puzzled with every obscure term. Then McLean said, "The equations can be rewritten if you——"

"Here we go again!" Livingstone grunted feelingly.

There was another string of equations. A brief silence followed by yet more equations, and McLean said, "I'll have to think about that set."

He lay down and went back to sleep. Shakily, Maxwell pointed to the roll of inked traces. Livingstone's gaze followed the direction. The traces were right off the paper at both sides. Fear of the unknown was in both of them.

Maxwell voiced both their opinions when he said, "Something tells me we're superfluous, here. Does it mean anything to you?"

"The very thought of mathematics sends me paralytic," Livingstone confessed, pulling at an ear lobe.

"Me, too. Anyway, that isn't the problem; the Department of Mathematics at the University will soon recognize the equations. It's the implication of the whole thing that has me worried. It's as if he were in contact with someone —or something. I'd better shut up before I frighten myself to death."

"Don't leave me here by myself, will you?"

The tension eased a little, but both men apprehensively watched the still-disappearing inked traces, and wondered what it all meant.

Eight more times during the course of the night, McLean treated them to spates of extremely befuddling mathematics. By morning, they were like wrung-out washing-cloths.

McLean went away as if nothing had happened.

Watching him leave, Maxwell hazarded, "I don't think he's any the wiser as to what's happening than we are—at least, not consciously."

"But something will bring him back, won't it?"

"Yes." He glanced down at the large box of tapes on the control-room table. "I'll take these to the University. If there's anything significant in them, I'll call you."

He made a quick call to the nursing home and was assured that all was well. Then he headed for the University.

## Five

The Senior Lecturer in Mathematics was very apologetic and even more unhelpful. "Really, Doctor Maxwell, the faith of the lay public in mathematicians is touching," the undernourished little man, who was as thin as a piano wire, expounded, puffing on a foul-smelling pipe. "But we can't do the impossible." He sounded quite cheerful about being such an intellectual drag. "Without a clue as to what the symbols themselves stand for, the equations are meaningless to me. Your tapes don't give much information."

Maxwell felt as if he were being held personally responsible for the contents of the mysterious tapes. Wearily he thanked the man, and went outside, glad to get some fresh air.

He didn't feel tired. The previous night's activities seemed to have squeezed the physical tiredness out of him. He made a call at the nursing home, then decided he might as well give Jason the good news in person.

Proudly, he told the pretty receptionist at the Computing Centre about his son.

"What are you going to call him?" she asked, practically.

Maxwell stopped short. "Do you know," he admitted blankly, "I haven't given it a thought!"

She shook her head, smiling. "You men! Anyway, now I

know what colour of wool to get. By the way, tread warily with Doctor Brown. He was routed out at six this morning and he's not exactly pleased about it. Apparently, there's something wrong with the computer."

"Thanks. It's good to have a spy in the organization." He wondered if he'd bring her flowers or chocolates the next time he came. She was very helpful and bright.

Jason wasn't in his office and he was directed to Computer Control. I'll be counting dials and gauges in my sleep, he promised himself. Jason greeted him civilly enough, but Maxwell could see that he had things on his mind. "I won't keep you——" Maxwell began.

"Not at all, Edward," Brown overruled him, taking his arm, "I'm being very rude. A break will do me good."

They went into a small office. Outside, the place was in turmoil, people rushing hither and thither. Maxwell could see a group of men and women, in white coats, gathered round a table, like surgeons at an operation, checking stacks of papers and calling off things to an operator at a punched-card machine. Only the banked faces of the computer looked imperturbable.

"Any news of the baby yet?" Brown kept glancing agitatedly at the group.

"A boy, seven-thirty last night."

"Congratulations! Is your wife well?"

Maxwell nodded and handed over a cigar. "You and Joan will come round to our place, once the flurry settles down. We'll arrange it later." He gestured out to the commotion. "What's your problem here? My spies told me you were called out at an unearthly hour this morning."

"The computer is quietly going nuts and so am I."

Maxwell looked suitably puzzled and interested.

"To put it in a nutshell, Ed, the blasted thing's giving out more than it's taking in! It's like pouring a pint of beer into a pot and drinking out two. I can't understand it. They're checking the programme now."

Just then, a long-haired girl detached herself from the

mêlée and swayed towards them and came into the office. "There's nothing wrong with the programme, Doctor Brown," she said, examining Maxwell closely till he blushed, and liking what she saw. He felt like a slave at an auction.

"Okay, Moira," he said resignedly, "thanks. I'll be with you shortly."

Moira flashed Maxwell an inviting smile, tossed her long, shining chestnut hair and went out.

"Nymphomaniac," Jason said matter-of-factly. "Do you happen to have a gun handy, Ed?"

"I'm trying to give them up," Maxwell said and was rewarded with a smile from Jason.

The computer chief paced around a bit. "This is an absolute dead-end! When we compile a programme for the computer, we know the limitations and can calculate how much information will be returned. When this thing came up, we automatically checked the programme running at the time for error, as that was the only thing that could produce the results we got. But there is no error. And that leaves us exactly no place to go."

He knotted his fingers vexedly.

Maxwell, who had been listening closely, said suddenly, "Let's get to the nearest tape-recorder. I've something I want you to hear. We might have the answer to both our problems."

Without further explanation, Maxwell dragged Jason back to the latter's office and began to play back the tapes for him. As they progressed, Jason's excitement grew and grew. When the tapes were finished, all he could say was, "That's the stuff we've been getting back. But how, but how——?" He was thumping his fist into his palm. "You see what this means, don't you, Ed? My computer and your subject, McLean, are in telepathic communication! How it started is anyone's guess, but the computer must broadcast on a special frequency that can be picked up only by a special receiver: and that receiver is McLean's mind.

They've been swapping information, and McLean has been helping the computer to do its sums. In turn, the computer, being basically stupid anyway, prints the information on the output tape. We're getting our answers before we ask our questions." He put his head in his hands. "When I try to explain this one, I'll really need that gun."

Maxwell's face resembled putty in colour. "It doesn't stop there, Jason." Brown didn't look up. "If your computer is broadcasting, does it mean that *all* computers broadcast, all the time they are in operation? Think of it: every computer, everywhere in the world."

"I don't want to, not yet, anyway."

Maxwell went on as if he hadn't heard the interruption.

"And here's another thing: do computers communicate with each other?"

This elicited a groan.

"As for McLean? Is he unique, or are there more like him, with special types of brain, just waiting to be tapped? The possibilities are endless!"

They sat in silence, contemplating those possibilities.

Brown straightened up and said, "Tell me all you know about McLean."

He sat back as Maxwell told him about the visit to Earlton and his meetings with the shop-keeper and the headmaster, and concluded, "So he's always had an inclination towards figures."

"He and Moira would get along famously," Brown couldn't help remarking. Then he asked, "Is McLean coming back to the establishment tonight?"

"I think he will. There seems to be a compulsion in his mind, as if, as I said, he needs the dreams."

"I'll bet he does!" Brown answered. "Look at it this way, Ed. McLean has had an exceptionally high-level area of his brain tapped by my computer—and the blasted thing has bitten off much more than it can chew, and it serves it right, too—and the interchange with another high-level 'brain' is like food to him."

"Or an aphrodisiac" Maxwell interjected.

"Yes, yes, that's it exactly! It's not a staple diet. It's only for kicks, if I've got my slang right. He's hooked and he can't do without the shots."

"The addiction," Maxwell said, "if I may carry on your analogy, is getting worse. He dreamed almost continuously last night—the point of the pen wore out—and he'll need more. Tell me, Jason, is the computer ever closed down?"

Jason said no. "Only in the case of a power failure, when there's nothing we can do about it, or when there's a really major fault developed. This type of computer can, for the most part, repair itself. Why?"

"I want to try something, and I'll need your co-operation. Here's what I want to do."

His phone was ringing when he reached home. Lifting the receiver, he identified himself. "Dr. Maxwell! Establishment here. There's a young chap kicking up an awful fuss, demanding to get in. Says he *has* to get in. Name's McLean."

"Is Nurse Wilson still there? She said she might be until about ten."

"She's just leaving now——"

"Get her to the phone."

He heard the man calling and then Nurse Wilson's cool voice was there.

Quickly he explained the situation. "Let him in and tape him up, as he asks. Can you do that and wait till I get there?"

"But you haven't had any sleep——"

"I'll manage for once, Jan. I'll be with you in twenty minutes."

Replacing the receiver, he push-buttoned Jason's number.

"Jason! Our addict's back. He almost tore the place down trying to get in. One of my nurses is taping him up and I'm going over there now."

"Do you think there's some sort of crisis?"

"Probably. We'll be forced to bring my plan forward, Jason. Will you let me know the most suitable time?"

Jason agreed. "We'll need to keep in constant touch."

"This might not last as long as we think, if it is a crisis. I'm going away now and I'll call again from the establishment."

Jan Wilson was waiting for him. Even her usual façade of calm was cracked a little.

"He wouldn't let me tape him up, Doctor Maxwell," she began to explain, as they hurried towards the cubicle. "He was in a terrible state when he came, but after I let him in, he changed completely. He said he had no need of machines now. He just needed to be here."

They reached the cubicle where McLean lay sleeping, his face composed, his limbs at rest. There was no indication of eye movement.

Maxwell led the way to the control-room and they found seats. "That fits, Jan. This is where it started for him and he associates this place with his experiences."

"I'm afraid I don't follow you——"

"Sorry, Jan," Maxwell was apologetic. "Of course you wouldn't. I saw Dr. Brown, of the Computing Centre, this morning. His computer and McLean are in some sort of telepathic communication."

She stared at him for a moment. "But how——?"

Maxwell took his eyes away from the still figure of McLean. "I don't know how it's being done, but it is. We have conclusive proof of that. The computer is running ahead of itself, giving out more information than it should according to the programme."

She sat shaking her head, unable to comprehend it all.

"That makes two of us," he said, reading her thoughts.

He rose and lifted the phone and put Jason in the picture.

"Methinks our little experiment is going to be dangerous," Jason predicted gloomily, "and I wouldn't like the cost of a computer to be stopped out of my pay."

"I think there's tremendous power, here, Jason, but I have a feeling that it isn't basically destructive. If anything happens, it will not be deliberate."

"You tell that to the Inquisition."

"Stop trying to see into the future. You've been around computers too long, that's your trouble. Unless anything really unusual happens, I'll await your call to put the experiment into action."

He rejoined Jan, who, having found her composure, went off to make tea. Good old Britain, he thought, awash on an ocean of tea, answer to every ill!

McLean still slept peacefully and, if the signs were to be believed, he was dreaming continuously. Oh! to know what those dreams were.

The phone rang and he bounded to the table.

"This computer's going crazy!" Jason's agitated voice almost bawled in his ear. "The stuff's churning out so fast we can hardly clear a space for it. And you should see it! I have a nodding acquaintance with mathematics, but I don't recognize a fraction of what the infernal thing's spewing out. I wish I knew what they were cooking up together."

"McLean's the senior partner," Maxwell said, "I'm sure of that. Even if your computer has become intelligent, as seems likely, McLean is forcing it to function as a computer and not as a thinking entity."

There was silence for a brief spell. "It's funny you should say that. I've been watching closely and I'd swear that, once or twice, there was a slight hesitation in the production, as if the computer were fighting back. What a situation!"

Maxwell had been thinking hard while Jason was talking. "There's going to be no suitable time for our plan now. Your programmes are shot to bits. So try it now and we'll see what happens. I'll hang on here. I can see McLean's screen." He covered the mouthpiece and called Jan. "We're going to try something. Come and watch."

"Doing it now," Jason said.

McLean started to scream at the pitch of his voice, his face contorted. But he hadn't wakened up.

"I can hear the racket from here," Jason told him.

"Doctor"—Jan was by his side—"do you notice anything peculiar about that scream?"

Maxwell said he didn't.

"It's exactly the same as that of a child deprived of something it wants. It isn't pain. It's bad temper!"

Maxwell rubbed his shin, staring at the screen. "You're right, Jan." To Jason: "Better turn the juice on again, Jason. Our boy's having tantrums."

Jason sounded ill as he answered, "I hate to tell you this, but the computer has just this minute started working again, of its own accord."

"And McLean's stopped screaming!" Maxwell was almost speechless with excitement. "This means that he reached out with his mind, located the power switch and turned it on. I'm beginning to wonder what we have here."

"I'm beginning to wish we'd never found him, or he us, which ever way you like—almighty heaven! The computer's overloading! There's smoke pouring out of a dozen places——"

The conversation ended abruptly and Maxwell heard the receiver being dropped on the table. Vague noises came to him, mostly shouting, unintelligible. The tea, delayed, came in a large mug.

"What's happening?"

Maxwell lifted the mug. "I think McLean's burned out the computer with an overload."

"Oh, dear. Is that serious?"

Maxwell did a double-take. "About a few hundred thousand pounds worth serious."

Just then, Jason came back on the line. He sounded more puzzled than ever, but relief was evident in his voice. "Everything's all right, the computer's working again," he kept repeating in wonderment. "I can't understand it. The

computer was on fire—excuse me, Eddie, I'll have to go and get something very strong to drink. I'll call you back."

Maxwell walked slowly over to the screen. "I'd give anything to know what happened, what is happening now. There, Jan, you see someone with a fantastic mind. Maybe there are others like him. Perhaps, if they ever manage to find out what's on those computer rolls and get McLean to talk—who knows what might be revealed?"

He fell silent. Together, they gazed at the dreaming youth whose mind might be the greatest the world had ever known.

Now that the computer was saved—although he no longer needed it—he could go ahead with his plans. The computer had helped him to find the way. Slowly, at first, he let a small portion of the power of his mind filter out into space in the direction the computer had shown him.

Gradually, he stepped up the output until he was broadcasting at peak strength. He couldn't maintain his effort for long and he began to weaken. But with practice and experience, he would learn.

Then, as his signal began to fade, on a planet of a star four and a third light years away, a mind became aware, fleetingly, of an alien presence.

He smiled and was content.

# THE LIBERATORS

*by*

LEE HARDING

*In the far distant future the City roamed the face of Earth, its memory banks conjuring fantasies from the minds of the unhumans stored within its vitals. Almost omnipotent, it was yet growing old and senile, and slow to meet the threat of the new life stirring upon the face of the world.*

## THE LIBERATORS

THEY tumbled blindly through the endless twilight of the tunnel under The World, pallid little creatures with faces like polished pebbles washed smooth by time, and pursued by a growing sense of guilt.

Malo wondered if it was because they were leaving the City, and if their sudden exodus could be construed as a gross betrayal.

But the Poet had said: "Your responsibility is to yourselves—not to a machine. And least of all to the City."

And this much they believed, this much they had come to accept: that the City was no master but a servile mechanism corrupted by a strange megalomania, and that their destinies had been founded ages ago upon individual human liberty and *not* upon integration with a non-organic entity.

Wild, impossible heresies—yet they had come to know them as the truth.

But the ties of centuries were not easily broken, and that explained her uneasiness. It seemed likely now that the Poet had, by the very stealth of his movements, offended the great City and aroused the antagonism she could sense in the dank air about them. Even the gloomy walls of the tunnel exuded a faint, drawn-out sigh as they flashed by and quiet weeping pursued the vacuum of their passage.

The City did not wish them to go.

*And why not?* she asked herself. *We are the last to leave. When we are gone it will be alone and without purpose . . .*

Why shouldn't it resent their departure?

There were five of them, a straggling line of limbless ovoids spun out like a necklace behind the Poet, moving

swiftly down the ancient passageways towards an unimaginable destination far removed from the false fabrications the City had thrust into their weak and willing minds.

Malo watched him moving ahead of them, marvelling at the way his great golden legs pushed down against, but never quite touched, the dark floor of the tunnel. Like two impatient pistons driving them forward, when in all sanity they should have perished long ago at the time they had been so rudely ripped from their comfortable wombs.

Ah, how strange, she thought. How very, very strange Life had become since the arrival of the Poet . . .

Existence had been a simple matter, unencumbered by the need for decisions. Her function, as the City's biological memory, was supreme above all others. All that mankind had ever been lay buried in the rich darkness of her racial memory, and while the City nursed and nurtured her frail little body her mind dwelt for ever in a cycloramic past which somehow provided sustenance for the vast machine, for without Malo's gift there would have been . . . no Purpose. It would lie abandoned and lifeless like so many of its kind.

Once, long ago, the City had been a nomad, wandering the empty face of the Earth looking for some small trace of the race that had deserted it ages before. That had been a lonely time, moving slowly and with great patience over the rich green crust of the land until each small inch was engraved for ever upon massive memory banks and there was not one small quarter of the empty globe that remained unfamiliar.

Had it not been wise beyond the capabilities of those other desolated machines it, too, might have sundered and collapsed under a burden of No Purpose, but some savage quest kept it alive and functioning—and growing. That was the most important facet of its existence. When others had crumbled into ruin it had refined and extended its func-

tions until it was possible for the inorganic mind of the City to extrapolate and perform feats far in advance of any machine previously conceived by man.

When it could *move* the quest was taken farther—to the very ends of the deserted Earth. Lonely and pressed beyond all abilities ever endowed upon metal and plastic, it finally tired of its senseless task and returned to the land. Its mighty mass fastened once more to the ageless breast of the world, it waited for the ages to pass and for true consciousness to generate within hungry cybernetic cells. And then, one day, it began to Dream.

Not *all* of the people had left. For some time it had been aware of a few faint candles of organic life flickering pitifully in forgotten corners of the incredibly complex machine. They had been beyond the reach of the City but now, rested and secure at last, it began the long process of activating every cell of its structure into full awareness. Ages passed. Many centuries, perhaps, before this was accomplished and the City throbbed throughout its massive bulk with a vibrant awareness in excess of any it had previously known. Only then was the location of the Dreamers made possible.

They slept in their cells like pale, moist little moths, their minds made weak and flimsy by centuries of dwelling and drifting through the bright lands of their fashioning: relics of a race who had forgotten their existence and would hardly have cared if they had not, for the Dreamers were the Dead. The ones who had traded a rich and full life for the tempting fantasies of their own subconscious—and this but one of the many cul-de-sacs from which the race had fled.

And the Dreamers, the immortal slumberers, slept on through the ages.

At first the City probed warily about its discovery. Before it could actively engage the guttering minds of these creatures it would have to create new techniques and new

tools for the impossible task it had set itself. In the meantime it could only strengthen and maintain the conditions necessary for the continued survival of the Dreamers, so that this precious cargo might not be lost before the necessary techniques were perfected.

It did not take long. Seemingly unsurmountable problems fell one after the other beneath the battering ram of the City's remorseless logic, and when, for the first time, it entered the world of the Dreamers it was as a gently moving breeze that fails to disturb even the most frail of grasses.

In many minds it found only madness and corruption. Cells deteriorated beyond any possible hope of repair (there were still some things beyond the control of a machine) and there were others whose minds existed only as pale, greyish clouds in the awful stillness of their tombs. From these it withdrew and, loath to destroy even flesh as senile as this, closed heavy shutters around the useless creatures and nursed and nurtured them for the far future—when even protoplasm without a mind might have some use.

But there was eventual reward.

From the moment it first crept into the rich darkness of Malo's thoughts it knew that here was something beyond even its wildest imaginings—a mind that was not only whole and undamaged by the centuries spent Dreaming, but one capable of recalling the entire history of a race. The concept was staggering—and the implications equally endless.

What it had been until then had been taught by man.

What it had once thought of as a beginning now became but a clumsy splice in history.

All of this unrolled like a timeless film inside the creature's soft skull, stretching back towards the dim infinity of mankind's emergence on the land and the beginning of the long evolutionary journey. Those distant times were vague and ill-defined, but the City knew that with

time and patience even those dim images would be made as real and as vital as those of the recent past.

And it was from this vast tapestry the City forged a plan of development it would have once thought impossible. With the help of this and other minds it had found it hoped to end some way of bridging the gap between organic life and its own.

In the beginning there was much confusion and much pain. A machine has no use for emotions. A machine has no soul. And a machine cannot Dream. Yet it coveted these things that it found in the mind of Malo. The race had deserted it without bestowing the ultimate gift of Life upon their creation—now it would finish a clumsy effort by uniting itself with flesh and mind and soul.

Before the awakening it spun a subtle and cruel web to ensnare the captive minds. One by one it roused them and fastened their thoughts to its snare, so that although they had left their own dreams behind they now shared a new one created for them by the City. And who was to cry: devil? They had never been alive—it had merely traded them one Dream for another, only in this case it was a Dream with a Purpose—the City's. And so it crept into their minds, and enslaved them, and sucked at the rich juice of their thoughts, and became a parasite.

Malo never knew the meaning of loneliness. She had many companions-in-mind. There was Bael who bred for the City and Antar who slept, ate and excreted in the manner of his ancestors and to the satisfaction of the City, and there were others whose functions were not quite important. Through Anita the eager machine could enjoy the delight of the human bloodstream and by entering the feeble mind of Primo could explore the fascinating world of insanity—the concept of not-sane being of particular interest to the City. By integrating these helpless little human relics into its cybernetic heart it imagined itself something better than the machines which had preceded

it. Something that was not quite a complex structure of metals and electricity—and something not quite human, either. It was, simply, the City. Only . . . different.

Sometimes they were even allowed the Dream—but for the City's enlightenment—and even in Dreaming Malo was supreme above all others. Not for her the muddled, incoherent pictures of the others but vivid, grand illusions such as the City had never believed possible. Oh, the wildest, most fanciful things cropped into her mind! And she could make her master laugh and cry and puzzled in turn by the impossible absurdity of her Dreaming—and many were the shades of mood and emotion that suffused the delicate stuff of her sleeping mind and remained beyond the City's comprehension, so that it would sometimes fall again to brooding and to contemplating The Gulf that sternly insisted to be.

She had been Dreaming when the Poet arrived. Building a sparkling phantasm of slender creatures moving indolently through a darkened deep, now phosphorescent with life forms rich and strange from the bottomless ragbag of her racial memory.

An unwanted turbulence had disturbed the delicate substance of her Dream, sent fish and foliage flying willy-nilly about her. Bewildered, she sought explanation from the City and watched with alarm a milky translucence begin to spread throughout her mind, swallowing the dark wonder of her thoughts and leaving her head full of no-thoughts.

And then she felt something grotesque move into her mind. Something with the form and sense of a man and yet—not quite so.

A *giant*!

Large and gross of feature—like something from the primeval past.

She moved suddenly away from the intruder and studied him curiously. Her mind insisted that this was, beyond

question, a bipedal man of the dim past. Gross folds of flesh covered a naked body disfigured by deformed extremities—and it *stood* upright on two incredibly long legs, unsupported in any way she could determine.

And all this ascertained in the fraction of an instant Malo found necessary, a moment poised clumsily between the assimilation of fresh knowledge and effective action.

Too long.

The giant was upon her in a single movement, had taken possession of her faltering mind and was about to perform some violent action outside of *her* world . . .

He stretched out a hand and with his fingertips gently pierced her silver shell of comfort . . .

. . . and a great darkness crashed down upon her and washed out her thoughts. She plunged into an oblivion more complete and final than she would have ever thought possible.

Tumbled forward, a deafened and blinded and insensible ovoid.

And the giant caught her in his arms and smiled down upon her. "Come with me, little one," he said, "and I will teach you to walk."

The first words to sunder the dreadful darkness that had overtaken her.

The pain was momentary and minimal. The darkness became a comfort and not a terror, and, once her mind had been readied, a brilliant sea of images.

She had prized her remarkable memory—but she now found that there was much she had yet to learn. What she had thought of as an awareness was now only a half-way thing. She had lived a lie set upon her consciousness by the great machine and now all that was gone.

It was like waking from a long and unpleasant Dream to find the Truth waiting patiently to be grasped by her unsteady mind. But with the Poet to guide her she found that she could live a hundred lifetimes in an instant of the

City's time, and in that moment she found that she could see quite clearly how they had been deprived of their birthright and robbed of their gifts. She had thought that within her mind rested all that mankind had ever been—because the City had told her so. But now she saw how the City had bled her memories and fed back only those which it thought necessary for its purposes and that the accumulated information of millenia had become outdated in this one blinding instant of real awareness.

*How long?* she wondered. *How long has* this *been so?* How long had they been held captive by the City, chastened and embalmed like moths in one monstrous lump of cankerous amber?

She felt as if she was being made over again, her tiny body tingling with unfamiliar sensations and her eager mind buzzing with extraordinary impatience. Then the images faded and the darkness returned. With the return to stasis came the first command, "Open your eyes, Malo."

And a question. Hers: what were *eyes*? And how were they . . . *opened*?

Her own lightning swift recall anticipated the Poet's prompting and she remembered what she had to do. But her regenerating flesh was still inadequate for the task involved. It was left for the friendly giant to find the energy necessary to accomplish even this small function.

Her eyes but two narrow clefts marring the smooth contour of her bald skull, where lashless lids stammered, made hesitant movements above the inanimate flesh of her soft face. A determined effort by passive nerves and muscle to perform the necessary function.

Malo opened her eyes.

Focus came gradually and then she saw the grotesque shape looming over her. She beheld the Poet outside her World. So huge, so terrifying.

Her fear was erased before it had time to build into terror. She felt only warmth and friendliness from the stranger who had opened her mind and she saw how the

raw mental wound left by her abrupt severance from the City had quickly healed and left her young mind sane and whole. Now she was ready for the steady flow of words the giant dropped tenderly into her head to accompany the fresh rush of pictures.

Wordswordswordswordswords. Tumbling about in her mind like squirming fishes. Thought processes once limited by the designs of the City now struggled to master a forgotten method of oral communication: human speech. The dry dust of words that had always laid at the very bottommost level of her racial memory.

"I have come to take you away from here," the Poet said. "Away from the City, to where you and your people were meant to live. I'm taking you *home*, Malo."

Even now that word had very special connotations.

And as he spoke her eyes followed the movements of his lips, while her mind followed the motion of his thoughts. She tried to emulate their movements and was dismayed by the babble that escaped from her own lipless mouth.

The giant smiled. "Have patience, little one. One cannot undo the work of eons in the space of a moment. There is no need to force yourself. Words are the great gift of Man —but there are times when they may be dispensed with to advantage. So relax—and listen to what I have to say. The rest will come in good time."

To facilitate her comprehension still farther there remained one final adjustment and while her brain fumbled to absorb the concept involved the process of interpenetration was begun and completed. She felt a soft, warm splinter of the Poet slide smoothly into her mind and when this was done she hung frail and helpless on the gigantic loom of the giant's psyche. The brightness and the sense of power was breathtaking—and now there was no longer any difficulty in communication.

"I will show you *freedom*," he whispered.

A vast plain filled her being, stretched as far away as her

eyes could see. Sunlight scorched the green land and a soft, hazy line of mountains limned the far horizon. Before her, in the very foreground of her vision, a small group of the golden giants. And among them, a smaller, and hauntingly familiar figure. He smiled, and waved to her an affectionate greeting. "Hullo, Malo. Remember *me*?"

Remember *him*?

He was obviously not of the giants. His body was pale and undernourished compared to theirs and his limbs were spindly and clumsy, unlike those of the Poet.

Remember *him*?

But of course. Didn't she have the finest memory in all the City?

This was Pelar and although she could see how the rudimentary arms and legs had grown and strengthened and the familiar features of ancient Man had begun to transform the once smooth flesh of his face—she knew without question that this was indeed her friend. So long since they had Dreamed together across space and time.

"I sent them back, Malo," he explained. "To save you—and the others. They know how to—and you must trust them, believe in them. Especially the Poet. He will guide you outside where we were meant to live. Help him to find the others, Malo. Do not be afraid. There is so much they can do for us. So *much*!"

He took two shambling, unsteady steps towards her and stood with his skinny legs braced wide apart and his arms raised almost in supplication towards the great arc of blue overhead.

"See how I walk, Malo! See how I *live*! Under an open sky!"

The great empty spaces of earth spun dizzily about her and she was once more alone in the resting-place of the Poet's mind. She shivered then, and huddled down against the warmth of his arms. "Oh, but I am so afraid . . ."

He chided her. "There is no need to be."

But at that moment she sensed the gloomy walls of her

cell begin to move restlessly. Her eyes flew open and stared at the Poet wonderingly. An unpleasant disturbance seemed to have travelled through the great organs of the City.

"It knows you are here," she whispered.

The Poet shook his head. 'Not exactly. It has detected a wrongness, but that is only to be expected. It has lost one of its people, Malo. It will be upset and will probably try to find you. But that will take some time and by then we shall all be well clear of the City. We are random factors, beyond the ability of this machine to predict. And besides —it is very *slow*."

He lifted her up against his massive golden chest. "And now we must seek out your friends."

Malo felt her breath momentarily leave her in a sudden rush. A blur of swift movement swallowed her world and then she was being borne out of her cell and through the depths of the City with her time-sense radically altered to correspond to her new environment.

Once there had been streets—but that had been ages ago when human beings maintained the use of their lower limbs for locomotion and had also traversed the City in their many ingenious little machines. But the highways had been gradually swallowed by the encroaching structures which made up the metropolis and the bald sky had been dutifully robbed of its delicate tracery of freeways and passovers. Gradually, the ages accumulated and there was no longer a need for costly and cumbersome and archaic means of transport. The City coalesced and became a vast honeycomb of tunnels and tubes and passageways where the inhabitants could move more conveniently between various points.

It was down one of those great tunnels they now sped. Locked in the Poet's arms Malo wondered how they moved when the walls would be blind to their unpredicted passage and so would be unable to provide the necessary thrust. By

acknowledging their presence in the shaft then they would also provide the City with their precise location. Perhaps . . .

She squirmed around so that she could study the unsmiling face of the giant. Then she sighed and relaxed, for she knew that it was *he* who was moving them independently of the tunnel's mechanisms.

They entered Antar's chamber first and penetrated that gloomy womb until they found him dreamily hammocked by the City, floating pale and weak inside his translucent sphere. The Poet plucked him free like a lifeless fruit and, after a moment that was a small eternity in her companion's mind while he learned all that she had learned of the Truth, released his pale body so that it drifted lightly beside her own. They spent an idle moment studying each other, sharing this new and terrifying experience, before the Poet moved out of the chamber. They felt a gentle tug, as from an unseen thread, and they were whisked off after him and trailed his flying body at a respectable distance as they fled farther into the complex maze of the City's interior.

Almost as they departed, an uneasy susurrus trembled the empty silence of the chamber.

Bael's cell was much larger than theirs had been. So huge that the walls faced away into murky gloom. In the very centre of the unpleasant room was a great vat and behind the transparent plastic something vaguely human Dreamed on.

The Poet left them by the doorway and he alone approached the strange vat. He could see that something clearly moved within, something huge and monstrous that might have once been human undulated unaware.

How many, many tons of flesh held the guttering spark of consciousness he could only just detect? And for how long had this creature suffered such abuse?

Only then did the monstrous design of the City become

clear to Malo. She thought of Bael as the City had pictured her—and then stared again at the sickening sight in the vat. There could be no greater treachery than *this*.

"She feels . . . no pain," the Poet explained, perhaps because he had sensed their grief. "We must see what we . . . what we can do for her."

Only then did they sense *his* defeat.

The task was hopeless from the very beginning. As each successive layer of flesh was probed to find the faint spark of intelligence he knew was there, there came only an increasing desperation. For there were some things still beyond the power to heal. Bael had been conditioned as a breeding mechanism and the City had seen that sufficient consciousness remained to keep the mountain of flesh alive —but nothing beyond that. This was a mind beyond salvation. Nothing more than the most primitive accumulation of nerves and muscles necessary. A billion-candle-power brain reduced to the merest flicker. There was nothing that could be done.

So he withdrew and wondered in what dark chamber rested the monstrous miscarriages of this dark union. Had the City ought to perpetuate the race—or something more sinister than that?

Reluctantly, he stepped back. And seemed to wait, hesitantly, for a moment.

DO YOU SEE THIS?

But it was not to *them* that his mind cried out.

There was a mutter in the air between them and a golden shimmer as a shadow moved towards the Poet. Only then did Malo realize that their giant was not alone in the City.

The air vibrated eerily with their communication. The golden shimmer moved towards the vat.

And the walls of the chamber bulged and screamed like a beast.

The Poet and the shadow froze.

IT MUST BE DONE.

Again, the thought that was not for them.

The Poet spun around and what happened next was much too swift for Malo to follow, but when the breathlessness had passed they were elsewhere, and burrowing down, down, down into the bowels of the City in search of more of her companions.

And all in that blurred instant of time the golden shimmer remained behind in the chamber and moved over and *into* the terrible vat and did that which was necessary. Then it also fled to another part of the City to continue the urgent work.

The dim light of consciousness sputtered and winked out within the great mountain of flesh.

Death had returned to the City.

Within the vast metropolis there was movement where once there had been only unbroken stasis. There was activity where before there had been only a pervading emptiness and flickering shadows flitting furtively through the multi-cellular structure of the City.

As a machine it had only an indirect knowledge of the nature of pain and deprived of emotions there was no way of registering grief. But a *loss* could be felt. A certain indignation could be generated when it sensed a violation of its being. Any direct damage to any one of its parts, however small, could provoke an anger comparable to that most terrible of human emotions.

At first there was only a sudden shock at the abrupt removal of one of its vital organic components. Now only a raw and ragged emptiness existed where once had glowed the bright and brilliant mind of the one called Malo. Only a dreadful pang of loss inexplicably explained.

For too long had the City dreamed. Its movements were sluggish, its reactions incredibly slothful. As it fought to shrug off the blanket of lethargy from its feeble mind it could feel the bright segments of its newly found consciousness slowly winking out, one after another, so that

gradually it was returning to its original state, a machine of metal and plastic shot through with the pseudo-life of electricity and fusion power and becoming less and less of the grand and noble creature it had envisioned, a cybernetic mind bound irrevocably to the tissue of human energy. The Dream was ending.

A fierce rage welled up within the City—and the struggle began. There were dangerous creatures loose within the tunnels, moving through the City's system like savage little bacteria and robbing the chambers of their little humans. They must be stopped. They must be . . . must be . . .

But already the magnificent intelligence was fading. Deprived of Malo's biological memory it was forced to fall back upon old and disused circuits in its own mind, so that it might devise a means of expelling the creatures from its system.

All this took time, the time necessary for a lethargic machine to think and devise a successful method of retaliation—all the time hampered and obsessed by the growing darkness of its intellect. The parts were old and ancient and the mind not altogether sane.

It was like an animal trying to isolate and identify a dangerous organism circulating through its own bloodstream. This the animal was capable of doing, except that . . . it had forgotten how to. And remembering . . . *remembering* was such a slow process for a mind that had overslept by several centuries.

Gradually, as it felt the passage of those tiny creatures through its substance, the mind grew progressively dimmer. Only a few wan lights illuminated the tragic dissolution of its Dream. Already the pleasures of flesh and organic mind had faded and the remorseless crush of steel was returning to the City. Only dimly was it aware of the information proferred—finally—by its scattered sensory apparatus.

*The invaders were men!*

Men? Within the City?

The weary mind wrestled with this impossible equation. There were no men. Not any more. Only those . . . those it held. Those who . . . Dreamed.

Ah, but the lights were fading, fading, fading.

They were gone.

Now the vast bulk of the City lay above them. With dizzying speed the Poet whisked his slender cargo along through the very bottommost levels of the City's tunnel system.

And from all quarters came the warm glow: mission accomplished.

The last of the captives had been liberated. Now there was only the matter of breaking free of the machine. Almost, they could relax.

The plan had been simple: to penetrate and discover and rescue the few humans held in bondage by the crazed City. The Engineers had outlined the reflex capabilities of the machine, how it had Dreamed a Dream for so long that most, if not all, of its original functions had atrophied.

But they had not anticipated the almost human agony of the City. Even now its despair flew after them, leapt from every fresh turn in the twisting passageways.

*You do not understand,* it cried. *I am like you. Like . . . you . . .*

Then the voice had faded away and died, so that only this dreadful susurrus travelled through the walls, following them as they probed deeper, and darker, and closer to The World, until the last spark of humanity guttered and died within the dark mind of the machine and only an aching and intolerable hatred remained. At that precise moment the City tóttered and slid over the edge of an ancient precipice . . .

In her mind Malo could feel the warm exultation of the Poet. They were nearing the end of the tunnel. They would soon be outside.

But then they felt rather than heard the agony slice through the City. The scream of shattered atoms as the City collapsed its vast mass and fused its malleable, timeless substance into one great block of palpitating matter.

The walls of the tunnel lurched and crushed in upon them.

HELP ME!

The Poet's cry, savaging the psychotic movement of the insane City. From elsewhere, another cry, and another, sped outwards towards the waiting world.

For Malo and her companions there was not even time for terror. One moment the scream of the violated machine and the sudden sweep of the closing tunnel, and the next . . .

The figure of the Poet became lost behind a sudden blaze of golden glory, so bright that they were blinded and their world was made up of this tremendous energy. Slowly, their eyes adjusted, and Malo saw through the growing ball of light the faint shape of the Poet pulsating strangely and spreading with the light, his golden body stretched out grotesquely across the tunnel so that he now seemed a giant among giants.

The scream did not die, but the walls receded and they were pulled forward with dazzling speed. Behind them, almost touching them with a scorching breath, the tunnel clamped down upon their passage. Ahead of them, burning fiercely, the Poet forged an exit through the collapsed matter.

Only then did she realize that the City had sought to destroy them. It would rather have killed than have lost. The Poet was right—the City was insane and it had been a parasite.

But now they were Outside.

The World burst open with incredible splendour. The great blue sky held a promise of boundless infinity—already she could sense a tingling excitement through the stubs of her rudimentary limbs.

They sped over the rich carpet of green and the mad cry of the City became only a faint annoyance in the background of colour that invaded her senses.

It was even more beautiful than the Poet had promised.

*Of course!*

His blazing aura was gone, she saw, and he now found time to turn around and smile reassuringly. By carefully understating the real World he had left the wonder for herself to unravel.

They swung up the gentle slope of a small knoll where a small group of the giants stood waiting. With a gentle puff they were dropped to the ground and the sweet smell of grass captured the air.

She looked back the way they had come. There were other convoys of giants and their charges making towards the hill, she saw, and it was incredible how much the City had kept from her. Why, there must have been many, many more people imprisoned than she had thought . . .

She had had contact with five others. The number the City had imposed upon her, the number of her system. No doubt it had devised other systems for each inmate.

But all that was over and it was strange to see the City from the *outside*.

It lay huddled against the land like a monstrous scab. Several miles high and groping out greedily towards the near horizons, a vast wedge of tumbling matter. Once there had been fine spires and towering zigguts scraping at the sky but . . . no more. The passage of time had forced a terrible pattern upon the once noble machine and in its dazed and crippled mind there was now only darkness, darkness everywhere and of hope no sign at all. Raging impotence swirling like an acrid fluid throughout its vast and lonely structure.

The Poet called them. "Come, little ones. We must go."

Now she saw the great golden sphere shimmering impatiently atop the hill. They were raised in that warm and gentle way they were accustomed to and as they were

whisked towards an open portal there came a terrifying sound which tore savagely at the World. Malo cried out, but the Poet said, reassuringly. "It is nothing. Nothing to fear," and this was so. But the *sound* . . .

It was the anguished cry of the City that leapt after them. It seemed it would last for all eternity as a mark of their passing. The ground beneath the wild machine began to shake and the grass around the sphere writhed like an animal in pain. Silently, they turned and watched the agony of the City.,

It rose very slowly into the sky and hovered, uncertain, senses wildly gyrating. Only one thought was dominant: it had slumbered too long at the benevolent breast of the earth. It had dreamed a Dream and now that Dream had ended. There would always be existence, but now it would once more be without Purpose.

For several long moments it seemed undecided and then, the terrible cry still clawing at the sunlight, it surged many hundreds of feet into the air and wheeled blindly around and careered away towards the far horizon. Long after it had faded to a dim smudge against the blue of the sky its doleful cry lingered like a scar upon the day.

But that was not for Malo's thoughts. The great ship lifted and flung them at the stars, where they might scatter like jewels once they had been made over as men again and would have a universe for their playground. Already she had sloughed off the useless carapace of her old and senseless life and could feel her mind, like her growing limbs, bursting with fresh growth rich and strange, while far below and beyond the range of discarded care, the City fled blindly over a dark and lonely ocean in search of tomorrow, crooning its mournful loss like some stricken animal. Wallowing on until the dreadful arms of night swept down and everything was dark and only the uncaring stars looked down and the Earth turned again . . . and again . . . and again . . . and was unchanging and forsaken and for ever young.

# TAKEOVER BID

*by*

JOHN BAXTER

*There may be many unknown factors involved in preventing Man from surviving in space, despite all today's knowledge of space medicine. Australian author John Baxter suggests one such possibility the medics may have overlooked and incidentally paints a fascinating mind picture of his native country in the near future.*

# TAKEOVER BID

To set out on a journey at evening is an experience that has always pleased me. There is a sense of stealing a march on your fellows, of having broken the tyranny of the clock and struck out on your own. So when it became evident on that cold winter's afternoon that I would have to go to Crosswind headquarters I bitched a little—it was expected—but inwardly I rather looked forward to the rush trip. Even with priority it wasn't possible to get a seat on any westbound jet and I knew I would have to drive the two thousand miles, but as I eased the car out of the office tube and into the main traffic flow I felt more at ease than I had all week.

Lying back as the autopilot threaded me through the river of cars I had time to look around for the first time that day. There was a sunset over the city, one of those huge violet and orange affairs that one gets in Australia when the air is cold and clear. They're a good crowd-pleaser and the weather-control boys turn them on regularly, but I've never liked them. They have the look of scars and wounds, and their colours are livid rather than vivid. It's hardly the sort of thing one mentions in family therapy, but I've always looked on sunsets as a kind of omen, a forecast of trouble to come. In this case my instincts were right.

It took an hour to get out of the city proper and into the mountains, so night had fallen by the time I hit the main highway and set out to chase the sun. Behind me the city of Greater Sydney sprawled in a net of lights across the dark encroachment of the harbour. Along the foreshores, among the canyons of the city streets, out in the suburbs that covered the whole coastal plain people were getting ready to eat, turning on their 3V sets, settling down for a

quiet evening, while I scurried off into the interior on a task that would affect every one of them in some way or other. Seven million people in Sydney, another twenty-eight million in the rest of Australia, and unwittingly I held the fate of them all in my hands.

Now that I was locked on to the highway I began, as usual, to feel bored. Outside the dome the luminescent ribbon of roadway unwound at a steady two hundred miles per hour. A few cars flicked by going in the opposite direction and, looking back, I could see others following me at varying distances. Beyond the limits of the road there were probably houses, certainly farms, but if there were people anywhere around me I was unaware of them. The clear bubble of the car isolated me completely. There was not even any real contact with the road. The air cushion kept the car suspended a few inches above the surface and the connection between the magnetized strip on which I was locked and the steering apparatus was electric and invisible.

Forced in on myself I became more acutely aware of my sensations. Comfort, certainly; the car was custom built. Warmth; the heater was perfect. But hunger—this was one problem that the car would not solve for me. I poked around in the various recesses, but except for a few scraps of chocolate already turning white with age there seemed to be nothing in the car that was even remotely edible. I picked up the phone and punched the office number. Seconds later the pert face of the night receptionist floated on to the screen.

"Civil Aviation. Can I help you?" She looked closer. "Oh, Mr. Fraser."

"Has Miss Freeman left yet?"

"I'm not sure. Wait, I'll try your office."

There was a blip and the screen cleared to show Ilona Freeman's face. She smiled.

"Hi, Bill. What did you forget?"

"Food?"

"Try your case."

I opened my satchel. Inside, along with the papers, were three thin plastic packs.

"Remind me to raise your salary," I said.

"I'll remember that."

"Anything come in since I left?"

"Only that he's continuing to improve. He hasn't woken yet—or he hadn't at seven anyway."

"Right. See you Thursday.'

I cut off, took out one of the plastic packs and tore off the sealer strip. Steam and savoury odours puffed out. I folded the sides down and they locked into the shape of a shallow dish. Chicken Cacciatore with new potatoes and green peas. One of the others would hold lemon gelati; Ilona knew my tastes well enough. But I was puzzled by the third. I looked inside. Packed into the small space was the oddest assortment of fruits I had ever seen—or not seen; most of them were completely unknown to me. Long purple things like peas, something that might have been a banana if it hadn't been pastel pink, berries in green, blue, white and magenta. The pack, like all the others, was marked "EXPORT ONLY". Apparently the Assistant Director of Civil Aviation had made the unofficial V.I.P. list. Australia's export trade in food was its biggest money-spinner and the bureau guarded it jealously. It gave me an obscure satisfaction to know that the food I was despatching was to stay in the country rather than be sold to some well-to-do gourmand in Italy or France.

As I tucked into dinner the amusing side of the situation made me smile. Australia selling food to Europe? In the fifties the idea of Australia exporting anything but the most basic raw materials—wool, wheat, steel—would have been ridiculous. Nobody had bargained for the immense expansion that would follow the opening up of Australia to Asian immigrants and the impetus this would give to the development of the inland desert. Up to 1970 settlement was in most cases confined to a narrow strip of coastline

seldom more than one hundred miles wide. Now, in 1994, there were market gardens in the far west where once a farmer had been lucky to graze two sheep to the acre, and they were well on the way to planting wheat where Lake Eyre had once turned a white mirror of dried salt to the sun.

The increased productivity had had its effect on the national character too. For decades Australia had lived on its muscles, trying to make up for its economic deficiencies by victories on other fronts. Australian sportsmen, artists and writers were world-famous. It was fashionable in Europe and America to admire Australia, to fly in and spend a few weeks on air-conditioned safari into the desert, but like all fashions this was shallow. Beneath the veneer was a contempt. Australia had the status of a football scholar, a nation that had nothing but brute strength and native cunning to pit against the wealth and sophistication of its older fellows. So, when it suddenly fell heir to wealth its first impulse was to strive with other countries for the goals that mattered; the cure for cancer, longevity, space. And so it had happened that in 1993 an Australian scientist had stumbled on the force field and, almost by accident, given mankind the stars.

Or at least so it had seemed at first. Out in the desert, somewhere north of Capricorn, a research station had been set up and the first cautious experiments made. A generator encapsulated itself in a force field that made an enclosure better, stronger than the finest natural materials in existence. Such a bubble, stressed in a certain way, tended to disappear. After a few experiments radio telescopes on the U.S. space station reported that there were odd objects receding from the earth at incredible speeds. More bubbles were sent out and tracked. Apparently such a field, being a perfect reflector, supplied nothing for the forces of space to hold on to. Like an orange seed squeezed between thumb and finger it stored up the energy applied to it and then suddenly skidded out from between the two opposing

forces at a speed that was dangerously close to that of light.

After three months they managed to find a way to make the acceleration gradual and to track and retrieve the force field bubbles. One was brought back. A rat was sent out and retrieved, then a chimpanzee. All survived ground tests. Then they sent a man. On June 7, 1994, Colonel Peter Chart, R.A.A.F., had set off along the track taken by other bubbles. And had returned. Or at least his body had. His mind seemed somehow to have been lost among the empty reaches of space. He had been taken from the bubble completely catatonic and had remained that way for three weeks. Then, on July 2—yesterday—he had quietly risen from his bed, killed a guard and run off into the desert. Nobody knew why, nobody knew how—but it was my responsibility as leader of the project to find out.

I would have worried about it all night, but the almost imperceptible hum of the motor lulled me into a doze. Occasionally I would wake when a car went by on the other lane, but by the time I had turned my head it was nothing but a glow disappearing in the distance behind me. Once—it must have been around 3 a.m., I suppose—I woke again and watched rather muzzily as a string of automatic ore-carriers roared past, their huge hoppers piled with chunks of rock torn from the mines of the Pilbara, farther north. The rust stains on those jagged nuggets were like dried blood—another omen, if I had cared to consider it such.

When I woke the sun was well up and my destination close. All around from horizon to horizon there was only desert. Sand, rocks and stunted spinifex. It was a desolate place, but that was why we had chosen it. A particular rock formation flashed past, reminding me to switch to manual control. A few minutes later I slowed down and turned off the highway where a sign saying MAXWELL DOWNS EXPERIMENTAL CATTLE BREEDING STATION pointed up a rough track. The surface was loose and as I switched

the air cushion to maximum lift a cloud of red dust rose in the air. Nobody could be unaware that I was coming.

I nosed along the track as fast as the surface allowed until it petered out at an old artesian well some ten miles from the highway. The mill turned desultorily in the hot breeze and a wheezing old pump brought up from the underground lakes a trickle of water as brackish and undrinkable as blood. There was no sound save the clanking of the pump and the splash of water. I waited. A few moments later the old concrete slab on which the pumphouse had once rested tilted slowly and opened a dark cavern in the earth. I guided the car down the ramp and into the headquarters of Operation Crosswind.

All the project H.Q. was underground, though a few offices, my own included, had windows on to the desert, an executive amenity that we seldom used. At the bottom of the shaft I got out of the car and as the garager trundled it off looked up at the square of blue-white sky above. The heat was intense and enervating. My skin prickled and contracted under its dryness, and I was glad when the walkway carried me down into the air-conditioned part of the project.

Col Talura was waiting for me at the other end. Col—for Colemara. His grandfather had fought with Nemarluk in the Kimberleys and smeared his body with the kidney fat of many white men. Col was a fully initiated member of the Arunta. I had seen his scars. He was also one of the first aborigines to hold a Ph.D. and a B.Sc. Perhaps this contrast was the reason I had chosen him as my right-hand man. His combination of sophistication and allegiance to the old tribal ways made him a person worth studying. It interested me to see how he would react to this, his first crisis. However, there was no time for character analysis at the moment.

We shook hands sketchily.

"Sorry I couldn't meet you," he said. "I just got back from the hospital this minute."

"How is he?"

"Damned if I know. Physically he's in poor shape but no danger. Mentally . . . well, the doctor can tell you better than I can. Want to go to the hospital?"

We stepped on to another walkway. Col took a folio of papers from under his arm.

"You'd better look through these," he said. "They're the search team's reports."

I leafed through the papers. Maps marked with search patterns and in one spot a triumphal cross marking where Chart had been found. It was a good twenty miles from the base, I noticed. Records of radio messages, various reports —and a few photographs. The first showed a plain littered with wind-smoothed rocks. "Gibber country" the natives call it.

"This where they found him?" I asked.

Col nodded. "Bad country," he said. "Almost impossible to search."

I went through the other photographs. A shot of a car, abandoned. Only a service jeep; nothing but a power unit, a seat and a hemispherical dome. The dome was folded back. I looked at the next photograph. It was a shock.

"My God!"

Col didn't turn. He knew what I was looking at.

"A mess, isn't he? Third degree burns, exposure, thirst—nasty."

"He's naked."

"That's how we found him. It's not unusual. People lost in the desert often get delirious and throw off their clothes. I don't know how he survived. It hasn't been below a hundred degrees over here for weeks."

The walkway ended at the door of the hospital. The doctor was waiting there to meet us.

"How is he?" I asked.

"A mess. But he should pull through."

"Can I see him?"

"If you like. But he can't talk. We've got him in a skin tank."

We walked down a corridor and he led us into the room where Chart was. The whole chamber was bathed in blue luminescence. On the walls, ripples of light flowed endlessly in the blueness. The room contained only the tank, a long coffin-like plastic cylinder connected to quietly humming machinery. In it a man floated. This was neither the Peter Chart I had known six months ago nor the seared animal of the photograph, but another composite half-formed creature. The skin over his whole body was soft and pink like that of a child. Every line and wrinkle had been smoothed out. Above the mask the man's eyes were closed in sleep.

I turned to the doctor. There was no real need to whisper, but I had the feeling that to talk loudly in here would somehow disturb the delicate balance in which Chart was held.

"Are you taking brain readings?" I asked.

He moved to a small machine connected to the side of the tank near Chart's head. A wire connected it to two electrodes taped to his forehead. The doctor cranked the recorder on the side and a slip of paper slid up from the interior of the machine. He handed it to me.

"This is the complete record since he came in."

I examined the graph on the sheet. Something about it was odd but I wasn't sure what. Then I realized. There was an unnatural evenness about the pattern. Catatonics have an especially complicated brain pattern. Physically they are motionless but subconsciously their brains remain active, endlessly considering the problem that has forced them to shut down their bodies in protest. Yet Chart's mind was just as inactive as his body. There was nothing on the graph but the mumble of a brain carrying on natural functions. Only in one place was there a variation. The graph suddenly leaped almost off the scale and for a quarter of an inch or so moved crazily about before

settling down again. This must have been the period of Chart's escape, flight and recapture. I didn't mention it unil we were outside in the corridor again.

Then I said, "How did it happen?"

The doctor scratched his ear nervously.

"It's my fault," he said, "though I must say I think anybody would have done the same thing in the circumstances. After he'd been in a coma for a few days and all the usual tests had been made, we left him under minimum security; a nurse to see to the feeding and such, and a guard just in case something happened. On the night he escaped the girl went out as usual about 2 a.m. to refill the nutrient bottle. Chart hadn't changed at all during the day. As you can see from the graph he was completely unconscious right up to then. Yet suddenly he leapt out of coma into instant life, strangled the guard with his bare hands, sneaked out of the hospital and stole a car. Medically, it's impossible—but he did it."

"Is there any possible explanation that might cover the situation?" Col asked. "It doesn't matter how far-fetched it is, just so long as it fits."

The doctor looked more confused.

"I wish it was that easy. As far as I can see, we've tried everything that might logically have caused this particular situation, and none of them fit. Human beings aren't as complex as you might think. Of course, you sometimes get bizarre symptoms for fairly simple diseases, but as a rule the cause and effect are fairly easy to link up. But this . . . I mean, the symptoms and the possible causes aren't even of the same order!"

I chewed this over.

"So what it amounts to," I said, "is that Chart is suffering from some unknown mental aberration presumably caused by his experiences on the flight."

"Well, no," he said uneasily. "That's the odd thing. No matter how basic the trauma is, we could have detected it. We tested Chart for all expected troubles. The isolation,

the silence, the recirculated air—none of them could possibly have affected him. His mind was incapable of reacting to any of them in this particular way. If you like, he was immune to neurosis. There *are* things he could have reacted to, of course, but none of them occurred during the flight. We've got a complete brain-wave record of the whole period. *Nothing* happened to him in the bubble."

"If it's not mental, then how about physical? Some new virus . . ."

"No, that's impossible too. The field would keep out everything that might conceivably have affected him. He was completely insulated. Anyway, the infection effects would have registered in the brain pattern."

So it wasn't physical and it wasn't mental—or at least not physical or mental in the sense that we were used to. We were at a dead end. There was only one thing to do—test. We began next day.

It isn't hard to set up a force field. It needs a few thousand watts of power and something to perch your projector on, otherwise you find a quantity of floor included in the field. Once the field is formed it's impervious to anything from gamma rays to a punch from a human fist. Nothing hitting the field can penetrate it, not even subatomic particles. This is what makes it particularly good for space flight. The radiation hazard ceases to exist. For tests, we had set up the usual projector complex, a framework rather like an old-fashioned automobile chassis, on top of a shaft. In the centre, directly over the shaft, was the projector, in front of it the pilot's seat and console, and behind the air-recirculating equipment. The only new feature was a two-way T.V. link, the cable of which ran down the support shaft. Ordinarily the shaft was retracted by the pilot before launching, allowing the field to complete itself, but in this case we needed some type of observing mechanism. The seal was tight. But for the link the test pilot was just as Chart had been.

After the field had been turned on and the link tested

there was nothing to do but wait. For the first few days I spent most of my time in the control bay watching the image of Tevis, the test pilot, on the monitor screen, but soon the strain began to tell and I forced myself away from the project. Cal Talura felt the same way, and so we spent a few days on the surface hunting small game and generally puttering about in the desert. On one of these trips, hunting farther south than I had ever been before, I was surprised to see the brown surface of the Nullabor give way without warning to an area of dead black that stretched as far as I could see. It was a huge and static shadow mantling the brown earth, a great ink blot on creation. Col saw my surprise.

"Woomera," he explained, pointing to the south.

I looked through the binoculars and saw the distant glint of metal. Another Common Europe rocket, no doubt, on its way to Station I or perhaps farther out.

"What's all this, then?" I asked, indicating the blackness.

Col's face betrayed his resentment.

"Security," he explained. "They cleared the whole area for fifty miles around and sprayed it with a metallic solution. It gives Woomera a sort of radar mirror, a neutral surface that shows up anything that moves on it. Their scopes can pick up anything that walks out on to that area. And there's no cover. They ground up the rocks and cleared every bit of vegetation."

"Well, it's their land," I said, swinging the copter around to avoid the area.

Col's reaction was unexpected. "Why? We were here first, weren't we?"

Whether he meant Australians in general or his own people in particular I didn't know, though I suspected the latter.

"There's the treaty . . ."

Col consigned the treaty and the men who had made it to eternal damnation in a few Arunta phrases and I let the matter drop, making, however, a mental note to keep an

eye on Col's oversensitive nationalism. In our business it didn't pay to be careless of politics.

The whole question of Woomera came to a head some days later. Early in the morning Col stormed into my office and dropped a pea-sized object on to the desk. I squinted at it, a tiny pearl of intertwined wires around a central red crystal.

"Where was this planted?" I asked.

"It wasn't, luckily. We'd just finished a fresh wall sealer job in the main lounge when one of the boys hit the wrong button and knocked off a patch. This was in the wet plastic."

"Why did the main lounge need a new plas job?"

Col scowled. "I'm way ahead of you. The old wall was discoloured by fumes, the fumes came from a coffee machine that was slightly miswired, a man named Bronski did the wiring . . ."

"And he went A.W.O.L. some weeks ago. These boys are experts."

I looked at the tiny bug again. Naturally there were no markings but the thing had E.L.D.O. written all over it. We had, I thought, effectively prevented the Russians and the Chinese from penetrating Crosswind, but there was something particularly irksome about being spied on by our own allies.

Col voiced my conclusion. "Woomera?" he asked.

I was about to say "Where else?" when the desk plate lit up.

"A Colonel Thompson to see you."

"Thompson?"

"From Woomera."

Col and I exchanged glances.

"Tell him to wait," I said, "and give me the latest Woomera staff list."

The plate cleared and a string of names began to move across it.

EUROPEAN LAUNCHER/DEVELOPMENT ORGANIZATION
Head. General Sir Gordon Glenwright.
Deputy. General Sir Stuart Millar.

Thompson's name appeared half-way through the first twenty names.

Colonel Sanchez Thompson, 2/ic Security.

"A minor V.I.P.," Col said. "What does he want?"
"There's one way to find out." I told the secretary to let him in.

It cannot be said too often that appearances are deceptive. This is especially true in intelligence work. The public image of the spy is a very complete and detailed one, so much so that one is almost obliged to pattern real spies along the complete opposite of the popular idea. Sanchez Thompson seemed almost to go too far. He was so obviously not a spy that he could hardly have been anything else. He stuttered. He bit his fingernails. He dressed without style or taste. I had never thought that the mass-produced British army officer's uniform could look badly cut, but on him it seemed almost scarecrowish. However, his eyes missed nothing, and when he had something important to say he never stuttered. I wasted no time with amenities. Almost before he had sat down I pushed the bug across the desk towards him.

"Yours, I think."

He picked it up unsmilingly and held it as I had earlier between thumb and forefinger.

"A beautiful piece of work," he said.

"And very useful."

"They fill in the gaps—the sort of thing we can't get in . . . other ways."

"Meaning spies?" Col snapped. I was surprised at his tone. Apparently his emotions ran closer to the surface than I had guessed.

Thompson pursed his lips and glanced at me. I said nothing. He looked back to Col.

"Meaning spies," he agreed.

Col's palm slammed down on the desk-top.

"Well, you damned little peeping tom. What business is it of yours what we do here? Why don't you keep your nose out of our business and get back where you came from. We don't want you."

Thompson wilted under the tirade. He was a diplomat. Verbal slanging wasn't in his line.

"We have an agreement . . ." he said weakly.

"An agreement thirty-five years old! An agreement that you've abused ever since you got it. Just like the Americans up north. You're nothing but . . ."

I held up my hand. "Col . . ."

"Interfering little . . ."

*"Col!"*

He lapsed into sullen silence.

"You're probably interested in the tests we're running, Colonel," I said. "Would you care to see the set-up?"

Col seemed hardly to believe his ears. We left him sitting in the office, motionless. I suppose he thought I was selling him and the whole project down the river, but the pattern wasn't hard to see. There was little about Crosswind that E.L.D.O. didn't know. Thompson's casual visit proved that. I wondered what errand he had come on.

"I suppose you have something to tell me," I said as we moved towards the test area.

He reached into his pocket and handed me a sheet of paper. I glanced through it. It was a legal opinion signed by one of the most eminent international jurists; even I knew his name, though the law was a closed book to me. Briefly it suggested that, should the situation ever come to a head, it seemed likely that E.L.D.O. could take over Crosswind under its agreement with the Australian government, as any experimental work in connection with spaceflight in this country should be done under E.L.D.O. auspices.

"Experimental work," I said. "But what if we can make

this thing work? You would be shut out then, wouldn't you?"

"Indeed we would, Mr. Fraser—if it worked."

So it seemed that, unless I was very lucky, I would be working for Common Europe before very long, taking my orders from Paris. And Washington, of course. Col had been right there. The difference in greed between the Europeans and the Americans was tiny. Both had approached the situation in the same way back in the fifties. With E.L.D.O., the European consortium set up in 1960 to try and break the American domination of space research, it had been "Let us use your outback for test firings and we'll give you prestige." With the U.S., it had been "Give us an area to build a military base and we'll give you protection." In the troubled days of the mid-century Australia had desperately wanted prestige and protection, but more, it had wanted the feeling of "belonging", of being a "power". The politicians had handed out land by the thousand square miles to the Americans at Northwest Cape and given the Europeans almost complete control of Woomera. A few decades later they saw their mistake, but it was too late to back out then.

I passed Thompson through the guard, and we walked together towards the huge globe that filled the bay. Caught and thrown back by the perfect reflective power of the field, our images, bent and elongated, looked back at us like wry caricatures.

"It's a fascinating thing," Thompson said. "I look forward to working on it."

I ignored the remark and walked over to where a group of technicians were clustered around the T.V. monitor. Tevis, the test pilot, was talking, reeling off a string of figures to one of the controllers. He looked drawn but healthy. There was no sign of any ill effects, nor of the symptoms Chart had exhibited. I checked my watch. He had been in the field seven hours longer than Chart.

"How is he?" I asked the doctor.

"Seems perfectly well. The brain-wave pattern is normal."

I thought about it for a moment. Then I said, "Right—turn it off."

There was a descending whine as the generators cut out. The field shimmered and then faded slowly into invisibility. From the top of the shaft Tevis looked down, blinking in the bright light of the bay.

There was nothing else to be done at the test site so we caught the walkway that led back to the office. On the way I asked the inevitable question.

"How much time do we have?"

Thompson shrugged. "It's not up to me, Mr. Fraser. If I could take your acceptance back with me . . ."

"No chance. I'll have to take this up with my superiors in Sydney and Canberra."

"There won't be any need," Thompson said. "We've already arranged that. You should get confirmation in a few hours."

My first impulse was to hit him and wipe that self-satisfied look from his face but the urge passed. There was nothing to be gained from violence.

"Well," I said, "it seems you've thought of everything. What are your orders . . . sir."

The E.L.D.O. man looked embarrassed for the second time that day.

"You're taking the wrong attitude, Mr. Fraser. There's nothing personal in this. We've both been in this game for a long time. It's a business, nothing more. Can we afford to have feelings?"

I wasn't in the mood for a discussion of ethics, or for that matter any sort of discussion.

"What about tomorrow?" I said.

"If you like," Thompson said. "And I hope you can look at things a little clearer then."

When I got back to the office Col was still there. My surprise must have been obvious because he smiled.

"I gather you expected me to be gone," he said.

I sat down heavily. "Well, you must admit it was a fair assumption."

"You don't give me credit for much intelligence, do you? Would *you* have run away?"

"No, but . . ." I stopped.

Col jumped on my words.

"But you're not an abo? I thought that was it!"

Coming so close on the conversation with Thompson his remark took me off guard. I tried to retrieve the situation.

"Next you'll tell me I'm prejudiced. You know me better than that, Col."

"Aren't you prejudiced, Bill?"

"Don't be absurd."

"It's not as ridiculous as you think," Col said. "Why did you pick me for this job? Not because of my qualifications —there were plenty of white men with the same degrees. Not because I needed it—there's no shortage of work these days. No—you chose me because I'm black—an aboriginal —an abo. You give it away every time you look at me."

Abruptly I turned my chair to face the window and, for some reason that even now I find hard to fathom, hit the button to clear it for the first time in years. The afternoon sunlight streamed in off the desert, blindingly clear. But it was not only the sun that made my face burn.

"Why bring all this up now?" I said.

"It has to be discussed some time."

I thought about it for a moment. Then I said, "I don't deny the fact that you weren't white influenced me, but it wasn't a matter of prejudice."

"Don't fool yourself, Bill. It was. You were being charitable. Pity is just as much prejudice as hate, you know. You're always talking about the old days when Australia was a country to be patronized. Don't you see you're patronizing me?"

Just then, I wanted nothing more than to have that conversation end as quickly as possible.

"Well, you won't have to put up with it much longer," I said. "Crosswind is finished. Tomorrow E.L.D.O. moves in."

Col was surprisingly calm.

"I gathered that," he said.

"It had to come. We were lucky to get away with it this long."

"*Did* it have to come?" Col said. "Or do you mean you're glad it came?"

I heard the door close, but I didn't turn around. I was still there, looking out over the desert, when night began to close in.

For the next few hours I went through the motions of cleaning up the office. The whole thing had seemed very easy when Thompson and I had discussed it—just a simple matter of transferring power from one person to another. But Col had disturbed me. Part of his outburst had been sheer bad temper, no doubt, but that still left a considerable residue of fact. He was right about a number of things. My hiring him for the job had been partly influenced by the fact that he was an aboriginal. At the time I had rationalized it as an interest in his particular attitude to the work, but it was becoming clear that there was more to it than that. I was seeing my motives become more and more obvious as the evasions covering them were drained away. It was less than edifying.

As for giving up Crosswind, I had to admit that the takeover by E.L.D.O. had seemed to lift a weight from my shoulders. For the past two years I had worked hard on the project, and worked well too, I thought. There had been little time to think about the imponderables such as loyalty. Did I care about the project? Or was it just the interest in a job to be done? I decided to sleep on it. No doubt I would have woken in the morning with the whole thing carefully rationalized in my mind and the depths of character Col had revealed all covered up again, but things were destined to be different.

About 3 a.m. I woke to the supremely irritating screech of the bonephone I always wore when on call. The tiny alarm wedged against my mastoid bone jabbed me awake in a second. I ripped the thing off and groped for the communicator switch. It was Col.

"Chart's gone again," he said. "Out into the desert."

"Gone? I thought he was still in the tank."

"He was, but he broke out and rigged up a booby trap with the fluid and some of the wiring. When the guards came in they got a shock that knocked them unconscious."

"How long has he been gone?"

"Two hours maybe."

Still half asleep I struggled into my clothes and stumbled along the corridors to the main garage. All the doors of the big hangar were open and the damp chill of the desert night made the air freezing. Breathing it was like inhaling icy water. Streams of vapour puffed from the nostrils and every conversation was marked by the white fog. Col had already organized search parties and the bay was full of the sound of motors as the two-man cars revved up and climbed the ramps into the starless night. I could see their searchlights patching the desert all around. I watched as Col sent out the last parties.

"Want to go?" he asked.

I shook my head. With my meagre knowledge of the desert there was little I could do.

"Well, one of the crews is short a man," Col said. "I was thinking . . ."

"You go," I said. "I wouldn't be much use to you."

A minute later the last ship slid up the ramp and left me alone in the hangar.

Someone had spread an ordnance map on the floor. I walked over and looked down at it. It was incomprehensible to me, but that was probably my drowsiness. I wondered where Chart was; where a man could go in the desert. What could he hope to find among the rocks and sand? There were no towns, no oases, no wells. Most of the

map mirrored this aridity. It was brown, plain and unrelieved—except, I noticed, for a web of thin black lines that covered it like the work of an industrious spider. Out of curiosity I checked the key—odd to think that if the map had faced the other way I wouldn't have bothered—and saw that they were magnetic field lines graphed during the last I.G.Y. by a team of trivia-minded Belgians. The lines wandered in delicate curves over the desert, almost always singly but sometimes running parallel and occasionally congregating into huge knots marking areas of particular magnetic density. There were two knots like that in our vicinity. On one of them somebody had scrawled an X in blue pencil. It came to me I had seen this map before. The X marked the spot where Chart had been found the first time.

And if that knot of lines coincided with the place he had run to the first time . . .

Outside it was still dark, but a false dawn lighted the east with a pale glow. Luckily there were still cars available. I climbed into one and set out to the west, my shadow racing before me like a long finger.

It took me less than half an hour to reach the place I had marked on the map; the second knot of magnetic lines, almost identical with the one on which Chart had been found last time. The sun was well up by the time I killed the power and settled quietly on to the top of a low hill that seemed almost a marker. I got out. There was no movement, no sound, and for the first time it occurred to me to wonder if my hunch was wrong. The fear was short-lived. Walking to the top of the rise I looked down its far side to see a single car standing abandoned. I looked out beyond it to the plain. About a quarter of a mile away a figure was moving slowly and deliberately in the slanting dawn light. I could see his shadow, gaunt and elongated as was mine, rippling on the rocks. I set out after him.

It took only a few minutes to reach Chart. He was not walking away from me or from the car. He seemed not to

be aware of where he was going. Rather his path followed the lines of force I had seen on the map. For a while he walked slowly in a straight line. Then he stopped, turned, walked back, then turned again. I drew close, but he took no notice of me. Soon I was beside him, but still he said nothing, merely walking purposefully towards the rising sun. He was naked from the tank, his skin unnaturally pink and shining. All the lines were smoothed out. He was wet, new-born, a creature with whom I had no common ground. I looked into his eyes and saw that they had ceased to have any life. They were lenses, objects for seeing. Any life in Peter Chart had retreated deep inside him into the dim red centres of his being. His life was governed by his need and his hunger.

Hunger. This was the thing we had never even considered. All our calculations had been based on an overdose, an encroachment of some kind, either of some new germ or an unknown stimulus. In a way, we had outsmarted ourselves—we had never looked for the thing that was not there, the omission that should have been obvious. The force field was proof against radiation. In fact, that was one of its big advantages. It reflected every kind of radiation—light, heat, gamma, even types not yet discovered. A man inside a force field was cut off from all this. For the first time in his life, for the first time in the life of his entire species, he was insulated.

Since the first cell formed in the ocean man has had a flood of atomic particles flowing through him every second of his existence. Suddenly, for one man, it stops. How could we know what effect it had? Chart had collapsed completely, reduced from an intelligent man to a mindless addict of a drug he didn't recognize by a need he never knew he had. He came back to earth with only one thought in his mind—to find the thing his journey had deprived him of. The place where radiation caught in the earth's gravitational field spouted up again into space provided the greatest concentration near where he landed, so

he went there. Nothing could be allowed to stand in his way. He had only one thought—to feed.

"I don't see how the test failed then," Col said. "Tevis was perfectly all right when we took him out."

I had wondered about that too, until I remembered the T.V. link. "There was some leakage along the metal stand, of course, but the T.V. camera must have given him enough direct radiation to live on. But we'd better keep him under observation."

Col and I faced each other over the desk. We were both thinking the same thing.

"Can we lick it?" Col asked.

"I don't see how."

"Are you going to try?"

I thought about it for a moment, then I reached for the phone.

"Get me Woomera. Colonel Thompson."

A few seconds later Thompson's face came on to the screen. He wasn't trying to hide his self-satisfaction.

"Mr. Fraser! As a matter of fact I was just leaving to come over."

"Don't bother," I said. "I'm rejecting the orders you gave yesterday. All my guards have been ordered to shoot on sight anybody approaching the perimeter. Good morning."

I cut the connection, though not too quickly to miss the very satisfying expression of complete amazement on Thompson's face.

Col's expression was almost as dazed.

"Can we pull it off?" he asked.

"We can try. It'll take them a few hours to find out that I'm not joking and a bit longer to see whether I'm insane or not. After that they'll have to go through channels and I think I can guarantee that will take a long time."

Outside, the sun was up. For the first time since I had come to the desert, I realized that here was the real Australia. The sand, the rock, the sun—this was the country to

which I owed my loyalty, just as it was to Col Talura's ideas that I owed my allegiance, not to the old myths on which I had been brought up. There was no unpleasantness in the country or the ideas that I had not put there. Given time, I thought it would not be hard to learn a devotion to both. The least I could do was to try.

# ACCLIMATIZATION

*by*

DAVID STRINGER

*As a direct contrast to the preceding story, David Stringer suggests that not only will man conquer space, but in less than a hundred years he will be reaching for the outer planets. The major problem, he infers, will be with man himself and not the mechanics of space flight.*

# ACCLIMATIZATION

THEY called it the high-G blues and there were a lot of gags about it, some funny, others not so funny, but when you got it that wasn't a joke. The feeling of bird-panic in your skull, as if your brain had come loose and was swilling about pulsing and fluttering, that was bad. And the sickness, the nausea, the drag in the pit of your stomach where you forced lead-heavy feet and legs to move. Too much, he told himself, too damn much happens far too quick when they flip you back to Terra.

He stood under a sky of gentian blue, a fierce sky. Round him was the roar and bustle of Mainport, Earth. It seemed momentarily that the noise was focusing itself on him; he heard with a crystal clarity the booming of traffic on the distant turnpikes, the lighter clatter of the base Pedivators, the thin high whistle of escaping lox from the fuelling floats way out on the midfield launch pads. Somewhere over there loudspeakers were bellowing, clearing an Athene tourist ferry through the last few minutes of her countdown.

He turned slowly, feet seeming locked to the ground. Mainport had grown a lot in the two years he'd been away. In front of him the new admin building rose storey on storey, a shimmering card-stack against the blue, and there were new transit sheds and autoparks reaching into the distance. Behind him the service ferries perched on their tails like a forest of silver steeples; beyond them again, four, five miles away, was the long shape of the Athene. He imagined rather than saw the white tubes of the umbilicals thrust into her hull, the scurrying of trucks and minicars between her fins. The floodlights top of the launch tower would be twinkling down through the spectrum, timing the blast off, the ground crews scurrying clumsily like divers dressed in

asbestos armour. The fuel floats were mating the ferry, fertilizing her with coldness; the frost was forming in thick white swaths under her inlet vents and there were patches of it round the tankers' wheels where decompressing lox snatched the temperature from the air. The floats made their own seasons, travelled in hoar-patches of winter.

The Spacer grinned. There was a hitch, some irregularity in the thousand-item checklist. He heard a command rumble across the pads. "*Abort . . . abort . . .*" The old jargon of the nineteen-sixties, still in use over a century later. But there was a rightness to the word; the launch of a rocket was an organic event, it was a straining, a building of pressures. There was a culmination, a final thrusting, a furious naked outbursting through Earth's skin of air. It was an orgasm, and a birth. Old times, a man was born just once in life. But the Spacers, like the rockets, were born over and again, into the icy Otherworld between the planets . . .

A medic was touching his elbow. He laughed at her and shook his head, tried to step out briskly across the apron to the waiting Port Conveyor. He felt now that he was a giant, yards high, swinging his ponderous, ungainly legs and arms. The air seemed to thicken in front of him so he had to butt at it with his chest, the Conveyor was half a mile away. High-G blues; what was that line from the song, the one he'd heard tinkled on guitars and banjos out in deep space, on the Moon and the service feeders? "There's nothing half so bad as that swim across the pad . . ." With Acclimatization the feelings would pass, but until then he was big as a god, with all a god's clumsiness moving among men.

He eased himself into the Conveyor, heard the door sigh shut, let his shoulders sink into the silvery Atmocushioning of the seat. The little vehicle, jewel-yellow, extruded jointed buglike antennae from its front fender, picked up the rails of the control grid buried in the Aureocrete and swooped away towards the distant complexes of buildings. Two minutes now, maybe three, for the Spacer to adjust,

get hold of a few tearaway fantasies, worry out just what in Hell he was going to say to this girl Reb.

Problems, God he had problems. Everything shifting too fast . . . He touched the blank dash in front of him and it rendered up a ready-lit Sobranie. He put the gold-tipped black cylinder between his lips and shut his eyes, saw Reb in the white suède of full-dress uniform, Earth spinning up blind and bright from a void. G-shift had scrambled his brains; only hours before, or so it seemed, he'd exchanged the brooding calm and desolation of a met cabin at the foot of the Lunar Alps for the noise and bustle of Selena, Moon's biggest colony. From Selena to a yawing orbit-feeder, then a Thunderbird, now this. From choice he would have waited out his leave on the Moon, yarning with the incoming Deepspacers in a dozen low-grade bars, living with his parents in their three-cubicle suite in the tourist wing of the Terran Hotel. His folks had gone Moonside a year before, looked like staying. There was elbow-room in Selena, jobs for the asking; Earth was getting crowded out again. But Spaceregs were strict; first duty period was followed by Terran re-acclimatization, and the rule was never relaxed. He blew smoke moodily and shrugged. Being sent Earthside was standard practice. So why the helpless feeling that he was a pawn, a chunk of flesh and blood being shoved from square to square like a counter in the ancient game of chess?

He yawned. Maybe he was just overtired. The trip back to merry middle Earth had been a cattle-run. A two-year Louie couldn't expect much red carpet to be rolled for him between planets, but the Routing Branch could surely have done better than that. Piled into a modified Mark Nine Thunderbird towing a thousand-ton cargo drogue. Two days on acceleration, three more of straining to halt the burden, rendezvous with blazing Vulcan up there miles above Terra . . . He grinned sourly; Earthside you still heard people talk about the "weightlessness" of space. It was just too easy to forget inertia. The Mark Nine had yanked away

by the hour, a flea trying to turn a whale; the drogue, once moving, wanted to plummet down at the Pacific, burst over Earth in a firestorm of glowing ore fragments. Accidents like that had happened, and they would happen again. Hitting the home plate was like trying to roll a ball-bearing through a maze of magnets. They'd made it after a lot of sweating; during deceleration a course computer had gone on the blink and that had been fun, real crazy fun. The bag of rock was still up there somewhere, floating in the blue, tethered alongside the orbiting foundry where the deepspace boats were made. In the early days they'd prefabricated the ships on Terra, ferried the pieces up to assembly orbits with fleets of rockets; but Moon's incredibly rich ores, her acres of nearly unoxidized iron, had combined with her low escape velocity to make the elephantine drogue technique more economical. On Vulcan, in the total vacuum of space, solar mirrors raised furies of cheap heat for the smelting. The satellite would be busy tonight; from this latitude it was invisible, but its glare would be lighting the tropics.

What was left of the Thunderbird had kicked off Earthside after ditching the drogue and the rest of the trip had gone smooth as honey, but it had still been a bloody cattle-run. Too much time to think. . . .

The Conveyor slowed, beeped faintly to itself with what sounded like annoyance and slid into the geometrically perfect line of traffic edging under the flaring portico of the Admin stack. The Spacer swung down the vanity mirror from above the windshield, ran a hand through his cropped blond hair. Against his will, he started wondering what his planetary tour would be. Privately, he fancied Mars. He'd heard some good stories about the Red Planet. Facilities and conditions were improving now with over a dozen domes operating; the scenery was spectacular, G just low enough to be pleasant and the equatorial temperature bearable in the daytime at least. Venus wasn't much of a deal, nothing but a perpetual red-hot dust storm, and Mercury was

worse; Hell's back kitchen they called it, with reason and feeling. One hemisphere hotter than a blast furnace, sporting lakes of molten tin, the other frozen at ultimate zero, atmosphere plastered to the rocks like icing on an unholy cake. They had established three domes in the libration belt, but development was next to impossible; human-kind was showing the flag down there by the sun, but that was about all. No, it would probably be Mars. Or perhaps farther out, one of the moons of Jupiter maybe; that was a long haul, it would mean ten years snapped off his life, but his back pay would be building all the time, he'd come back to Terra rich and it wouldn't be too bad . . . Whatever he was offered, he would only have one choice; he could back down, but there would be no second chance. The Service had made its own astringent rules years ago; if you wanted Deepspace you took what was given. If you refused, nobody blamed you. At least, not to your face.

He put the mirror back out of sight, shrugged off a momentary chilling thought. There was no reason why he shouldn't go stay with the Le Cheminants, he'd been pretty friendly with Reb right through space school, he'd got no family on Terra now, wasn't a reason why he shouldn't spend his leave with her folks. He reminded himself wryly he might be a second-rate Louie out on Selena, but at home he was one of the élite, a Spacer of two years standing. He'd made the grade; he was Gerry Kaufman, V.I.P., from here on in. The kids would mob him for his autograph; the Deepspace blue was like a magnet to them, they couldn't resist it. He should know; hadn't been too long since he was a star-eyed nipper himself, dreaming planets and Hoffman Approaches before he dreamed anything else at all . . .

How long had Reb been Earthside now, nine months, a year? She'd worked the standard Ranger first tour, six months on GX then the post-satellite course back at space school. Couldn't have done much else with a father like that. The Le Cheminants were one of the old Spacer families, third-generation aristocrats with a name to keep

up. Reb's grandfather had been in the first Venus crew, her father was famous for the opening-up of Mars' uranium fields. Gerry wondered if Reb had got her planetary posting yet. Or if she'd maybe opted out. He wondered how the satellite tour had changed her. Not if but how. Space changed everybody, one way or another. Some it spewed back gibbering wrecks. The medics couldn't tell, finally, what would happen to a human mind off Earth. They could examine and select, weed out the incipient un-balancers, the budding schizophrenics and manic depressives, the glory-hunters and the kids with delusions of grandeur, they could iron out your personality, tidy your repressions and phobias; they could paper the walls with encephalographs, turn your mind into the sort of stable computer that can live with the nearly unthinkable. They could send you out into space a whole creature, but space alone ever knew what would come back . . .

The Conveyor stopped, breaking his thought-stream. The door opened for him; he climbed out, his legs taking the strain of Earth G better now, and walked into the bustling confusion of the Customs shed. He hefted his grip, swung it on to the travelling counter-top. And Reb came running down the long bay, calling.

He didn't speak at once, and his face didn't change. He'd had a while to get ready for this meeting and he was calm now, determined to play it by ear. She pulled up short of him, stood watching doubtfully, while his eyes looked her over.

Somehow Kaufman hadn't expected the deep blue of the Ranger uniform. He saw the ankle-high sandals, the short knife-pleated skirt, the neatly cut blouse with the twinkling meteor of the Service burning on the dark material just below the left lapel. The silver lanyard and the lacy silver on the wrist-strap of the standard radio/chrono unit. Silver everywhere, showing in flashes and darts; in the six tiny pips on her shoulder, one for each month of satellite service; and again, silver highlights in her hair. For a

moment he knew, coldly and without emotion, that this wasn't for him. Then he forced the thought out of his conscious mind. The bigger issues must wait; this was just a girl he knew, a girl called Rebel, someone he wanted more than he'd ever dared admit even to himself. He split his thin face, making the muscles grin. She laughed back then, and put her hands out simply. "Welcome," she said. "Welcome to Terra . . ."

A Customs-man scanned his bag quickly, snapped a twinkling clearance seal on the identity strap. "Your kit's O.K., you'll pick it up in Bay Seven; straight through the shed, and on your right." He smiled, quickly and professionally. "Have a good leave, Spacer."

They found the rest of his baggage, what little he'd been allowed to bring under Rocket Poundage Regulations, waiting for them in charge of a luggage pup. The little machine scanned them industriously, fixed their silhouette data and set itself, snuffling, to follow at their heels. As they walked towards the autopark they saw other pups, scores of them, each attached to its temporary master as if by an invisible lead. Gerry grinned again, naturally this time; the pups were new since he'd left Mainport last, they were crazy but sort of cute.

He'd only seen Reb's new home in a stereo she'd sent him via the last mail-rocket, but it had looked fine in that. As they stood waiting for the car to ingest the luggage he said casually "The new place, Reb. Is it far?"

She shook her head, making the honey-coloured hair swing. "Not so. About three hundred kilometres." He thought of pumice dust grinding under the tracks of a Mooncat and three hundred kilometres seemed plenty. She chuckled, watching his face. "You're back in civilization now, brother. Think nothing of it."

Way across the pads a feeder, maybe the delayed Athene, geysered brightness and noise. Subsonics thudded and grumbled, shaking the ground. Reb winced and Gerry put his hand out, gripped her shoulder; the automatic

reaction of people everywhere to the voice of a rocket. The thing rose, tiny with distance, jacking itself up on a flame; climbed swiftly, fish-slim, the focus of a continuous thunderclap. Lost itself in the brightness of the zenith. The world was normal again. Gerry ran his tongue round inside his lips, touched the shoulder-high fin of the car. "She's a great motor, Reb. You drive her down?"

"Heavens, no. She roboed. We can do that because Daddy's a Group Leader now." He nodded, remembering the restrictions on casual travel. He was back on Terra now, with a vengeance. Even on the twenty-lane turnpikes congestion could get severe round big centres like spaceports, though not so bad, so his history tutors had assured him, as during the grossly overpopulated twentieth century. But Spacers were of course exempt from all petty regulations; Reb's father could send the motor to Timbuctu on robot control if he wanted. In a few short generations the Space Service had become the new élite, the new ruling class; the Spacers, and the girls of the Rangers were walking symbols of God alone knew how many years of mankind's dreams and aspirations; the Word, perhaps, made flesh . . .

Reb was watching up at him, no longer smiling. He stopped the blasphemous thought-stream with an effort, knowing some part of its darkness had showed in his eyes. She put out her hands again, resting them lightly on his forearms. Her eyes were searching his face. She said hesitantly, "Was it a good tour, Gerry? Was it O.K?"

He gripped her elbows. "Was great. It's just . . . things are moving a little fast, bunny, I guess . . ." He looked at her shoulder again and whistled softly. "Six satellite pips. Sure was some Hell of a ride on the porch swing . . . How was old Tinribs?" GX, kick-off plate for Moon and the planets, was always an object of mock contempt to Spacers. Good thing to see though, swimming up from the void . . .

The car, luggage stowed to its mechanical satisfaction,

had whispered open its doors. Reb said lightly, "Time for questions later. Once we get going we shan't ever stop."

He stepped into the motor, and a half-acre of pure white upholstery. He looked out through the deeply curving windshield at the tangerine plain of the hood, touched the sill of the featureless dash coaming, pushed against it with his palms to force his back into the yielding leather behind him. He whistled again, gently, nodding his approval. "She sure is one Hell of a bitch of a motor . . ."

Reb didn't answer and he turned to look at her. She was watching him, head laid back against the seat. He thought now as he'd thought two years before, that her jaw was firmly and delicately lined and just a shade too wide, thank God, to ever be called beautiful. She was brown, and soft, and like a very smart neat animal somehow. She said quietly, hardly moving her lips. "Welcome back . . ."

Then try it out, old son. Take something that doesn't really belong, and never has, and never will. Take it and see just what in Hell it feels like . . . He reached across and pulled her into his arms, not hurrying, savouring the touch of hair and mouth, the muscles of her back moving under the thinness of the uniform blouse. She made a little noise while she was being kissed, and relaxed against him, and his mind wanted to scream Judas while his body lapped up physical contact, luxuriating in it after the thistledown unreality of zero G. He laughed when she pushed back, a little breathless in spite of himself, tasting her scent, still trying to stop a thought that wouldn't be stopped but pursued its own way, dark as the rocket noise. "Reb," was all his mouth could find to say. "Hell, you're *heavy* . . ."

Above their heads a clear voice said softly, "California AX two one seven three A/T, you are cleared on Route Seventeen, will you authorize?"

Reb sighed and stretched on the seat, watching him cheekily. "Even here we are automated" . . . She leaned forward and touched a microswitch on the bulkhead. "Thanks, Tower, hope we didn't hold you up. I'm authoriz-

ing now." She turned the ride control to its positive position; warning lights flickered and steadied. The car trembled; a thin whine reached through to the cab, all that was audible of the blasting power of the turbine a few feet in front of their knees. Reb said over her shoulder, "We have a priority routing; personal control."

The speaker in the roof lining clicked again. "Thanks, Spacer . . ." It chuckled. "Sorry if we broke anything up."

Gerry was startled. "This thing is bugged . . ."

She shook her head serenely. "Nope. That's Captain MacLeish. Daddy probably told him I was picking you up." She clicked the talkback. "Thanks a lot, Captain, you can get us out of here as fast as you like."

Overhead, miles in the stratosphere, a feeder began a screaming rumbling descent. Behind Gerry's back the cushions wheezed slightly as the car picked up speed, fleeing from the sound.

The big vehicle streaked between the buildings of the perimeter, swung on to one of the multiple tracks and accelerated again. Within seconds it was across the port, slowing and weaving as it nosed into the traffic at Gate Seventeen. In a way that seemed slightly miraculous the vehicles ahead and to either side parted. The car slid into the momentary gloom of an underpass, flicked out into light; Turnpike Seventeen showed ahead, and the white cloverleaf of the approach roads. More traffic; the big soft hands of the brakes closed round the car's nose, relaxed; then she was on the carriageway and building speed again. "Over and out" from the roof speaker; lights twinkled as Spaceport Manual handed the vehicle across to the Journey Control network. Reb glanced sideways and twisted the now-operative ride adjuster fully open. Something kicked Gerry in the chest, the near scenery became a racing blur. She said casually, "Overdrive cuts in about two hundred kilometres an hour."

He lay back, not answering for the moment, enjoying the sensation of matchless speed and power, sensing the

flyovers that jumped past with a scarcely audible whooshing. Occasionally he felt the negative G of the brakes lift him, shuck off some of the Terrestrial weight he'd acquired, but the answering power surges from the engine were soundless. On his left, Reb had nothing to do; the machine was running by wire, controlled by pulses in the buried grid beneath its wheels. The girl took a cigarette from the dash, inhaled, held the thing out in front of her, vertical between her fingertips. "One quaint and insanitary left-over from the twentieth century . . ." She glanced sidelong again, grinning. "One *more* quaint and insanitary left-over——"

He moved restlessly, suddenly surly. "Cut this thing down to size, honey, will you?"

"What . . ."

"The car," he said. "The car. Life goes fast enough."

She touched the dash and the hurtling speed eased. "I'm sorry," she said. Nearly looked like she meant it. "I'm real sorry. You still space-dizzy?"

"Could be . . ."

"Tired?"

"I guess. A little." Why doesn't she turn it off, why does she have to push . . . All I need's a little time, he thought, time to sort this thing through. Only there had been time enough already. It never would get sorted. Not this way . . . He settled back again, knowing she was watching him. Maybe he should make small-talk, only he wasn't the type. She knew that already though, it was part of the deal. Nothing quite as bad as that swim across the pad. Wasn't there, though? Oh, brother . . . I'll wake up soon, he thought, find this was all a way-out dream. Like the hallucinations the long-service boys talk about. Deepspace Jerks is the name for it . . .

Stop that line of thought, *stop it* . . .

Everything was above-board then. Fine and dandy. Home was the sailor, home from sea. Or the Woodcutter, how about that? He was the Woodcutter and Reb the Fairy Princess. Yeah, and pigs were flying.

He nearly laughed. These days pigs did fly. They had a herd of them up on GX. Fresh pork, bacon . . . Last he'd heard they were doing fine, had magnetic hooves clapped on their trotters to keep 'em down on the decking, looked crazy . . . But this was the twenty-first century, anything could happen. Usually did.

He thought about GX. They'd passed close on the way in, smoking on down in the worn-out Thunderbird. He remembered the functional, complex shape of it spinning in its orbit. Regular and delicate, holding above it the countless petals of the solar cells that turned automatically to light, soaking up its energy. Like a chrysanthemum a half mile across. GX exhibited tropism, like a flower; inside the bloom were workshops, schoolrooms, galleys and mess halls, StereoTele theatres. All the life of a tiny planet. There were men, and women. The Rangers . . . He'd heard some fancy stories about their Space-side dormitories. The yarn that guy Mitchellson used to tell up in the Asteroid Bar in Selena, about hammering a Ranger Captain under zero G, and the pair of them drunk as skunks . . . Was that where they changed, turned into machines, learned to pull gags like this?

Back to the present. Reb was checking her chrono. Nearly half-way there, he must have dozed . . . His brain still felt numbed with too much thinking. Maybe there was something in this Acclimatization routine after all. He remembered the fantasies that had started back at Mainport. Great stuff for his psycho charts. Humanizing the unliving. The feeders were machines, GX was a machine. The Space Service was a machine, was all. The rest was so much romantic crap, the stuff the Stereos slammed out round the clock on Terra, the kind of thing that sucked kids into the Service fast as they could be reared. He was surprised he'd let himself get caught up with it. I am a King who found thee, and I know . . . He tried, again, to put it to the back of his mind. Live for the present, Kaufman. Eat, drink and be merry for tomorrow *powee* . . . He sat up

and Reb spoke for the first time in a long while. "Twenty minutes from grid end," she said. "Then things get interesting."

He was glad of that, it would mean some real driving for a change. Outside the limits of the Journey Control network folk still relied on their feet and hands and reflexes, same as they always had. He looked round the car again. Wondered how she'd feel to drive. Probably lousy. Murder to hold. All these big turbo limousines were the same, too much weight ... The robos could hold them, on the hundred-mile straights of the Turnpikes; but try a dice outside the network and they'd slide out from under you, they had the cornering characteristics of a stack of Service flapjacks. Status symbols with wheels ... He'd taken a twentieth-century Sting Ray up the road once, pal of his had had her on Museum loan for his Space Cadets' entrance thesis, that had taught him what driving used to be about. Gerry grunted. He still felt plenty sour.

Five minutes afterwards Reb took points for a left turn and the car's speed started to ease again. Perversely the noise of the turbine became more audible, dropping with deceleration to a throaty rumble. "Taking points" was another of those anachronisms with which the language was full; it had referred originally to mechanical control systems used in the time of rail travel. Gerry sat up and made himself take notice. In front of the car the Turnpike still stretched its set of white tapes into distance. They'd long since left the flat country round Mainport; they were climbing now, ahead mountains reared against the sky. The car, programmed for its turn, dropped to a crawling hundred kilos; soon an intersect showed ahead and the brakes came on, powerfully. The motor swung into the escape loop, steadied, accelerated. Now the road was no longer gun-barrel straight; it curved and dipped, following the contours of the foothills.

The route shrank to twin track, and the warning buzzer for the end of the grid sounded its first beep. Close ahead

the unseen circuits ended, leaving all traffic to manual control. A hundred metres on, and speed down to forty, the car warned again and gave over her dash. Gerry watched, interested in spite of himself. The instrumentation came sliding out of the plain coaming, the steering quadrant swung up from its floor recess, locked into place with a click. "Hallelujah," said Rebel, faintly; she took the white horns lightly, testing from side to side against the strength of the still-active robot. A last buzz, the quick flashing of warners in the road surface itself and the electric fingers on the steering column relaxed. The girl's feet touched throttle and brake bars; the car climbed, accelerating round the dished bends, while evening gathered in the sky above.

A few minutes later he saw it. Nothing there at first but a brief yellow sparkle high on the mountain face ahead; the flash of the levelling sun on an aureolumin roof. The motor dived into a tunnelled bend, eased over a long spur of rock and he could see the house, still infinitely small but detail perfect in the thin air. It seemed to hang out from a sheer rock-wall, clinging to the mountain in a way that took his breath. Reb followed his glance, flicking her eyes up then back to the snaking road. Pushed a strand of hair back.

"Like it?"

"Yeah," he said, nodding slowly. "Yeah, it's fabulous. Prettier than the pictures."

She spoke curtly, as if anxious to dismiss the subject. "I know. We're pretty thrilled. Daddy says there's no need to take cruises to see a bit of Space. We've got it all round us."

He nodded again, broodingly. "What keeps it up there?"

She said "Glue." Then laughed. "It's true. The struts underneath it, they're bonded somehow with the rock. Not to worry though, we're insured. If it comes unstuck we get a million bucks . . ."

They were closer now, still climbing fast, and he could see the retractable windows of the observation galleries

under the long eaves of the roof. He said sardonically, "You taking this can up there?"

She shook her head. "Nope, there's a garage in the cliff. Daddy could have had a shaft driven, but it wasn't worth all the extra cost. The last stretch is strictly for the birds."

He lit another cigarette. "My," he said through the smoke. "My, how we Spacers do live." She looked at him sharply. Didn't answer. The house was nearly overhead now, the car drumming heavily, tilting its nose at the steepest part of the trail. Gerry watched the girl's brown hands on the quadrant. Way out on the right the sun was setting, pouring orange light through the side ports, warming the paleness of the upholstery. He reached for a button and slid his window down. The air was magnificent, rushing and sweet; the sound of tyres on grit came through the opening crisply. Reb edged the vehicle over a hump so steep that for a second the coaming of the hood pointed straight into the darkening blue of the sky. Waited with her foot poised over the throttle bar for the autobox to find bottom. She whined the car over the last few yards of flat, stopped outside the motorport in the hill and zipped up the two big linked levers of the handbrake. She slipped the authorization key into the pocket of her blouse and waited while the turbine growled into silence, through the disturbing subsonics below it, and stopped. She leaned back then, raising her eyebrows. "Boy," she said lightly. "But have you got a chip . . ."

"Yeah," he said. "Yeah, I guess."

"Gerry, what is it? Like to talk now?"

He said, "It'll keep. It'll keep." He activated the passenger door, swung out into the cold gusting of the wind. His lungs started to labour again. He stepped back the way they'd come, hearing the sharp noise of his feet on the ground. Somehow outside the car everything seemed about ten sizes bigger. He looked over the edge of the little flat, saw the road looping down into the valley they'd left. Night was seeping like ink into the great bowl of space

below him; the wind soughed up from it, rippling his clothes. The pressure of air was steady, felt like he could lean out into it and not fall. He threw the half-smoked cigarette, watched the spark of it curl out, swoop aside and vanish. Reb joined him, hair whipping round her face. Took hold of his arm. He looked back, sensing her grip absently. The car had deposited the luggage like a clutch of odd eggs, was already inching forward on its pad into the maw prepared for it. In the odd light the machine looked unreal, a long bright ghost sliding into the rock. The motor-port flat was wholly in shadow, but way above the house still caught sunlight, burned like a flame against the vast backdrop of the mountain. Over it the sky was turquoise, fading to a clear, sweet yellow, and a chip of moon showed palely. The voice of the wind was big and wide-sounding, blustering among the high passes of rock.

Gerry heard a droning, saw the dark speck of a Skyfan dropping down towards him. He walked forward, stopped by the luggage; the machine swung overhead and landing lights flicked on round the edges of the plateau, driving back the night.

The Spacer lay stretched out on a low, well-sprung divan. Rebel sat beside him, a little close maybe and showing a lot of tanned leg through the unpinned side of her white evening kilt. For the last hour she'd been eating pecan nuts with something of the nervous intensity of a squirrel; round her, polished pink shells were scattered thickly on the carpet. The carpet was pale blue, a misty, shimmering Moon-colour; against it the coffee-brown upholstery, the spindly legs of chairs and tables, showed sharply. This was Rebel's wing of the house, the surroundings reflected her tastes. The room itself was low and wide, the ceiling crossed at intervals by functional beams of smooth, grey-yellow oak. Wooden cheek-pieces slanted down the walls; the effect was a little like the cabin of a ship. To one side the long observation windows, and the

gallery beyond them, added to the impression. There were flower arrangements in white, quietly classical vases: a Siamese cat lay curled on the carpet, in one corner stood an old-fashioned phonograph and a cabinet of records. There were many pictures; repros of Clingermann's Martian landscapes, a highly impressionistic view of the Mare Imbrium; an Old Master, a girl's head by Pablo Picasso. And on the far wall, what looked very much like a genuine Kandinsky. On Gerry's right a log fire burned quietly in a hearth of grey stone surmounted by a splaying copper flue; flame reflections danced on the carpet, making little orange fans of light.

Only a half of the room was really visible. In front of the couch the walls seemed to dim, spreading and vanishing in ghostly perspectives. The nearest of the ring of ceiling-mounted projectors was just visible through the illusion. The Stereoplay was nearing its end; Gerry seemed to be looking into the throne room of a palace, sombre and magnificent. Torches burned in sconces, sending up thin wreaths of smoke to the high roof; one end of the set was raised to form a dais, on which sat and lounged a group of dignitaries. Here were the two sets of lovers, Helena tall and blonde, Hermia flashing and dark; Theseus, greying and richly robed, his forehead encircled by a thin golden torque; Hippolyta in a barbaric half-dress of glinting bronze-coloured strips. In front of the platform the clowns mouthed and postured; music piped, silver and eerie, underscoring the old words that never would be old.

*And we fairies, that do run*
*By the triple Hecate's team,*
*From the presence of the sun,*
*Following darkness like a dream,*
*Now are frolic . . .*

A glittering golden Puck stood on the blue carpet, bowed, winked and was gone. The long poem finished. Reb yawned, stretched, put her heel on the floor control in

front of the divan; the Stereo went out in a momentary busyness of electrons. The room assumed its normal proportions; wall lighting flowed back softly. Gerry sat up, blinking. He'd been lulled by good food and liqueur and by the glimmering beauty of the Stereoplay, he'd almost managed to forget the pain that had been nagging away at the edge of his consciousness. Now, nearly instantly, he could feel it coming back. The house was very still; outside the wind called, emphasizing the isolation. The sound came dimly through the insulated walls. Now's the time, honey. Just say out what you've got to say, it'll be O.K. But play it straight. Don't fool around, not any more . . .

Reb brushed a last nutshell off her lap, turned lazily. Eyes very deep blue, half shut. "Like it, Gerry?"

"Yeah," he said. "Yeah, it was great. Rebel . . ."

"Hmmm?" Sleepily.

"Something I had to ask . . ." His voice now he'd got to the point of no return sounded harsh in his ears, adolescent.

She rolled over the rest of the way towards him. "Hmm . . . Let it wait . . ."

"It can't, bunny, not any more. I'm sorry——"

"It can," she said. "Till morning. Better in the morning. Everything's better in the morning . . ." She prodded him, playfully. "C'mon, Kaufman, quit worrying. Like the man said; lovers to bed, 'tis nearly fairy time . . ."

For a moment he seemed to sense the strain under the words; then the anger came again. He tried to move back and she wriggled carefully, trapping him. Caught his hand, guided it up to her breast. He let it lie there cupped round the warmth and fullness and things were how they'd been just once before a very long time ago. She pulled his head down and started using her mouth, not kissing yet, just brushing and touching with the lips. She was making the noise in her throat again like she always did, he used to wonder if it was an unconscious thing like the purring of a cat. His body reacted to her; he pulled her closer, felt gently at first, then more urgently the rhythmic pushing of

her tongue. "That's twice," he thought, hopelessly. "That's twice, Rebel, twice is twice too much . . ."

He pushed away. His arm when he lifted it felt heavy as lead. He swung his knuckles backwards across her cheek. The noise of the blow was flat and hard, its force knocked her against the cushions. She lay staring, throat moving, and seconds turned into a minute. Then she got up and walked off.

He lit a cigarette, trying to control his shaking. He said brutally, "I'll leave on my own, don't bother to have me thrown."

She stood at the sideboard, back turned to him, doing something that made a chinking sound. She said dully, "Nobody going to throw you anywhere. But if you have no objections I need a drink." She swallowed, shuddered, swung round with a glass of whisky in her hand. She walked back, sat facing him. Set the glass on the hearth, pushed her hands between her knees, stared down at nothing. Then the eyes travelled back to him. "Why, Gerry?" she said. "Why?"

He went across to the wall, stood looking at the Kandinsky, not seeing it. He said, "It's the Uranus trip, isn't it? Or farther out. Neptune, Pluto . . ." Fabled projects, he'd only half believed in them. Until this . . .

The fire crackled softly. Reb sat like a brown-and-white statue. Finally she said, "It's a long tour, Gerry. Twenty years."

He clenched his fist slowly, and opened it. Looked at the blue depressions the nails had made in the palm. He said, "Like some lousy Stereoplay, isn't it?"

"Gerry . . ."

He said, "You watch, and watch. You think no, it couldn't be that old corny workout. Not again. They'll put a twist, will be some new sort of end. But when it comes, it's just what you reckoned. The old workout all over again."

"Gerry," she said. "Please come and sit down. Here . . ."

She held her hand out, fingers inviting. Wanting to draw him back to the half circle of warmth where the flame patterns moved and flickered. But that was a thing to be resisted. He didn't belong in the warm any more, wasn't for him. He became aware of the Kandinsky as a tumble of colour, chaotic as his thoughts. His hand seemed to ache now, where he'd hit her. "Rebel," he said, "lay down. Lay down, you're dead, I just killed you."

She said, "Gerry, please let's talk. We should have talked before, not kept it all sort of bottled . . . I . . . handled things all wrong, wasn't supposed to be like this . . ." She licked her mouth, tried to phrase her words exactly and correctly, giving each the same value. "Honey, I . . . it wasn't like you think. Honestly . . ."

His eyes were on the picture, he wasn't listening. She tried again, miserably. "Gerry, I . . . used to think about you a lot. Work it out, plan how it was going to be. I used to lay for hours, off-duty, when I was in Space——"

He spun back. "*You were never in Space* . . ." He laughed, letting the bitterness well up. No point trying to stop it now. "GX. That isn't Space. That's a warm, friendly, cosy, all-Terran little old home from home, that isn't Space." He was shouting now, didn't care. She should have let him go. But no, she wanted the dirty game played through. "I'll tell you about Space," he said. "Space is a little cabin. About yea big." He gestured jerkily with his hands. "Round. Silver walls. Little air-pump that goes thuck-thuck-thuck till you dream the noise, feel it. Smell it. Eat it with your dehydrates. There's one port you never open. One radiophone you never use. A coupla books you read through and through, over and over, till you know 'em by heart, till you know 'em backwards, till you're sick of every bloody word. Space is where you sit for a week or a month or a year and listen to the temp changes make dust out of the mountains. Above all, Space is where you think. And boy, how you learn to do that . . ."

The met cabin was swimming in front of his eyes with

the vividness of hallucination. Every tiny detail of it, as if the image was burned on his brain. He said savagely, "Everybody comes back out of Space just a little crazy. All the boys know that. Did you know that, honey? Did you know when you were picking me up, you were waiting for a crazy man?"

She didn't answer, didn't look at him. She was staring down again, sitting hunched. It was like the words were lashing her, he could nearly see them hitting her back. But he couldn't haul up now. "Tell you a little story," he said. "Tell you just how things are. And don't stop me, bunny, this is Kaufman's one big scene. Just let it all come rolling out, it'll show you what you'll be missing.

"There was a little kid once, nice little guy. And he had a sort of yen. A dream. Used to spend all his nights reading, sit and time the satellites up the sky, build the gear so he could hear 'em cheep. Watched all the Stereos he could get, turned himself bug-eyed seeing Mars and Venus and the Moon. Was only one thing the little guy wanted, right from when he could think. Wanted out, wanted to be a Spacer, wanted the long haul. Only that wasn't too easy, honey, you know why? You wouldn't know about things like that I guess . . . He was born wrong side of the tracks. Daddy kept a general store in a little way-out dump of a town you never heard of. Wasn't no money, no money at all.

"Well, he made it. Took years. His Ma slung hash in a dirty little flop joint to pay his way through High School. Then College, then the Cadets. He made it. Got his uniform, got his commission. Travelled all the way back home just to show the folks, tell 'em what it felt like wearing the Blue. Was a big day for him, honey. That was the day they turned out the band."

"You made it, Gerry," she said. "What's the point, raking this all over?"

He carried on as if he hadn't heard her. He was sweating a little; he stood with his feet apart on the carpet, and some

piece of his mind was wondering at the violence that was getting itself let out. It was like a stranger was talking, he was listening to the words, seeing them make new patterns. "He went back to Space School, did that little guy," he said. "They tested him, they probed him, they taught him everything they could. And he found out all there was about the Space Service. Every little thing."

He looked out the long windows, blue and vibrant with night. "I wonder what they'd have thought," he said. "All the old guys, the dreamers. Galileo, Newton, Verne, Wells. Old Lucian, all those years back. Wonder what they'd have just made of it, seeing the dream . . .

"There's nothing out there for us. Just a hole that goes on for ever, they call that Space. And lumps of rock, they call 'em planets. We can't populate, we can't use a thing. Not for generations. There's nothing out there we haven't got already, ten times over. No life. No air. And we're still looking for God . . ."

*"Gerry . . ."*

"But we got a Space Service," he said. "By Heaven we got one of those. It's big and it's rich, and what the Service says goes. Any place, any time. If the Service wants a million bucks sort of sudden, it gets it. If it wants ten million, it gets it. Wants to glue a few houses on the side of cliffs, it goes right on up and does it. But now and then, just once in a while, some guy gets on his back legs and says so what the Hell, how about the Conquest of the Universe? Then things have to move, honey, they have to whirl. And you know what happens? They got a routine for it, all laid out. They take some goof with his head full of glory. Like the little guy I was saying about. They make him up big. Promote him. Give him a coupla years leave. Fix him a high-class wife, somebody to raise the family, look after the back pay. They give him the lot, everything a guy could need. Sure they'll build him a house on a mountain if that's what he wants, it'll be great . . . Then they shove a bloody little flag in his hand. 'Off you go, son,' they say.

'Just stick this in the farthest ball of muck you can find, will ya, just poop off for a coupla dozen years, somebody gotta keep making Progress . . .' "

She got up like she'd just sat on a tack. "It wasn't like that . . . Gerry, *it wasn't* . . ." She was nearly screaming, her eyes were very bright. She stamped, made the short kilt swing. He'd never seen anybody, girl or woman, stamp with a temper before. "O.K.," he said. "O.K. bunny, wasn't like that. Wasn't anything like I said at all." He walked towards the door. "I'm an upstate slob, Rebel, I never changed. How do I get out of this Goddam place?"

Quietly. "There's a fan in the garage. You're welcome."

"Great," he said. "I'll send a guy back for my things, O.K?"

She seemed dazed. "Gerry . . . where'll you go?"

"Downtown LA. Find me a bar that doesn't shut nights. Make like a Spacer." He reached the door and she ran to him, took his arm. Rubbing, not looking at him. "Gerry, I . . . never said please to you before. Please believe me, it wasn't like that. Not this time. I thought . . . well, we could take up where we left off. It was going to be like . . . well, like it could have been. Oh, you know what I mean. It's all messed up, Gerry, I made one Hell of a mess of things, you know what I mean . . ."

He unhooked her, as gently as he could. Seemed he couldn't see straight any more. And the blood was sounding in his ears, it was like he was drunk. "Darling," he said, "I believe you. It's just, I don't want any part of this. Always wanted you but I can't take this, not you a chunk in a package deal. You didn't have to put yourself on show with a price tag round your neck . . . I got a twenty-year tour, is all. O.K., so I'll do the bloody tour. The long haul. So O.K., we can't just all have the luck. I pulled the short twig, that's all . . ."

She stood back from him, white and gold, tousled. "Then I never mattered," she said. "Thought I did, thought there

was something between us, wasn't so." Then, bitterly, "Just a hayseed getting over his first dose of hormone trouble . . ."

He leaned his hand on the door-frame, made a fist, pushed his forehead against his knuckles. Knew that walking out was going to be like towing a ton weight up a cliff. He looked up, face haunted. "Reb," he said. "This is a thing just has to be done. Don't know why." He was shaking, trying to grin. He heard his own voice rambling on into absurdity but this was still his scene. Would never be another. "Bunny," he said, "there was a man called Shaw, wrote a play. In the play, the girl's going to be fed to the lions. The soldier asks her why, why do it? And she says, 'I don't know, I've forgotten.' That's a wonderful line I guess. And that's with me. Don't know why I'm going. Don't know why any of us burn our lives up cutting rings in Deepspace. I don't know. I've forgotten . . . But we go anyway. Nothing for us, we still have to go." He fumbled the door open. "Rebel," he said. "I love you. Mean that, bunny." She shut her eyes, swayed a little. Heard the frame bang in the wind.

She walked back across the room, moving automatically. On the hearth, her Scotch was getting cold. She knelt in front of the fire, looked into flame. Rubbed the senseless prettiness of her legs. Hadn't been easy for her either. But she'd had to play it this way. How deep was trust, or need? She picked up the glass, her hand tightened, there was a quick clear snap. Blood ran across her palm. She watched the brightness stupidly, not understanding it. Outside, she heard him yell.

He crossed the loggia feeling his head spinning. Bright sparks of light showed in front of his eyes. The wind hit him; he stumbled on the steps, caught the guard-rail . . . and he was staring into nothing, into Space, into the endless bowl of the valley. The wind sang and bawled under his feet.

It got him. The mountain over his head was leaning, it was going to fall and crush, snap him out. He was a dust

mote on a ball called Earth that fled through Space eternally. He made it to the walled yard and stayed there on his knees, the stars above him and all Space shoving down on his back. His lungs pumped, not acclimatized, wanting thicker air, not getting it. The house watched with its orange windows and he couldn't see. He shouted blindly and Reb came running, skidded in the gravel. She tried to haul him up by the collar; he pulled back wincing and she started to laugh. "You're soft, brother. You know what, your belly's gone soft . . ." She used a phrase that cut into his shock like a knife. "And I didn't bloody well learn that on Terra either . . ." She was shaking him. Yelling. "Like to play it tough though, don't you, feller, like it all on the line. So O.K. you're an upstate slob, I'm worth twenty years of your dirty life. Better take the deal, slob, is the only way you'll get me . . ."

The plateau was tilting, he felt he was going to be sick. He had hold of her kilt, "Reb," he said weaving, "Reb, please, Reb, please . . ." And suddenly his head was down between her breasts, in the warmth there, she was holding him and she was warm. "It's O.K.," she said. "Oh, you fool, Gerry, it's O.K. . . ." She nuzzled at him, voice husking and limping against his ear. "Everybody has to break . . . Everybody gets the jolt, has to break just once. I lost the . . . Mars trip . . . for this thing, I hit . . . LA, high as a kite, I used to be a virgin . . ." She rubbed a hand across his back, feeling the shaking. "Gerry, it's alright, take it easy, Gerry, it's alright . . ." He spoke thickly, face muffled. "Gimme a minute, Reb . . . Be O.K. . . ."

"You got it, brother," said the Ranger. "You got all the time there is." It was O.K., together they had a chance. They could keep back the cold that was coming. She laughed, felt pain start in her hand where the cut throbbed in the palm. It seemed now house and mountain were cardboard cut-outs, less real than the Stereo. The only thing that mattered was the warmth, hers and Gerry's. They were tiny, both of them, but they were alive. She had to

laugh. Was only one thing she hadn't told him, somehow she'd get round to it. Up to now it hadn't seemed important, thing that mattered was how much he needed her, she knew how much now. He was marked for the long haul, so was she. No more parents, in just a little while. No more high-class parties, no more pretty house on a cliff. But that was the deal and you had to take it, whoever you were. You had no second choice; nobody got a second choice . . .

Above her, way up over the shoulder of the mountain, the void brightened and glowed. GX rose, close and huge, still finding sunlight, hurling it back transmuted from its high-albedo dural skin. It sailed up the sky, a ragged silver flower; Rebel watched, kneeling upright. Her face in the brilliance looked like she was seeing a god.

# THE EXPANDING MAN

*by*

R. W. MACKELWORTH

*Not all science fiction stories require a complex plot or setting to make them acceptable. The following story, set in a park, is solely a conversational piece, but its implications prove far-reaching.*

"WHAT did she say?"

Algie Ryan's face grew longer and sadder. His eyes, blue puddles in bloodshot pools, gave him the unhappy look of a tired hound. He pouted. "She said she had a bad day with the children and as soon as she put her head out of the back door a thunderbolt fell on her."

"Humorist, eh?"

The stranger flicked some imaginary ash from his cigarette and smiled encouragement.

"I'd hardly say that. Rather the humour of desperation if you see what I mean. After all, my story must have sounded funny." Algie stared at the sympathetic face and knew he had been right to share his troubles with this man. It was fate which had brought him to the bench in the park. "My wife is a careful woman and she's very patient. She scrimps and scrapes every penny. I used to like the odd nip and she thought I was back on the bottle."

"But you weren't."

He shook his head. "No."

"I don't think you were ever that kind of person, Mr. Ryan. Not the kind that tipples. I mean you have a position of trust at the bank." The words had begun to freeze on his lips almost as he said them. It was a mistake to mention the bank.

Algie shook his head very slowly. It was symbolic of the doubt and confusion in his soul. "I run the messages. They gave me a nice, black uniform with a peak cap, but I still run the messages. Nice packaging, nothing more."

The warm, autumn wind shuffled the trees. Wet leaves flopped on to the bench and one fell on the stranger's lap. He looked down in horror at the damp leaf, brown and decayed, breaking down to a thin skeleton. His clean face

wore the fastidious frown of the puritan. He picked it up carefully and dropped it on to the gravel path.

"Did he tell you his name?"

The question was a sly one. Algie wondered if he had done the right thing, talking to this man, after all. His instinct put him on his guard suddenly. "He didn't have time to tell me."

The stranger seemed relieved. He actually sighed as if a great burden had been lifted, a burden as murky as the dead leaf.

"What's your name, then?" Algie inspected his companion with the shrewd skill of a man who spent his time with money. Other people's cash made its own demands. One never knew when some of it might end up in his own pocket under stress of temptation. Or, worse, in someone else's pocket. Especially if the thief carried a cosh. Either way the police would blame him because he was the lowest common denominator in the bank and a ready-made scapegoat.

"Smith. My name is Smith."

"Ah."

A long moment of silence followed. The wind sighed and howled across the park as if they had buried a giant alive under the rough turf and he was still breathing hard. The silence ended with the loud clatter of municipal dustbin lids chasing one another from the shelter of the broken-down public convenience. The park had a certain wild beauty.

Smith obviously knew he had fallen foul of Ryan's suspicions. He had to switch the course of the discussion. With an inner quake of hilarity he realized that Ryan thought he was after information about the bank. How wrong he was! He was after life and death not paper money.

"This man you were telling me about. You said your wife didn't believe you, that she mocked you. Did you tell anyone else?"

"No."

"What did this man get from you before he vanished?"

Algie looked guilty, but that was nothing to go by. He always looked guilty. At school he had blushed every time the headmaster spoke in solemn tones from the musty stage about another petty thief. The headmaster liked to pick him out with a pointed glare. Of course he knew Algie hadn't done it, but it gave him a due sense of majesty.

"I told him nothing."

"Except your name, your job and the colour of your wife's eyes. Then you went on about life in general and the iniquity of your manager."

"How do you know?"

Algie appeared astounded by Mr. Smith's knowledge. It was as if the cold, grey eyes had peered into his mind and laid all bare.

"You are the kind of man who confesses, Mr. Ryan. All confessions run along the same line—a protest, a windy grumble with the tensions running out in an acid stream." It was a satisfied voice which summed up Algie's weakness. "The point is, what did he tell you."

Algie was on his guard. He had been insulted, but the insult was laced with power. It was the sort of rebuff an inferior man had to accept from his master. He could hear the bank manager saying, "You can make the tea, can't you, Ryan? The woman is ill and the junior won't do it." Yes, it was the same calm assurance in Smith's tone.

"He told me nothing."

"He told you of a wonderful world where people are free from the chains and bondage of bank managers and uniforms. Where women don't fall ill and juniors would love to make the tea and men of your maturity get the respect they deserve."

Smith was indeed reading his mind! That was why he had seemed so sympathetic. That was why he had been there on the park bench and why he had told him about the strange man. Algie felt uneasy.

Would there be another occurrence?

Could Smith work the trick and vanish?

"The other man vanished?" Smith smiled with an odious superiority. "How did he vanish? Tell me about it, Algie."

The hollow cheeks lost what colour they had and the thin neck jerked this way and that like an old hen waiting the chopping block. "I can hardly remember."

"Yes, you can remember, Algie."

"It was very cold. I remember that much. It was so cold in the park it made me feel naked. The clothes they had given me were flapping around me like wet rags and they were torn when I skipped over the wall." Algie hugged his arms across his body as if he could feel the bitter wind. "For a long time I wandered about until, finally, I found this same bench."

"And he was sitting here?"

"No, he came a little later."

"How?"

"He just appeared. One moment he wasn't there and then a light flashed over the heath and he was lolling at the end of the bench as if it was a fine warm night."

Smith smiled again and took out a silver cigarette case. He drew one for himself and allowed Algie to see the gold monogram printed on the cigarette paper like an imprint of wealth on pure, white linen. Then he put the case away.

"Didn't you feel any fear, Algie?"

"Not at all. He had a very nice face. It was just the kind of face you tell your troubles to. So I did."

"You spoke to him, but later on you noticed a change?"

The tired face seemed to develop a new vigour. There was even a faint light in the weary eyes as if memory had kindled a fire somewhere. "I sensed he wasn't ordinary, that he was from out of this world, and I accepted it. Then, as I told him my troubles he seemed to grow until he filled the whole of my view."

Smith was irritated by the sympathy for the other man which had betrayed itself in Algie's face and voice. He

wanted to prick the bubble. "It can all be explained. Look, little man . . ." He began to expand slowly like an uncertain balloon. His neat figure and his pretty face lost their perfect shapes. He was a growing combination of blowing curves and bulging, rounded angels. As suddenly he deflated.

There wasn't even a hiss.

Algie shook his head. "Not quite like that. More graceful."

"Damn him!" Smith peeled off his fine gloves. He laid them carefully on the seat beside him. On his fingers were several diamond rings which flashed in the sunlight. One of these he twisted with neat, precise movements until a single stone extended from the thin, gold band on a fine silver wire.

"This is a gadget, Algie, with which I can talk to the Moon or a thousand planets. Just like your radio. Now, the other man had a ring like this and half a dozen others just like mine. When he appeared he used one of these, and when he disappeared he used another. Whatever he made you think, he was no miracle worker. I can do anything he could do."

"I'm sure you could try, but you haven't got the same manner." Algie stared at Smith and at the diamonds flashing on his fingers. He wished he could assess their value for a bank loan or better still for probate. There was nothing likable about Mr. Smith. "You come from the same place, don't you? Or is it the other side of the same place?"

Smith returned his stare with distaste. "It isn't a fairy-tale heaven and earth, man. I am a scientist and the other man was a scientist. If anyone was lacking in ethics it was he not I."

"But he did good."

"He did good," Smith mimicked his pathetic whine with derision. "What do you mean, he did good?"

"When I told him my troubles they hurt him. He seemed to take them into himself, if you know what I mean, and

as he took them he grew larger with them . . . until he was enormous, a great skinful of my problems, of small household nags and big bank tyrannies. I thought he would explode."

"It was a trick, a conjuring trick for ignorant natives! He broke every political agreement and every solemn pact of non-interference that's ever been made in this sector of space-time merely by speaking to you." Smith spoke up like a small-town politician who hadn't had time to fix the ballot boxes and knew he had lost to the other candidate. The other side was breeding a nimbler race of mice. "What good did he do?"

Algie looked at him sadly. "I don't think you will understand." He dived into his pocket and pulled out a bottle. It was tiny, with a screw cap and a little label, very worn. The up-and-down scrawl of the chemist had been almost obliterated. Algie took one of the capsules from the bottle and rolled it on to Mr. Smith's lap. "He cured me. I don't need these any more."

"Cured you?"

The thin man nodded positively. "Well, very nearly. You see, I couldn't let him go on because when he had heard most of my troubles he was as big as the park and there was still a bit left deep down inside me. I had a feeling he would explode if he took the lot, especially as the deeper I dug the more effect it had on him." He sat back and spread his thin legs across the path. It was a satisfied posture like a man who had made a good day and was resting.

"Listen!" The voice thundered like the black roll of storm clouds. "He was trying to impress you. Where he comes from the ability to expand is as common as a blush. It's an old defence mechanism which his race received as an inheritance from primitive days. Lots of your creatures can do the same. Even you can raise the hair on your head if you are scared, can't you?"

Algie nodded, and then he grinned. Two flattened wisps were all that continued the straggling battle across his high,

ridged pate. "All the same he cured me, I tell you. Why I've even had a promise of my old job back at the bank."

Smith was very silent. He didn't feel very well. When he had read the wretched creature's mind he had distinctly picked up the facts. Yet, here the man was telling him that he wasn't working at the bank after all. Had Algie found the secret of screening the mind? If so the whole planet was on the point of breakthrough!

Was that why the other side had made an approach?

No!

It couldn't be true. There hadn't been enough time for the special faculties to develop, and this ragged, lop-jawed misery wouldn't be the one who broke into the communion of the universal life-stream. That would take the finest mind in its finest hour, not a broken-down wage slave.

There were tears in Algie's eyes. "I was a drunken bum, mister. Before I met him I was taking the cure. The bank had thrown me out and all was lost. I was a bit confused. Even the walls seemed to be walking pink elephants."

Monstrous creatures stalked across Mr. Smith's inner vision, staring at him wisely. A green snake whispered between their trampling legs and shot out its green tongue at him. He felt sick. "The other man saw all this?"

"And took it away. He substituted a warm picture of clean bank vaults where temperance reigns supreme. It brought back happy thoughts of security. When he left I went straight back to the institution, whose walls you can see hanging over the park as you come in like iron curtain justice, and gave myself up again."

"You had escaped from prison." Smith made it a statement. There was no point in making it a question. "You were a drunk, and you slobbered your horrible story to this man and he cleaned up your mind."

"Yes, that's it exactly. No emotion though like the Salvationists and no cold comfort like the quacks—with their sharp jab in the backside and weeks in the tank fighting off

a zoo full of bright snakes—but more like the A.A. if you know what I mean. Tell all your troubles to a fellow sufferer who has beaten the rap and you get the strength to leave it alone." A beautiful glow of strength illuminated Algie's tired eyes.

"But I thought you said you were back in the bank now and had never left it?"

"My imagination, friend. It's always plagued me and that's why I drank, if you want to know. I was a sensitive child with complexes."

Smith picked up his gloves and put them on very slowly. He knew what he had to do. Someone from the other side had visited this planet. He had actually given aid and comfort to an inhabitant and had set in motion a chain of events which might reveal the truth before it was permitted. If this man on the bench talked and the planet believed him, all was lost. Materialism might sweep across the universe like a rotten plague propelled onwards by a primitive race who would have no idea of what they were wrecking.

He had to kill Algie.

Algie suddenly felt very uneasy. He sensed danger. All his life he had dodged bombs, from the sky and under the ground, and he had an instinct for them. When a bomb dropped, Algie could be seen running for the open. He ran so fast the army never caught him to court-martial him for running.

Smith knew the sacrifice he had to make. The law was clear. If he took Algie's life he had to do it with his own. He must expand the cells of his body until they tore from their fellows and blew Algie and the bench into pieces of nameless plasma. All because one man, and from the other side at that, had broken the eternal rule and interfered with a primitive race. Why?

"Easy, mister. He wanted to meet me."

Smith sought the slovenly folds which supported Algie's eyes. A happy thought was dawning in his mind. Could it

be that the planet was near its spiritual breakthrough? It was impossible! They were in a post-atomic period, a positive step backwards even from the brief, high point of their renaissance and that was virtually nothing. Yet, Algie had just read his mind.

"Puzzles you, doesn't it? Perhaps you haven't met a crew like us before. You see, when one of our people gets funny ideas about reading minds and so on, they lock them up."

"They do what?" The stranger felt lost and very nearly confused for the first time in his life. He had heard of culture shock, but now it was on him it had him by the ears.

"Lock them up or put them in a pulpit."

"You mean every one of them is different?"

"In some ways. Each one comes in with a different ability or an indifferent ability like mine. Most of it's wasted. Some of it never shows. If it's strange, then they don't like it at all."

"I see." Smith did see. He understood why the other man had tried an experiment. It was an effort to find out how this strange race worked. Perhaps he had thought each individual would have to be dealt with and brought to his salvation one by one. A novel idea.

But had he been right?

Obviously not. He had realized it at the end, too. With certain proof, out of Algie's own mind, he had only one course. He would have had to kill himself and Algie as he, Smith, would have to kill Algie. Hold on! If the other man had tried to rectify his interference and had exploded himself, how was it the thin man was still alive?

"Did he explode, Algie?"

The thin man nodded.

"Where were you?"

"Over the other side of the park and running. He set fire to the trees and I got the blame, but I didn't mind. Not after what he did for me."

Smith saw the point once again. He would have to fling his arms round Algie and hold on tight. It was almost sickening, but Earth must not become a political shuffle-board or spread its contaminating breath of barbarity round the universe. Algie knew too much, and though he had the rudiment of the gift he had no real idea of how to use it.

Algie slipped his arms out of the sleeves of his jacket and made his body as much into a tube as he could. Nothing like all the training of an old busker family to help in a pinch. Wasn't his father a houdini and a hard case to boot. Just as his mother had read minds and picked pockets.

Smith wrapped his arms round the rigid body.

Thoughts whipped through the far distances from place to place and were relayed back with comment. They were pleased with him but puzzled. "High survival factor here," one said and another added, "They could break loose without us. A genuinely new culture."

But Smith had to stop the rot. They had to have time to think it out. He had to blow his body to pieces and face a wait of a century or so for a new one to take its place, wandering perhaps in the empty space in penance, in the meantime. He expanded with all his concentration. It had to be quick.

Algie stood behind the great oak at the other end of the park. He saw the damage done to the flower-beds and the trees scorched and stripped of their leaves. Even as he spotted the police, with the usual pair of white-coated male nurses, he didn't mind. They would blame him. Just as he had a job lined up with the old bank mob, too, and it wasn't the kind of job he had indicated to the gullible Smith—rather an over-the-back-wall-and-blow-the-safe-quickly gambit. The mob would be very disappointed!

Still, when he was back inside he would give old Doc Klenk something to think about. He thought he had worked a quick cure, but now he would insist on a new

course of pills, big pills, he bet, fit for cart horses. Never mind, he had learned a lot.

He shambled back towards the white-coated nurses and the police, apprehensive of a sharp crack behind the ear, until he saw neither of the nurses was one of the sadist squad. His back straightened and he thought tenderly of Smith. Poor con-man, but a perfect gent. He wondered how they had managed that expanding gimmick.

Voices drifted in.

"Clever monkeys . . . one day they may be all over us . . . clever monkeys with imaginations . . . and souls to find. Wait . . . wait until we know . . . genuinely new culture."

Algie did a little skip. His mind filled the park and played and soared with the leaves, scattering the dustbin lids around the public convenience jumbled in with leaping police hats and doing a crazy dance.

Algie, the real expanding man.

# TREASURE HUNT

*by*

JOSEPH GREEN

*A sentient object on one planet could well be an inanimate one of immense value on another, given the right catalyst. Mr. Green's concept in the following story is startling as well as unusual, and presupposes a conflict between carbon-based life and a silicon-based one.*

## TREASURE HUNT

THE wall slid upwards and he went charging down the ramp, wheels driving hard against the steel. Fear drove him, fear gave him strength, fear pushed him across the open space and into the sheltering growth, out of sight of the alien tower of steel that stood so strong and looked so strange in this fragile fairyland of flower and light.

The fear began to fade. He rolled on a moment more before stopping, impelled by its memory. His unorganized flight had carried him to the edge of a silvery-surfaced pool. He glanced at his reflection in the heavy liquid, then closed his eyes. He felt a sense of shock and a sense of complete rightness, and suddenly he became very confused. He wanted to scream, but instead told himself, I am Soames Chacedony! I am Soames Chacedony, Soames Chacedony! He stopped. There was memory, harsh and hurting, but memory, an implanted voice that said, *There will be an initial period of confusion. Find a hiding-place and wait it out. Don't struggle, just wait. You will understand.*

The voice was too strong to resist. He looked around, one wheel moving slightly when his neck would twist no farther, the wheel swinging him half around. There was a thick patch of vegetation a few yards behind him. He glanced again at the water, seeing the plump, rounded arm-less body, heavy tapering tail, snake-length of neck topped by a blunt and broad-nosed dragon's head, the open mouth showing pointed tongue and diamond glitter of teeth in wide, wicked jaws. He looked at the two wheels of bone that supplied his locomotion as he moved away, at the massive bones which protruded from both sides of the muscular abdomen to serve as their axles, the clever arrangement of great thews powering extended bones with rounded ends that swung in small constant circles, fitting

into the deep hollows between the wheel's twelve spokes on half the cycle. He looked like an oversized seahorse mounted on a crossing shaft with rollers on its ends.

He watched the bones revolve and the wheels move as he headed for the refuge of the sheltering growths, felt his tail curl in or out, sensitive to every slight shift of balance, heard the faint whispering sound of the grease his body automatically supplied easing friction in the bone sockets. He moved into the bushes, and waited.

I am Dr. Soames Chacedony! I am Professor Soames Chacedony! Chacedony! Chacedony! He repeated this earnestly, sincerely, because he believed it, because it was truth. He wanted to add that he was an Earthman, that he walked on two legs, that he had hands, feet, a face. He wanted to say all this aloud, but his throat could not utter human speech and it would obviously have been a lie anyway.

He closed his eyes. The darkness was comforting; this world was too bright, too real, and the voice of memory spoke more easily when it was hidden.

What am I doing here? he asked himself. I am dead, he added before he could answer.

*You are a mental pattern, a matrix of electrical forces taken from one mind and forcibly imposed on another. We are not cerebrotechs and cannot explain the process. It is a temporary imposition; in a few hours the sleeping mind of your host will reassert itself and you will fade into nothingness. Your true brain is unconscious but tied to your present mind by very strong bonds. If one dies it affects the other.*

Why was this done? he asked himself, and waited for the answer to appear from his own subconscious.

*We are on a treasure hunt. We are after the fresh-laid egg of the firebird, the most beautiful object in the galaxy, and this is the only way one may be obtained. You were chosen to share this effort with us because our computer selected you as the philosopher most likely to succeed.*

Selected me? Why me? I am dead! Memory came back with a rush, and he was dead, legally, and buried as well, and they had fished up his body, a clear violation of the euthanasia law, and withdrawn the dream serum he had injected into his bloodstream with much ceremony the day before, and revived him, and offered him a share of the fabulous wealth they earnestly felt was almost within their grasp. He could even remember the overly dramatic farewell speech he had made to some of his followers and students as he sat in the coffin holding the hypo, the conscious but silent comparison of himself to a Greek who had said farewell between swallows of hemlock three thousand years ago. He, too, was dying for a cause, though the drug he was voluntarily taking would extend life for many days before his body finally wasted into death. He would lie in his simple coffin in its assigned place on the bed of the Mediterranean, and live a thousand years of dreams during each day his body died. He was a healthy and vigorous man of eighty, with another sixty years of slow degeneracy ahead if he chose to take them, but he would end his life by this faster-in-reality but longer-by-dreams route to dramatize the movement he headed.

He was the leader of the dedicated band of men and women who claimed that the tortuous rejuvenation operation giving near immortality should be available to all who desired it. The government's official position was that it was impossible for everyone to undergo treatment, that it must be reserved for those persons so valuable to the war they could not be spared, or those who could afford the million credits needed for private treatment. A deceptive statement which ignored the alternatives. Radium was plentiful now, and more surgeons could be trained. The government was simply unwilling to accept the perfectly fair terms the Rekriksah had offered because it would mean returning some of the star systems Earth had stolen from them.

It was true that as long as the interplanetary war went

on mankind's resources must remain tied up in arms, but they could end the fighting tomorrow if they would, freeing technology to work for the needs of the individual. Sol Central had the attitude that had characterized governments since the days of his Greek mentor, the willingness to work for the future of the race regardless of what it cost the members living in the present. That attitude had to be changed.

Background knowledge faded as the specific answer which had been implanted in his subconscious appeared. *All four of us have made the attempt, and failed. We think we know why. When you meet the firebird you will find that the instincts of the chariot-horse body you possess, plus the normal fear of death, will make it difficult for you to submit to her. We found it impossible. It is our hope, which the computer bears out, that a trained philosopher who is honestly willing to accept death, who has only to overcome the natural reaction of the chariot-horse, can force himself to submit to capture.*

With this information came a picture of the two Earthmen waiting in the tall steel ship, two young men with muscular bodies and hands trained to gun or tool, two men who were daring and loved adventure, and loved life more than most because they had many times seen it in deadly peril. In them the desire to live was strong.

But there was another man sitting vacant-eyed in the ship, and a body buried somewhere under the glittering mica and sand of the landing field. This world had killed one man by brute physical violence. In sorrow and deep regret they had told him about those two men, their companions through many a voyage rough and strange; especially they had spoken of Silversohn, the cerebrotech who had managed to restore the ancient and alien identity transfer machine when they found it on a remote dead planet in their last far wandering. He had restored it, and used it after his three companions had failed, to become the second casualty when a hungry carnivore caught him

far from the ship and killed and ate his borrowed body. They had obtained this much by putting him under deep hypno, but his mind was gone. Now Silversohn puttered about with the transfer machine, still capable of repairing it despite his idiocy, keeping it going in order that Soames Chacedony might try where all others had failed.

But your logic is faulty, he had cried to them when he awakened in deep space. I do not wish to live. Why, then, should I endure this agonizing and unpleasant experience of which you speak, when death is so much more preferable?

They had smiled, their handsome faces masks of mocking cynicism, and his memory supplied the answer they had given then: *You chose death because it was inevitable anyway, professor. You were already past the best years, could only go downhill without the rejuvenation treatment. With your share of the egg credit you can buy the long life. All four of us had the first treatment, and we are far older than you. It is time for the second one, which will prevent ageing for another hundred years. We think you will choose to live, even though others die, once there is a real choice.*

And betray the cause for which I martyred myself? he had asked in anger, and then thought about it and realized he would have to try for the egg. They had raised doubts he could never forget if he did not face the temptation and resist it.

Thus he stood under the weird trees, in a body grotesque and strange, in search of the egg of beauty and life, in order that he might reject that life and prove himself true to his beliefs.

He opened his eyes.

For the first time he saw his surroundings with conscious perception. Till now he had accepted, a chariot-horse seeing its own strange land with its own bright eyes, uncaring.

He saw a world of light. A viciously bright sun with only a tinge of aged red burned close at hand. There were

no true shadows. He was in a vari-formed forest of translucent trees, some lean and spare and bending like vertical whips, others more nearly in the standard plant form, a central trunk supporting smaller branches which supported twigs, with round patterned plates attached to the twigs like oversized leaves. On some trees the plates had combined into a single canopy, like a protective tent. The one universal characteristic of all visible vegetation was its semi-transparency. The flat plate structures passed reddish sunlight almost without hindrance, turning the area beneath a soft shade of violet. The thicker twigs contained a trace of resistance near their centres, while the branches held enough light to be a darker shade of red. The massive central supports had cores that were almost opaque, but this was because the entering light diffused there, spreading up and down the body rather than passing through. The very soil on which he rolled glittered in the light, a composition of polished silicon and sparkling mica. Human eyes would have been blinded, lost in the assault of brilliance.

Another fragment of memory returned. This was one of those rare planets where the life-chain had formed on a silicon rather than a carbon base, a world so completely alien human senses were virtually useless, human consciousness unable to function competently in its forests of crystal growths. The atmosphere his borrowed body breathed was a mixture of nitrogen oxides, hydrogen sulphide, sulphurdioxide and ammonia, with not a trace of oxygen in free form. The pool in which he had admired his reflection had been of liquid mercury. The temperature was high enough to vaporize water in seconds.

He looked at his body again, and realized with amazement that while he was not actually transparent his flesh did admit sunlight easily. His outer cell layers received energy directly from the sun, and synthesized compounds which circled through the remaining tissues. When he moved he gave off light, and now he realized this was true

of every plant and animal on this sphere. His borrowed eyes knew and allowed for this. He was a humble vegetarian, with teeth of diamond and stomach of hydrofluoric acid, and there were growths of prisms, seed carriers of crystal bells, fruits of gemmed translucency which were his food. There were other animals like himself, and many like his firebird mate . . . which was carnivorous.

He felt a sudden and powerful fear, and knew that already the instincts of the submerged personality he dominated were coming to the surface. He had to finish his mission, quickly, or they would become an added interference.

His journey through implanted memory was over. It was time to find a firebird. He wheeled out of the dubious shelter of crystalline cabbages grown overly tall, looking about with new interest at the shimmering landscape. The gossamer growths were thick and varied, and despite their lack of opacity he could see little farther than in a real jungle. Each shard of crystal crooked, curved or splinted the ray of light passing through it, giving illumination without vision.

There were other carnivores in this fairy jungle in addition to the firebirds, some of which preyed on him. The speed of wheels was his only protection. He rolled along slowly, keeping a wary eye overhead as well as around. There was a constant struggle in his borrowed brain between impressions of wonder incredible and normal routine of life, the conscious Earthmind and the deep-buried animal instincts. He decided to work with the inherited knowledge as much as possible, and let his sense of strangeness fade. Those instincts might keep him alive when all intelligence failed.

He became aware of a multitude of small life-forms on the ground. Large areas were covered with tiny prismatic flowering plants, none over a few inches tall, of some siliceous material that sparkled with excruciating brightness. He bent closer, and saw a spider web framework

holding what seemed to be thousands of individual crystals in a vaguely mushroom shape. A small flying creature whirred through the air below his nose and settled on a nearby growth, diaphanous wings giving off coruscations of soft purple. There were others like it scattered through the multitude of flowers, performing some magical fertilization act attesting to the harmony between crystal insect and crystal plant. A larger shape sometimes dropped violently from overhead, glass wings blurring with speed and snatched a small flying beauty out of the air.

He saw a tall creature in the open path ahead, eating fruit from a branch far above his reach. He changed course. A vegetarian, but vicious. He started to circle; he needed to stay close to the ship. Suddenly his stomach told him he was hungry, but he ignored it. This body was destined to die. It might as well be with an empty stomach.

He moved through the forest for what seemed hours, while the rosy sun swung across the centre of the sky and slowly downward. The hunger grew and at last in desperation he bit at some little bells hanging from an elf's umbrella of a plant, tinkling in every breeze. The glass crunched into splinters between his diamond teeth and suddenly he was eating without control, though some buried sense told him this was not the chariot-horse's favourite food. When the rounded belly was partially full he regained control and resumed his slow circling.

If the hunger instinct could be that powerful it was understandable that the life instinct might overcome the imposed control and send the creature fleeing. He would have to be strong indeed to succeed where the others had failed.

There was a slight whistling in the air. His wandering path had taken him into a small open area, and the faint noise was from overhead.

His left wheel dug into the ground with strain and violence, throwing him half around before the right one caught and shot him to one side. The great glass beak of the

attacking flyer speared into the ground where he had been a second before. The massive feet hit with a thousand explosions of bursting bells among the little plants.

The violence of the stop almost broke its neck. By the time it recovered its dazed senses he was out of sight.

He hid for a time, shaken, and then resumed his roll. That had been the wrong fowl. The firebird could not fly.

He saw one.

It came with arrogant truculence through the more open ways, its high back brushing the bottom of the leaf-plates four times his height off the ground, its drill-sharp beak probing the air in the jerky, pecking manner of a chicken. It came on great splayed feet of stained-glass talons, its useless little wings tucked close to a bulbous body of silvered quartz. It came in peace and tranquillity, but when the great ruby eyes saw him the red lights of lust and love flared and flamed in their scarlet depths. He saw the new burn and knew it was his death if caught, and before he could assert his will the stubborn body had already turned to flee.

He halted it peremptorily, and it moved again anyway, and he fought the flood of fear that surged through him from wheel-rim to dragon nose. I am not afraid to die! he screamed to himself, but there was no hidden memory left to answer him. I am not afraid, he said again, and steadied himself for the harder fight with the body. Even as he began the war some secret sense, some dim erg of electrical energy that would soon fade from this borrowed brain, said he was lying, he was as afraid of death as the men who had failed.

Fear grew, fear spread, fear condensed, focused, strengthened. Roll! Roll! Roll! the body commanded; there is still time, we are faster than our mate! Hold! Hold! Hold! he told it mercilessly, and waited. Death! Death! the blighting awareness came, and Life! Life! he repulsed it. The muscles twitched and quivered, the wheels shivered, the tail coiled and curled, swung and battered brush and

ground. The great bird came on, unholy joy on planed-glass face of many facets, urge to procreate a pulsing warmth in veins of gauzy silicon. The warmth reached him, enfolded him, a strange and enervating aura, and the urge to flight diminished and he knew the body he inhabited had reached a state of sensual readiness, and the battle was over.

On she came, towering over him with one last great hop, this Brobdingnagian nightmare for whom he yearned, this bird of paradise who laid the egg of life and death. He closed his eyes resolutely, and heard the sound of the great beak cutting the thick vapour, felt the stunning blow to the back of the neck that sent his head crashing to the mica-spattered dirt in mute surrender, his long tail rising in automatic balance and quivering appeal. But there was no salvation from her need. Vaguely he sensed the great leg swinging over his back, was aware of great weight crushing down as she settled on him, dimly felt her shifting his stunned body into position.

Once in the shaped hollow space between her legs, where he fitted as though fashioned for it, there was no escape. But the mating fever had seized him, too, and he was quiescent; the death fear had given way before this greater need for life in a new generation. He lay immobile and knew that his body would survive the assault, a sign of the skill of a mother who had laid many eggs. In another moment the new life arrived, the fabulous egg of the fire-bird fell on his back with a gentle thump, and rolled into its assigned hollow at the base of his long neck. It put out tendrils immediately, locking itself to him indissolubly in seconds, but the mother held him a moment more for surety.

When she finally stirred, and shivered a little, and suddenly lifted off him and stretched to her full height, pointed beak among the patterned plates that diffused the sky, he knew she was pleased. Motherhood was pleased, and it was father's turn to carry the burden of egg and future children, father's destiny to die. For the egg was

unfertilized. To gain the matching genes of heredity he must contribute it would send its chisel tendrils digging through the siliceous flesh on which it rode, penetrating at last into the widened spot in the mixture of boron, phosphorous and silicon that was his backbone, where the gametes of new life lay hid and waiting. When the tendrils cracked the bone he would become partially paralysed, and while he dragged himself to a hidden spot, that he might preserve the dying flesh of his body for his children rather than have it devoured by some carnivore, the paralysis would grow. When he finally collapsed he would be near death, and by the time death came the egg would have already begun to eat him, the egg that was flesh of his flesh and child of his bone. And by that time the egg would have changed colour, and started to change shape, dividing into three little chariot-horses and one firebird sister. It would have no loveliness at all and no value. The gametes must not reach their matching ovums if beauty was to be served.

The great motherbird of flame went flouncing off through the woods, queen of her world of glass without shadow, and it was time to go. He rolled away, testing his control and finding it unimpaired as yet, but already feeling the tug of instinct that told him to seek a hiding-place. He ignored it, heading for the spaceship by the nearest open way, his borrowed sense of direction without doubt or fault. He kept a wary eye overhead for birds, another alert for enemies on the ground or in the trees. He rolled as swiftly and quietly as the rough ground and winding trails among the taller shrubs of sheerness permitted, and after a few minutes knew the ship was close ahead and he would soon be safe. Within its sheltering walls he could afford to die.

He heard the sound behind him, and recognized it, and knew it was only proper somehow, he had not striven enough. He jerked into full speed, heedless now of noise or danger. If there was a killer ahead as well as behind he

must take the chance of darting by it. He rolled through a crushed verdure of opalescent sparkles where some giant foot had recently trod and behind him the sound of danger drew closer. It was not a large creature who pursued; a many-legged whip of a body supporting a head of all teeth and a tail of deadly poison. But it was one of the few creatures on the planet faster than himself, and he knew with the sureness of instinct that it could overhaul him before he reached the safety of the ship's waiting ramp.

He rolled at his best speed, as straight as the growth permitted, and instead of fear the thought came that at least his body no longer rebelled against his will, seeking that hiding-place the unborn generation at the base of his neck demanded for itself.

He burst from the edge of the undergrowth just feet ahead of his pursuer. Heedless of attack from the sky he fled across the open space towards the steel tower waiting in silent readiness and knew he could not reach it before being overhauled and killed. He fled in fear and despair, knowing the two young–old Earthmen who were his best friends and worst enemies could do nothing to help him, that human sight was faulty on this planet, that even instruments adapted to human eyes failed to translate accurately the grossness of this world of light. Chariot-horses could be caught by traps in their paths, but even this work could only be done at night, with infra-red lights that did not sparkle.

He rolled with every ounce of strength in his doomed body, and his crazed mind did not even consider the danger, but instead thought of the first men who had landed here, the lucky accident that had let them walk out of their ship and on to a chariot-horse just killed by a carnivore. It had eaten some of the flesh before the approaching spaceship frightened it away, but the egg was untouched. They had cut it from the neck of its father-host in reverent awe, and carried it back to Earth in a box filled with its own atmosphere, to see it acclaimed the most

beautiful object ever brought from space, and beyond price. Other men had come, some had gone mad, and many had died in strange ways, but slowly some facts about the silicon planet were gathered. Laboriously, in their patient and plodding way, men had accumulated knowledge concerning its inhabitants, the strangest creatures known in a galaxy made of strangeness. But not until the four young–old men who must have four million credits or die had landed—not until their strange machine which transferred minds had sent all four of them into alien bodies—had they discovered the full life-cycle of the creatures men called chariot-horses. That wonderful machine, tended by an idiot who understood it and run by two men who did not, had made it remotely possible to accomplish by purpose what blind chance had done so easily by accident. And so Dr. Soames Chacedony was called from the dead, and his veins were drained of the drug of dreams, and his soul sent forth in the body of a seahorse on wheels, that wealth might come and young life endure.

He was rolling alone through the pastures of a crystal heaven. The sounds of pursuit had died behind him.

He turned his head when he reached the ramp and knew the feeling of safety, turned and looked back where shadows should have started at the edge of the woods, to see the whip-on-legs standing there, its agate eyes fixed on the looming steel that had no place here. The alienness of the tower which light could not penetrate frightened and repelled it.

He rolled up the ramp and into the ship and with only a mild effort put down the desire to flee this eerie place and find a hiding-spot where his children would be safe. He moved easily over the flat floor to the little recess in the wall, and thrust his dragonhead inside, and saw with a feeling of vague surprise that he was far smaller than the two Earthmen who were waiting. He heard the ramp lifting into place behind him, felt the jaws he had helped repair while in another body closing around his neck,

locking his head in position in the machine. He knew that in seconds the matrix of balanced electrical currents which was his personality would be removed from its temporary home, the operation done without harm to his sleeping brain in its human body because the machine had this capability.

Afterwards the two Earthmen would put on spacesuits and come into the chamber, and cut off the tendrils which the egg had dug into the yielding flesh, and remove the egg and watch it withdraw its tendrils into itself, become again a perfect sphere, a beautiful ball of glass the size of a man's clenched fist, with four lights inside that curled and glowed and twisted and moved, burning, in a fashion indescribable, and beautiful beyond compare. They would place it tenderly, though it was diamond-hard and virtually indestructible, in a container with a glass top, that the gases around it might remain alien but human eyes see through it to the glory beneath. They would push out the smaller airlock door the dead little wheeled body that had served them so well, and drain the cavity of its alien air. And they would go home.

There came a nothingness.

Soames Chacedony awoke, and felt first the yielding firmness of his accel-decel couch and next a disorientation of the mind that he thought he could not bear. He lay still, eyes closed, fighting the memories, and when they grew worse opened his eyes instead and found some relief. He looked at the functional grey walls of his tiny cubicle with greedy hunger and after a time, when the unbelievable memories faded a little, he fumbled for the button that would release him from the couch. It worked, which meant they were still on the ground or already past light-speed in space.

His body was amazingly weak, as though he had actually endured the adventures he had shared only in mind. He staggered into the central passage and down it to

the control-room, where Harbeson and Santee greeted him with wide grins and ribald jokes about miscegenation that made him wince.

Silversohn wasn't in sight. Probably with his transfer machine in the hole, cleaning and fondling with competent hands while his idiot mind thought idiot thoughts.

"To be serious a minute, Doc, Abe and I have been thinking it over," said Santee when Soames eased himself into a seat. "We like your guts, or character, or whatever it is you have that drove you on to success where we turned back; and there's room for one more man on this boat. We want to offer you a partnership, if you'll have it. We plan to take the rejuve treatment, store what's left of the credits in hopes we'll have enough for another when we get back in a hundred years, and take off to see the galaxy. We plan on Deneb for a first stop—the war hasn't spread that far as yet—and from there we'll just wander around. I don't suppose it's what you'd call a constructive life, but it's lots of fun. Interested?"

He was terribly interested. He considered it a moment, wishing desperately that he could accept, and then slowly shook his head. "I would like to. Perhaps when you come back next time . . . because you see, you were right. I was a hypocrite and a liar. I do want the rejuvenation now that I can afford it. To be young again, like you . . . but I learned something out there, fighting the chariot-horse's instinctive fear of death. I made a discovery that completely eluded me when I drank the coward's brew and lay down to dream myself to death. I learned just how much I *do* value life; but I am still a philosopher. I want the gift of long life for all men, not just for myself. I am going back to Earth, back to the fight to get the war stopped. Perhaps now I will live to win it. But if the offer is still open when you come back . . ."

"We're going to be looking for some way to get Silversohn's brains unscrambled, Doc, but beyond that our plans are flexible," said Harbeson. "If Santee is agreeable we'll

head out with one empty berth and keep the offer open. After all, a hundred years isn't a very long time."

"No, it isn't," said Soames Chacedony, thinking of the amount of work he might accomplish in that time, the work that would enable him to leave Earth for a life of excitement and daily wonder among the stars with his principles intact. "No, it isn't long at all!"

# SUNOUT

*by*

ERIC C. WILLIAMS

*The existence of human life on the Earth depends entirely upon one vital factor—the stability of the Sun, Any major change in its structure would mean the end of mankind. Eric Williams uses this theme to depict the thoughts and actions of the few astronomers who discover that the Sun is to die—and the difficulty of changing their normal habits!*

# SUNOUT

On the broad top of the mountain the Observatory domes and towers loomed above the encircling brush and trees like giant silver Martian shapes immobilized by plague. Although it was midday, the sky was of such a deep blue it seemed a pewter or graphite-like black in colour lying against the aluminium domes. The Observatory site appeared to be deserted, but every observing slit was open and every instrument pointed to the Sun, and this unprecedented concentration of forces (most of which had not been designed for Solar observation) revealed the station to be fully manned to record some rare phenomenon.

In the concrete chamber beneath the largest Sun tower, a hand groped for the telephone in the dark. "D's gone," reported the spectroheliograph operator.

"Get a record of everything," was the reply. "Let us know how it goes."

The Director in his office put down the phone and told the three men with him, "The D lines are gone now."

The four men were Launcelot Weiner, Director of the Observatory, Leonard Smith, Head of Solar Research, Bernard Tom Willoughby, Senior Solar Physicist, and Thomas Gran from University of California. Weiner was the youngest of the four, an almost offensively boyish forty-five for such a position. He was small, plump-cheeked, slick-haired and immaculate. Behind his simple face was a fine theoretical brain and clever administrator. For the past two months he had been involved with Professor Gran in an almost non-stop mathematical exploration of some minute alterations found in the Sun's spectrum, and as the importance of their answers broke on him there came additional work setting up new research programmes for

the Observatory, and ensuring that his staff scented nothing of the true nature of the awful thing they were measuring. He had not slept at all over the last three days and nights. His poor, baby face was blotched with yellow, his eyes dark circled and the skin wrinkled at the corners by his continual frown; his prim set mouth had lost its old control. However, he was still in control of the room, and while the others stood, or paced or leaned, he sat at his desk with the telephone to hand and spoke with as quiet and steady voice as he could produce.

"If the D lines are gone, I'd put the end no more than forty-eight hours away; I'm afraid we'll never have time to find out *why* this is happening to us."

Smith, the Head of Solar Research at the Observatory, looked out of the window across miles of rolling mountain-tops and endeavoured to concentrate his thoughts on the hour of mathematics he had just listened to. He had the sort of mind which prefers pictures to figures.

"It's as though damper-rods were being pushed into the Sun's furnace, one moment you've got a chain reaction—the next it's gone!"

"It's not quite like that, Leonard," said Willoughby with his usual asperity. "You wouldn't get this vanishing of the elements one by one. It's more as if the elements had been completely consumed." He turned his intent blue eyes on the others. "I think . . ."

"As I said, Bernard," interrupted Weiner, "we haven't got time to find out what is going on. Our measurements show the cut in short-wave radiation from the Sun, and all that is certain at the present rate of loss in power is that the Sun will go out in a couple of days. What we have to decide now is what to do about it: do we break it to the world, or do we stay quiet?"

Professor Gran pulled his bent length from the only arm-chair in the room and took up a position by the table. He was a laughable sight in belted Norfolk tweeds and knickerbockers, a latter-day Bernard Shaw, with a small

bald head and pince-nez spectacles; his caricature of learning included a bent-knee shuffle and a gaze usually directed at his feet.

"The thing's been too obvious to be missed for two weeks now," he said. "With the sodium lines gone any schoolboy will be able to deduce the extinction of the Sun."

The telephone rang and he waited patiently while the Director listened and said, "Thank you."

"K," Weiner told them, and looked at Gran.

"We've got to tell what we know," went on Professor Gran making a flopping gesture with his left arm. "If we don't give the information, some ill-informed lunatic will. Of course, every Observatory in the world worth the name knows what's going on and like us they've been checking and rechecking before saying a word—you don't go telling a thing like this without being sure. Now we are sure. It's our duty to inform the President without delay." He gave one of his famous snorts, "Though what good it will do him, I don't know. I advise you, Weiner, to lift up that phone now and arrange an interview. If you hurry, you can be in Washington by tomorrow morning."

Willoughby, who had been prowling up and down the room behind the group near the desk, now exclaimed contemptuously, "Great God! Protocol at a time like this! The President first, then the Vice-President, then the Senate, I suppose, then by various stages to the people. This is the last chance Science will ever have to act without some damn Government Department clamping down and you want to dump it right in their laps. The people will *never* know what's hit them. Be damned to the President. Give it to the newspapers straight away, I say." Something amused his inflamed imagination and he laughed loudly and quoted, "Sun goes out Sunday night."

"Nothing will be gained by panicking the public," said Weiner. He opened a bottle of tablets and swallowed a couple. "You mustn't entertain the thought, Willoughby,

it's going to be terrible enough without riots and pillage—which is what would undoubtedly break out if you spread doom over all the papers." He picked up the telephone.

Willoughby sat down heavily in the armchair recently occupied by Professor Gran, he spoke with an hysterical note in his voice. "I don't think any of you realize what is going to happen. We're dead men. Two or three weeks and we're dead, every last one of the human race, nothing in the Universe can save us."

Weiner spoke softly to the operator and put the phone down again.

"We've all of us been doomed from the moment we entered the world and no power in the Universe has ever been able to save a single one of the human race from dying. What's so dramatic about dying a few years sooner than the normal span?" remarked Smith.

"Platitudes!" snarled Willoughby.

"We mustn't squabble, gentlemen," said Professor Gran. "It's up to us to think. We have been given the privilege of knowing the destiny of the human race before most of our fellow beings and we must take every advantage of that privilege."

"Oh, Poppycock!" shouted Willoughby. "It's no privilege so far as I'm concerned—it's bloody anguish. Do you realize it's my daughter's twenty-first on Monday!" He rose from the chair. "By God, I'm going to *live* these last couple of days. You carry on if you want—I'm off!" He reached the door. "And if you won't, I will tell the Press."

Smith started forward to stop Willoughby, but Weiner said sharply, "All right, Smith, let him go."

The telephone rang. Weiner lit a cigarette, then picked up the instrument. His name and position soon got him connected to the President's Secretary.

"I want to arrange a private interview with the President tomorrow morning," he said. "No, I'm very sorry, I can't tell you what the subject would be. Yes, I realize that, and believe me, as an administrator, I have every understanding

of how valuable the President's time is . . . Yes, Yes." Weiner listened and drummed his fingers on the desk. "Look, this subject is so much dynamite I can't risk telling you over this line. You must believe me that I wouldn't think of requesting an interview and at such short notice if this was not a matter of paramount interest to our country. If this interview is not granted tomorrow, news of what we have found may leak into the Press before the President has had time to consider his action. If it *does* leak before he's been able to organize, then he won't be able to control the panic. No! No! I told you I can't reveal what it is. Yes, I'll wait." Weiner did not look at the others as he stubbed down his cigarette and waited. "Hallo, yes. Good. Thank you. I'll be there at eight-thirty tomorrow." He hung up.

"I'd better get going," he said in a worn-out voice. He looked at Smith. "Tell my wife I will be back tomorrow if I can make it. Don't upset her if you can help it." He looked at Professor Gran. "Can I run you down to the airport?"

Gran jerked his shoulders back in surprise. "Good Lord, Weiner, one of the most sensational events in the history of Astronomy and you expect me to leave this place. No! Give me charge of one of your instruments and I'll see it out to the last second up here, where the air is clearest."

"You have it," said Weiner with a faint smile.

"What shall I tell the others?" asked Smith.

"Tell them the lines will come back in a couple of days—you dream it up." He gathered up the papers from his desk and stuffed them in a brief-case. He opened the desk drawer and put a few things into his pockets. "Well," he said, "I hope I shall be seeing you again before . . ." He did not complete the sentence. They shook hands silently, then left the room.

Smith stopped on the brick terrace outside the administration building and wondered what he should do first. As Head of Solar Research at the Observatory he realized he should be hastening back to the instruments

that continued to record the death of the Sun, but now that it was a settled matter he felt very little curiosity about the details of the turns and twists of the death throes. It was a shade too early to be ringing up Weiner's wife. He wandered to the stone balustrade at one end of the terrace and stared out over the steep drop between the mountains filled with clear, dry air. He flicked his eyes momentarily at the Sun, it appeared no different. Ah well, he supposed he must go to the heliograph dome where he had his office. He turned from the beautiful view and made his way along the concrete paths between the domes, until he came to his own headquarters.

Swanson, his deputy, came in the other door leading to the dome, almost as soon as Smith closed the outer door.

"Thank the Lord you're back!" he said. "Leonard, you've got to put your foot on Mugeridge: he's forecasting the end of the world and the Lord knows what else! He's been . . ."

"Just a minute, Will," interrupted Smith. "Shut the door and sit down." He took up a comfortable pose in the swivel chair behind his desk. "The world's not going to end just yet. You know Weiner and Gran have been working on the theory of the disappearing lines. I've just come from Weiner's office—it's too mathematical for me, but the long and short of it is that these line disappearances are a false effect, a sort of obscuring owing to a peculiar state of the reversal layer, and they will be reappearing in about two days. Weiner's gone off for a couple of days to confer with Palomar, but he'll do the explaining when he returns. In the meantime, we go on collecting data. You can tell Mugeridge that much and no more!"

Swanson stared at Smith almost too amazed to speak. Smith gazed calmly back, desperately hoping that the bigger the lie the more likely it is to be believed.

"Is *that* all he told you?" asked Swanson, "Just that mumbo jumbo!"

Smith forced himself to become angry. He banged his pipe down on the desk. "Look here, Will, I'm giving you as much as I understood from a half-hour's solid nuclear mathematics. You know it's not my field at all. You'll have to wait until Weiner comes back if you want it in figures—in the meantime get hold of Mugeridge and send him in here if you can't handle him yourself."

"I'm sorry, Leonard," apologized Swanson. He gave Smith a momentary sideways look containing too much thoughtfulness for comfort, then turned to the door. "*I'll* tell Mugeridge," he said, and went out.

"Hell!" swore Smith. He sat for some moments savagely thumbing one corner of his moustache. He picked up the telephone and began to dial Weiner's chalet, then changed his mind and dropped the instrument back into the cradle. After some more thought, he dialled his own residence and spoke to his wife.

"Mildred, Weiner's had to fly off to Palomar for a couple of days; didn't even have time to phone Helen. He's asked me to let her know. I was thinking it might be a good idea to invite her to dinner tonight, because you know, I'm not so sure I shall be able to get home until late and you could keep each other company. What do you think?"

Mildred was puzzled by all the activity in the Observatory that sent astronomers off without a word to their wives and kept Sun observers at work during the night, but, yes, he could ask Helen to come to dinner.

Smith then spent an awkward five minutes breaking the news of Lancelot's departure to Helen Weiner.

"Well, I don't know what came over him," she said, "that he just couldn't lift the phone and say 'goodbye, be back tomorrow'."

Smith explained that in a garbled way which left Helen cold.

"I don't care if it was the biggest discovery since telescopes began . . ." She checked her temper and gave a slight laugh. "Anyway, Leonard, it's nice of you and Mildred to

invite me over and I'll certainly be glad to come. I must confess I don't like lonely nights on the mountain."

"What a way to spend your last few days alive!" raged Smith as he put the telephone down. "Fixing up the boss's wife; keeping the staff quiet; lying to your friends." He took out his tobacco pouch. It was empty.

Willoughby drove fast down the concrete road leading to the foothills where the half-dozen family houses were spread out. The road had been constructed fifteen years before when the Observatory was built, and some of its steeper sections were cracked and crumbly. Willoughby, with his mind filled with the awfulness of events and raging at the cold inhuman inevitableness of the end of light within two days, hit a patch, skidded, jammed on the car brakes, hit the edge, bounced and went off the road into a gnarled cactus. The cactus thorns burst one of his front tyres and a rock did something noisy to the differential. Willoughby recovered his breath and climbed swearing from the silent car. His left knee was badly jolted where he had stamped stiff-legged on the brake and had then taken the weight of his sudden halt.

"Yow!" he gasped at the pain. He limped round the car and saw that there was no hope of moving it. The houses were at least two miles away in a direct line, but the road made several loops down the spurs of the mountain, and the total distance would be about five miles. High up the mountain he heard Weiner's car emerge from one of the innumerable cuttings and then damp out to inaudibility again. Although he wished he could tell Weiner to go to hell, he knew he was in no position to do so. It was unlikely, in view of the intensive watch on the Sun, that anybody else would be leaving the mountain-top before sunset.

Willoughby cursed his way up the slope down which he had crashed and stood waiting for Weiner. The pain of his knee was growing and the knee was rapidly swelling into one rigid block. "Come on, bloody Presidential Agent

Number One!" he shouted up the empty road. He hobbled round impatiently in painful circles. When Weiner eventually pulled up alongside him, Willoughby wrenched open the door and snarled: "You drive like you were going to a funeral, not going to see the President in his damned White House!" He slammed the door closed.

Weiner drove the car carefully. "I should put cold compresses on that when you get home," he advised.

Willoughby looked at him with mockery and disgust. "You don't realize it yet, do you? What's the use of doctoring a corpse?"

Weiner did not reply. They pulled up before Willoughby's house and Willoughby manoeuvred himself out of the front seat.

"Good-bye," said Weiner.

"Give the President my best wishes," called Willoughby sarcastically. Weiner drove off. It was only then that Willoughby remembered that his wife, Mona, would be out shopping with Sally in San Diego for most of the day. He could have cried with the futility of it. Here he was, damn near crippled for need of a bit of attention to his knee, and his wife and daughter were out with the other car buying stuff which they would never have time enough to consume! In intense pain he made his way slowly to the house, let himself in, and flopped down in an armchair by the telephone. Raggedly he dialled for information and asked for the Editorial Offices of the *Los Angeles Times*. While he waited he reached out and pulled bottle and glass to him.

"Hallo!" he shouted impatiently into the phone, and when he was finally connected, "About time! This is Willoughby of California State Observatory. I . . . yes, well you can check up on me later on . . . will you shut up a moment! I've got a bit of news you might find mildly interesting, the Sun goes out in two days." He took a quick gulp from the glass. "After Sunday, no more light, everything gets colder and colder. Give it a month, and life on

Earth will be in deep freeze." The man at the other end said something pithy and Willoughby gave a shout of laughter. "No, seriously, you can check this with Palomar or any other Observatory—for the past two months spectral lines have been disappearing from the Solar spectrum. Weiner and Gran have been working on the theory of this and today they reached the unanimous conclusion that the Sun will cease to emit visible light within two days. What d'you think of that, hey? No, no—it won't mean immediate death, but unless you can find yourself a deep warm hole within a week, you can wish everybody a fond farewell for keeps. Where's Weiner? He'll be arriving in San Diego in a couple of hours headed for the White House. All right, put me on to your Science Editor. In the meantime, you get somebody down to San Diego airport to give Weiner the third degree before he gets the plane to Washington."

Willoughby then lay back in his chair and chatted lengthily between drinks to a very knowledgeable Science Editor. He then put down the telephone and stood up with a groan. He stood looking down at his betrousered knee. "What the hell's a cold compress?" he asked irritably aloud.

Weiner drove fast once he was off the mountain and within two hours came to San Diego airport. He put his car in the long-stay park and strode quickly towards "Bookings". As he approached the east-bound counter, a well-dressed young man rose from a seat and said, "Excuse me, Professor Weiner."

Weiner experienced a momentary shock as the all-pervading stream of his thoughts was invaded by this outside distraction.

"Can't stop," he apologized and pressed onwards as fast as his short legs would carry him.

"Is it true that you are on your way to see the President?" asked the young man, pacing alongside.

Weiner stopped in momentary amazement.

"I represent the *Los Angeles Times*. A Mr. Willoughby phoned us," explained the young man, looking important and apprehensive at the same time.

"No, I am not going to see the President," said Weiner crisply, "I'm going to my normal half-yearly consultation with the Board considering Scientific Expenditure in the U.S.A., having its office as you may know in Washington, DC. As regards Mr. Willoughby, I would simply say that he is known to have a strong liking for a strong drink. Will there be anything more?"

The young man looked red, but doggedly asked the key question. "Is the Sun going out in two days' time?"

Weiner managed to smile, then went to the counter without saying a word. The young man followed. "Mr. Willoughby said . . ."

"Please," interrupted Weiner patiently. "Do you have to pester me with all Mr. Willoughby's jokes." He turned away and asked the counter attendant for a ticket on the first plane to Washington.

"Sorry, Professor," said the young man and he went off.

"The first plane available with space is the 23.30 tonight from Los Angeles arriving Washington 07.15 tomorrow," said the attendant pleasantly. "There's one seat left on that."

"Seven hours to wait!" ejaculated Weiner. "What about the afternoon plane from here?"

"Full up hours ago," said the attendant sympathetically. "I could ring San Francisco and ask them if they have any vacancies on their New York flight, you could connect back to Washington. That would save you some hours. Of course you would have to take the plane up to San Francisco, cost you more."

Weiner controlled himself.

"Yes, yes, do that," he said. Perspiration burst from his forehead as he stood waiting while the attendant went to an inner office and put through a call. A large man with a

wide-brimmed felt hat, a loose-fitting suit and an open-necked shirt came up, dumped his bag and stared irritably at the empty section, then put his finger on the buzzer and kept it there.

"Where the hell they all gone?" he demanded of Weiner.

"He's fixing a ticket for me," answered Weiner. "He'll be back."

"You want Washington, sonny?" asked the man belicosely, ceasing his buzzing.

Weiner nodded briefly. He suddenly felt as if all his nerves had become charged with electricity. The sweat poured down his face, his arms and legs trembled. In heaven's name did he have to stand here in the company of this boorish slob waiting for clerks to exchange pleasantries and to consult diagrams, while the minutes ticked off to the end of all this for ever!

The attendant was still behind the glass partition grinning and cracking away to San Francisco. He looked up and saw Weiner glaring at him. He gave the thumbs down sign and went on talking.

"What's that mean?" demanded the big man suspiciously. "He ain't going to tell *me* he ain't got no tickets because I'll pin his ears back if he does. I got to get to Washington tonight."

The attendant came out.

"Sorry," he began to Weiner.

"Look!" roared the big man, shouldering Weiner's slight body to one side. "I've been waiting here for some service while you've been in there gabbing. Get me to Washington, and fast! Don't give me any talk about no tickets: I got cash that buys tickets."

The attendant shrugged at Weiner and backed from the wad of notes thrust towards him.

Weiner felt sick with rage and humiliation. Not since he had been in school had he felt so annihilated by the fact of his small stature and baby looks. He fled away from the scene and stood looking without seeing from one of the

huge windows, mopping his face and fighting his nerves. Damn! Damn! Damn! Why hadn't he fixed his flight before he left? And why had he let that red-faced bully bluster him out of the last place on the 23.30! He turned about determinedly and went to "Enquiries".

"Where do I charter a plane?" he asked.

After a lot of form filling and phoning and precious minutes thrown away, Weiner was led down the corridor and out on to the inner road. A few minute's walk and they entered a brick hut. Weiner was handed over to a grizzle-haired fellow who was still worming his way into a flying suit. Snatching up a flying officer's cap, the silent pilot led the way to the twin-engined plane standing at the edge of the flying-field. Weiner was settled in the small cabin, the pilot busied himself in his crowded compartment. The minutes passed away. Owing to the much smaller power and fuel capacity of this plane compared to the trans-continental services it would not arrive much before 07.00 in Washington, and his interview was timed for 08.30. Not a minute could be wasted here. Weiner felt his control slipping again. And then a young man came up on the run. Papers were passed across. Hands were shaken, the engines roared, the wireless squawked instructions. They were away.

Smith spent an embarrassing afternoon casually walking round the various domes engaged on Solar work and answering in a variety of manners the questions put to him.

He went around the place telling his big lie, thinking jerkily on the utter futility of passing one's last hours in putting down truth, and yet of the world-wide panic if the truth got out, and then of Mildred and what he could possibly tell her, and where the hell he could get some tobacco. In the small coronagraph dome he came on Professor Gran pottering about on his own, loading photographic plates into a camera.

"Oh, hallo," Professor Gran said cheerfully. "All your chaps seemed stuck on spectral observation, so I thought I'd do a bit of visual work. It would be a crime if we never had a record of the last minutes of old Sol."

"Old Sol!" thought Smith. "You Norfolk-suited fool! Why don't you grow up!"

"Have you got all you want?" asked Smith.

"I think so, I think so," answered Gran busily.

Smith left him and went out into the late afternoon. The sun was poised high above the mountains to the West and over there the colours were washed out and detail lost in the general brightness. In the East, however, the first beautiful colours of evening were tinting the rolling panorama—clear water blues, violets and purples and rich chrome-filled greens. He stood with his hands in his pockets studying the scene with much sadness. When the Sun went out, all this magic would vanish and never reappear; only dim starlight would come down through the slowly freezing atmosphere.

One of the young students employed by the Observatory to study and do odd jobs came hurrying up.

"Mrs. Smith rang up for you, sir. She says it's urgent. Will you ring her back right away."

Smith hurried to the nearest office and dialled his home.

"Hallo, Mildred," he said. "Leonard here. What's wrong?"

"I've had Mr. Willoughby on the telephone. He was terribly wild, Leonard, drunk I suppose. He kept going on about the end of the world. He wanted me to go over there to comfort his last hours."

"Did he," said Smith flatly. "Where was he speaking from?"

"His home. But, Leonard, I'm not annoyed or anything. Please don't get upset. It's just that he sounded so peculiar I feel sure he'll do something terrible to himself if he's not stopped. I thought you might be able to send somebody down to look at him."

Smith terminated the conversation, then walked over to the car park and got into his open-top car. For a few seconds he cursed Willoughby for further complicating these last days. Instead of taking all his money out of the bank and setting off with Mildred on a round-the-world air holiday, here he was endeavouring to keep up a front before his staff, and on his way to wet-nurse a drunk in case he did any more talking.

Smith drove the car down the mountain, passed his own house, and down to Willoughby's chalet in the foothills. As he drew up, he could hear Willoughby smashing things inside the chalet.

Smith opened the front door.

"Bernard!" he called. "Bernard, it's Leonard."

There was a momentary pause, then a brief scurrying sound, then a tremendous explosion.

Smith heard a body fall. For a second of shock he thought Willoughby had committed suicide, then he banished the thought, simultaneously developing a towering rage at Willoughby's adolescent behaviour. He threw open the door leading to the back room which looked out on to the mountain. Willoughby was sprawled on the floor with the side of his head gone.

Smith had an impulse to run out of the chalet—the sight on the floor was so horrible—but he turned his eyes away and mastered himself. He then picked up the telephone and asked for Dr. Manorelli, the Observatory physician. He explained what had happened. "Stay there," ordered Dr. Manorelli. "Mrs. Willoughby and her daughter may come back at any moment. She must not be allowed just to walk in and discover him. I'll be down in a few minutes. Don't touch him in the meantime."

When Manorelli arrived, his first words were, "I've notified the police. They're sending somebody out."

"Before you've seen him!" ejaculated Smith. He instantly saw the endless examinations and the awkward probing. "Why did Willoughby shoot himself? Don't know. What

was he doing at home at this hour? Sleeping for night duty? For what, then, did you, Smith, come down here disturbing valuable sleep? Oh, just wanted a chat. In the middle of sleep period? What did you want to chat about that couldn't wait?" No, that was all very implausible.

Dr. Manorelli, examining the body, said, "Suicide or attempted suicide, one way or the other it's a police matter. Why wait?" He looked around the room. "Looks as though he was wrecking the place. Did you hear him? Wonder why he was doing that. Of course, obviously disturbed state of mind, but what was he disturbed about? Go into the bedroom and bring me a sheet, would you please."

Smith was glad to get out of the room. The bedroom was a mess. A framed photograph of Mona Willoughby was smashed, all her clothes dragged from the wardrobe, some of them torn, the dressing-table had been swept clear, bottles and powder on the carpet.

Smith opened a cupboard and found sheets. As he left the bedroom he heard car wheels crunch on the pebbled drive. He gave the sheet to Dr. Manorelli, then went to meet Mona Willoughby. She entered running, with Sally a few steps behind.

"Hallo, Professor Smith!" she exclaimed. "I saw your car."

Smith moved so that she was intercepted in her intention to go into the back room.

"Dr. Manorelli's here," he said.

Her young face flashed into terror. "He did it!" she cried.

Smith hated every moment of the next few hours. He had to bear her first shrieks and sobs, then her heart-rending account of the telephone conversation she had had with Bernard. (He had rung every store where she was a regular shopper and they had put out calls for her. She had eventually rung him back in a panic wondering what had occurred, only to hear him drunkenly calling for her and saying the end of the world was coming. She had let loose

at him. He had cried and sworn he would kill himself. She had told him to do just that.) After this the police arrived and he had to hang about while they questioned first Dr. Manorelli, then Mona. His own interrogation was quite brief. He told them about the call Mildred had had and how he had come down to see if he could help his associate.

Finally, he volunteered to take Mona and Sally back to his house where Mildred could look after them. All in all, it had been a gruelling few hours.

Night had come down over the mountain. Smith paid a last visit to the Observatory to have a word about Professor Gran with Hartwing who would be running things that night.

"I've seen the old coot already," said Hartwing. "What goes on? He's burbling about photographing the end of the Sun. What's he getting at?"

"He and Weiner have got an answer on the business of the disappearing lines—you've followed it over the past month—the Sun stops shining in about twenty-four hours' time. Weiner's gone off to see the President. Gran's dedicated himself to seeing the end here. It's your job and mine to see the story doesn't break on the Press until Weiner's seen the President."

Hartwing's face showed his incredulity. He stood silent, staring at Smith, obviously waiting for him to explain his joke.

"It's true," said Smith sombrely. "I don't question conclusions reached on their level—you'll see sunrise tomorrow and sunset, but probably no more. The world will go mad when it finds out. A lot of terror may be averted if the Government has a few hours to think and act. God knows what they will do—send troops to guard powerstations and the like, I suppose—but it will all go wrong if the Press gets hold of it too early. We've got to pooh-pooh any enquiries that reach us."

"You can't be serious!" said Hartwing. He laughed

breathlessly. "They must have been joking. Why, it's impossible!"

Smith shook his head.

Hartwing made one or two confused gestures.

"No. Look here! Look, you don't expect anybody to believe you, do you? I think Weiner ought to have better taste than to start a ridiculous hoax like that. A man in his position—and you, Leonard. I don't think it's in the least bit funny."

"It's not meant to be funny," suddenly shouted Smith, then choked on a mouthful of tobacco smoke and fell into a fit of coughing and gasping.

Hartwing grinned and banged him across the shoulders.

"You won't see the night out at this rate," he jibed.

Smith knew that he would not now be able to convince Hartwing that he was not joking. He had a drink of water. "Well, if any newspapers get through, asking when the Sun goes out, don't ass about; just tell them it's a hoax and shut them up."

Hartwing smiled and Smith realized that far from scotching any rumour he would in all probability amplify it, regarding it as all good fun.

When Smith got home, both his wife and Helen Weiner were away upstairs closeted with Mona and Sally Willoughby. He only saw Mildred for a few minutes when she came downstairs to heat some milk. He went to bed about midnight, and fell asleep reading some feeble novel.

Weiner had never before realized how vast America was. He had flown from East to West when he had joined the Observatory, but that had been in a high-flying Coast to Coast jet. Now he was able to examine every mile of the way, see every gully of the desert mountainscape, pick out the threads of trails—Arizona seemed never ending.

Ted Mass, his pilot, so hard-bitten and laconic on the ground, had grown more and more boisterous the farther they flew. He sang, he pointed out landmarks, he shouted

back incomprehensible comments and progressively turned what should have been a time of introspection and sorrowful farewell into a torment of simmering rage.

Two hours' flight saw them dropping steeply down out of the sunlight over the mountains into the long shadows beginning to shroud Tucson Municipal Airport. The time was 19.15 Mountain Standard Time. Ted Mass taxied the aircraft off somewhere to get it refuelled. Weiner sat patiently over a coffee working out a probable ETA. His figures comforted him a little, but he vowed he would keep the pressure on at each stop so that the pilot got the plane into the air again with the minimum of delay.

On the trip to Midland with the land below in darkness, the eastern sky before them was impenetrably black while, behind them, the glow of the set sun sadly illuminated the clear air. Ted Mass began a series of meteorological reminiscences interspersed with periods of thoughtful humming. He tuned the radio into Midland and listened to the weather report.

"Rain," he shouted back to Weiner. "Buckets of it. Come over from Tennessee. Unusual. Bit of headwind."

Weiner watched the opaque blanket approaching, thinking of the curtain that would be drawn for ever round the Earth.

"It won't hold us up, will it?" he called.

Ted Mass shrugged doubtfully.

"It mustn't! You've got to get me to Washington on time."

"I'll *get* you there," bawled Mass without much enthusiasm.

The windscreen suddenly ran with water, while the plane rocked, then dropped and rose.

Approaching Midland, the plane suddenly soared upwards and they found themselves in clear air with the stars above and a thousand blurred stars below.

"Oil wells," announced Mass. He burst out singing, then patted the framework of the plane affectionately. "Good

old bird!" Weiner heard him say, and wondered if they had come through worse perils than even his mind had created.

They were a half-hour later in arrival at Midland than Weiner's estimated time.

During the seven-hundred-mile flight to Memphis, Weiner switched off the cabin light and tried to relax in his chair. Ted Mass took the hint, and apart from an occasional noisy yawn or an expletive at some navigational problem, was silent. Weiner could not sleep. In the dim light that came from forward in the pilot's compartment, his imagination was able for the first time to build on the calamity shortly to kill the world. Would he ever see Helen again? Perhaps for a few hours, if he was able to leave Washington and return to the Observatory before the last sunset. If he delayed his return longer and the news got out no doubt travel would be impossible. They might see the last sunset together, then everlasting night with only electric light until the fuel supply for the Observatory ran out. Perhaps they could then drive to San Diego or maybe the oilfields he had just left where fuel might last longer. He saw the fleeing multitudes searching for fuel to give light and warmth, increasingly lawless, forests aflame, oilfields and coalfields looted. Lower and lower the temperature. Packs of wild animals and humans each hunting the other. Towns deserted; life only in the deepest mines and caverns —and then even this frozen into extinction. There was not a thing anyone could do to avert it.

He switched on the light. Ted Mass looked round. "Can't sleep?" He held out a sandwich. "Get outside this," he advised. "Memphis in an hour. Sun comes up soon after."

Between Memphis and Knoxville they ran into the dawn. Straight into their eyes as the plane floated high over Tennessee came an orange flash of light instantly warming to flesh and feelings. Weiner was momentarily appalled to see the redness of the light, but then realized this was normal dawn light. His wristwatch showed him the time to be 3.40

and he was interested to see how an elevated horizon could give such an early dawn.

"Grand day," prophesied Ted Mass. His face which had been pale with the strain of eleven hours' flying, took colour from the warm dawn. He hitched his shoulders and began singing again. Despite this Weiner dozed until they landed in Knoxville.

During the last leg, Ted Mass with the aid of a favourable wind, pushed the plane to its safe limit, and as Washington appeared in a thin ground mist he was able to announce that they were on schedule. Weiner's heart began to thump with the imminence of his interview. Two hours in which to get himself cleaned up, have a bite to eat and to drive the five miles into Washington. Just right!

The plane landed smoothly and the nerve-drilling roar of the two engines stopped. Ted Mass conducted Weiner to the arrival office and after a few minutes Weiner was free to go on his way. On the way to the airport toilet he glanced at the lobby clock. 09.30! He looked at his watch. 06.30! His legs almost buckled beneath him. He, an astronomer, of all people to forget the necessity to change from Pacific Standard to Mountain Standard Time, to Central Standard Time and then to Eastern Standard Time. He was an hour late for his interview already!

For a half-minute, Weiner was incapable of coherent thought and he stood trembling in the busy lobby staring at the clock. However, a species of rage directed against himself rose up and he jerked himself towards the line of public telephones. One booth was disengaged and he soon discovered it was out of order. When he did get another booth, he spent some futile minutes searching the directory for the White House number, and then with his control nearly gone, he asked the operator to put him through.

There was a long pause, and then a voice identifying itself as Public Relations asked him his business. Weiner rapidly explained that he had missed an appointment with the President and wanted to arrange another. "I'll give you

the President's Secretary," said the voice, expressing disapproval. There was another long pause. Weiner fed in more coins.

"Hallo, Professor Weiner," said the Secretary, "what happened?"

Even with death only a few days away Weiner was not able to explain that he, one of the foremost astronomers of the world, had forgotten the three-hour difference between East and West coast. "I'm afraid we had trouble over Tennessee. Look! I must see the President without delay. Can you arrange it? I'm not exaggerating. I've got to see him within the hour."

The Secretary blew into the phone. "He's on his way to New York. Has to keep a tight schedule."

"Can't you reach him there?" pleaded Weiner.

"Not without knowing what you want to discuss with him." The Secretary softened that: "I just can't ring him and say drop everything, Professor Weiner wants to talk to you. Anyway, he won't arrive until another hour."

Weiner writhed in indecision, then said, "I can't tell you over the phone. I'm coming to the White House right now. Will you see me as soon as I arrive?"

"Certainly, I'll advise the gate-keeper."

Weiner shook hands with the Secretary and dropped into the offered chair. He felt exhausted, sick and dirty, and he knew he looked dishevelled and wild. He ran a shaking hand over his smooth hair.

The Secretary asked if he had had any breakfast, and immediately picked up the phone and asked for some coffee to be sent in. "These long trips at high speed are a strain—I know it well, Professor—it's essential to keep up with meals, especially on coast-to-coast trips when it's difficult to know what time of day it is." He offered Weiner a cigarette. "Now, Professor, what have you to tell me?"

Weiner drew a deep breath. Sitting before this well-dressed, well-shaved and very alive-looking man, he knew

how small and insignificant he looked. Could anybody believe such a fantastic announcement from such a foolish-looking scarecrow?

"What I want to tell the President," he began, "can be fully substantiated by Professor Gran who is staying at the Observatory for the next few days. My heads of staff are also aware of the discovery we have made and they, too, can be called as witnesses if you require."

The Secretary bowed his head politely. Weiner clenched his hands out of sight below the desk-top.

"In short, what we have found is that certain changes are taking place in the Sun which make it positive that within twenty-four hours it will cease to radiate visible light. The Sun will set over America tonight and will not be visible again."

The Secretary stared hard at Weiner and groped for the cigarette he had placed in the large ashtray.

"You mean it will go out?" he queried. Automatically he glanced over his shoulder at the window, then stared again at Weiner. He visibly donned his air of composure again.

"That's a terrible thing to say, Professor. What makes you so certain?" Weiner knew the Secretary had already decided he was a crank.

As Weiner opened his mouth to reply, the Secretary held up his hand and said, "Just a moment, Professor." He picked up the telephone. "Can you get hold of Mr. Canowitch and ask him to see me at once. Thank you." He replaced the telephone. "Mr. Canowitch is a scientific consultant the President keeps on the staff here to advise him on technical subjects. I think it would be better if you explained in his presence. You understand, I hope. Well, Professor, this is a shattering thing. If you are right, what will it mean for the world?"

The door opened and a servant brought in a tray and placed it before Weiner, then went out. The Secretary poured coffee and handed Weiner a steaming cup. Weiner's hands shook so much, the cup rattled in the saucer.

"It means death to all life on Earth within a matter of a few months. We shall freeze to death." He trailed off. His mind felt too weary and dizzy to visualize farther.

The Secretary picked up a pencil and prodded the point into the blotting-pad on the desk-top.

"They have, what? Six months' night in the Arctic regions, but the Eskimos survive. Wouldn't it be like that?"

Weiner gulped a mouthful of coffee and immediately felt more sick.

"Even Arctic air receives some warmth from the sunlit regions," he said. "If the whole planet is dark, the store of energy in the air or the ground will soon radiate away—you know how quickly the temperature drops on a winter's evening—and there won't be any more energy coming to Earth to keep the level up. Eventually, the temperature will go down to near absolute zero."

Canowitch entered and was introduced. He said he had met the Professor during a tour round the Observatory some years ago. Weiner did not recognize him. "I had hair then," said Canowitch with a laugh. He drew up a chair and looked attentive.

"Professor Weiner has just told me that they have discovered at the Observatory that the Sun will cease to shine in twenty-four hours. He is going to outline the scientific side of it and I want you, Mr. Canowitch, to be here so that we can put it in plain language to the President if need be."

Canowitch said, "What!" and his forehead wrinkled up into his bald scalp.

"Just listen, Mr. Canowitch," said the Secretary. "Now, Professor, will you tell us on what grounds you base your conclusion."

Weiner opened the small brief-case he carried and took out photographs and typed sheets. He began from the first observations and worked through, showing Canowitch successive spectrographs and explaining the significance of each of the minute differences. He produced a graph show-

ing atomic excitation levels and the calculated and actual time of extinction of each element. He pointed to the end of the down slope and silently traced across to the Time axis. He sat back, leaving the papers scattered on the desk-top.

Canowitch was flushed with the effort of following Weiner. He looked at the Secretary significantly in silence. "Have any other Observatories confirmed this?" he asked.

"The first detected disappearance was made only two months ago. We checked with Hurstmonceaux immediately and got a negative answer. A difference in location and instruments without doubt. But three weeks ago the effect accelerated and this time Hurstmonceaux contacted us. Correspondence has been going on, but Professor Gran and I only completed the mathematics two days ago. I doubt whether any other group have explored the whole thing yet."

"It's unbelievable!" said Canowitch in a shocked voice. "Mr. Secretary, there's no doubt, though, of that I feel sure. My God! The Sun going out after billions of years! But why, Professor. What is happening?"

Weiner mutely looked his ignorance.

The Secretary roused himself.

"I'll get the President," he said. "You'll stay here, Professor, of course." He picked up the telephone and obtained a line out. He dialled, spoke, waited, spoke again, waited and said finally, "Hallo, sir. Black Alert. Can you come back immediately? Yes, sir, I'll arrange it all."

He replaced the telephone.

"He'll be back around five this evening."

Weiner for some reason he could not explain began to weep.

Professor Gran was up before dawn on the last day. It took mental driving to do it, even with his enthusiasm, as he was seventy years old and a sufferer from rheumatism. The night on the mountain-top had been very cold, and he

had slept in the dark room attached to the dome wrapped only in a laboratory coat and a length of matting. About 1 a.m., feeling frozen, he had wandered out beneath the wonderful starry night and made his way to the "big" dome. Here he was able to scrounge a cup of coffee and a sandwich from a lonely mechanic, which cheered him up for a time, but, returned once more to the Coronagraph dome, he felt all his fingers stiffening and aching and fancied he could hear his knees creaking. About 2 a.m. Hartwing found him and insisted he rested on the couch in his warm office. At 4.30 a.m. Hartwing woke him again. "Sunrise in forty-five minutes," he said, and went out again.

Professor Gran raised himself from the couch by hard use of "self-scorn" and the enticement of a flask of coffee Hartwing had left on the desk. He eased his feet to the floor and sat rubbing his face trying to drag his wits together. His mind, so keen in the day, swirled around now, and try as he might, he could not fix his thoughts on anything higher than the foul taste in his mouth, the aches in his bones and the rumbling of his stomach. He shuffled over to the table and poured himself a cup of coffee. He half sat on the table edge and clasped the hot cup in both hands easing the rheumatism away. He hadn't smoked for ten years (ever since his doctor had warned him about the worsening of his bronchial condition and the strain it was beginning to put on his heart), but he wished Hartwing would come back so that he could get a cigarette from him. The desire to smoke welled up into his saliva glands. He went round the desk and opened the middle drawer. Delighted, he grabbed the pack of cigarettes he found there. There were no matches. Swearing softly in his affected voice he pulled open the other drawers, keeping his ears alert in case Hartwing should return.

Suddenly he straightened himself with a gasp and then sat in the chair behind the desk. "What the devil are you up to, Gran?" he asked himself aloud. He gave himself a gentle slap on the cheek. 'You don't smoke, you silly old

fool!" He held his hand up and watched it tremble out of control. "You're getting old," he sneered at himself. He threw the pack of cigarettes back into the drawer and slammed it close. "The world ends today and you wrestle with a gnat you killed ten years ago! Well, it just shows you what are the really important things in life."

He looked at his huge vest-pocket watch, then painfully walked to the door and stepped out into the chill drifting air of pre-dawn. With his hands plunged into his trouser pockets he hurried back to the Coronagraph dome as fast as his uncertain knees would allow. His jaws chattered together with the cold. The yearning to smoke returned intensified. He clenched his teeth together and halted in a conflict of mind—one part arguing that surely on the last day he could smoke, and the other that if he was going to die it might as well be with his mind in full control of itself. The two parts of his mind sparred together while he stood with his hand on the knob of the dome door.

He looked round as the sound of a car cresting the top and entering the car park came to his ears. He saw headlights swing then blink out. He didn't think, "I wonder who that is?" He thought, "I wonder if they've got a cigarette?" He hurried back down the path.

The newcomer was Smith, coming on early as the better alternative to lying awake and listening to the soft sounds of doors opening and closing as the women exchanged visits to comfort each other.

"Hallo, Gran," greeted Smith. "Thought I'd come and help you catch the dawn."

"That's very good of you, Smith," said Gran perfunctorily. They walked back towards the dome.

"The last one," said Smith. "I couldn't miss the last one."

For some obscure reason these words said quietly in the dark transmuted the whole thing for Professor Gran from a unique fascinating astronomical event, to a tragedy that was shortly to overwhelm not only Earth but also the entire Solar System. He forgot he wanted to smoke. They walked

quietly into the dome and commenced to make everything ready for dawn. When they were ready, they stopped and stood at the mouth of the slit watching the first elusive tints in the eastern sky. Smith pulled out his pipe.

Gran looked sideways. "I suppose you haven't got a cigarette?" he asked.

"Never touch the things," said Smith. "Why? Thought you didn't smoke."

"Oh, nothing," answered Gran.

"I can get you some," offered Smith.

"No, no," snarled Gran. "No time now." He rushed away to fiddle with the camera slide-loader.

They observed the same dawn as Weiner had two thousand miles eastward, but whereas he found relief in its apparent normality, they were able to see in a moment that overnight the Sun's corona had greatly declined. Smith rang up the spectrograph chamber and listened to the call off of vanished lines.

"I'm going over to have a look," he told Gran. "By the sound of it, the spectrum's looking almost bald. I can't visualize what he's told me."

Gran grunted, then added, "Don't forget those cigarettes when you come back."

Smith swore silently to himself as he went out. He had better things to do than act as messenger boy for the old goat at a time like this.

At 11 a.m. he took the car back home hoping the ladies would have sorted themselves out and that he would be right for breakfast, also that he would be able quietly to break the news to Mildred. He found the kitchen filled with unwashed crockery and a note from Mildred pinned to the kitchen door: "Couldn't find you at the Observatory. Helen's had a telephone call from Launcelot in Washington. He wants her to catch this afternoon plane and meet him there. Gone with Mona and Sally to see her off. Be back about 6 p.m. Don't forget to eat up the jelly."

Smith had an impulse to run out to his car and to set off

in pursuit of Mildred, then he literally rushed backwards and forwards between the dining-room door and the telephone as he was torn between this idea and the idea that he should phone the airport and ask for her to be paged. Then he was deflected by noticing a newspaper folded in one of the room's armchairs. He hurriedly scanned every page but could find no intimation that the news had leaked. Another idea presented itself and he quickly switched on the radio. Everything was proceeding normally. Somehow, this made the impending disaster less imminent and he was able calmly to ring the airport, get through to the right person, make his requirements quite plain and, thinking ahead, ask that Mrs. Smith should ring his office at the Observatory. He went back to the kitchen and made himself a breakfast, then drove back to the Observatory.

Professor Gran pounced on him when he passed by the Coronagraph dome. "Got those cigarettes, Smith?"

Smith, with his mind filled with anxiety for Mildred and growing terror at the plainer and plainer face of death, exploded, "For Christ's sake, no!" He hurried on, but Gran called, "Self, self, self, that's all some people think of!"

Smith seemed to feel a blow beneath his heart; thought left him. He turned and ran back to the startled Professor, grasped him by the lapels and shook him. "You dried up old fool," he shouted. "What do you know about it? What do you know about it?" He pushed Gran away and the Professor staggered back then sat down on the step of the Observatory and was sick.

Smith knelt and put his arm round the old man's shoulders.

"I'm sorry, Tom. I lost control."

Professor Gran moaned softly and feebly wiped his lips with a handkerchief. His forehead and cheeks were white. "Nothing," he muttered. "Let me rest a minute."

Smith felt drained of anger and filled with contrition. A headache had started to throb between his eyes.

"Have you had breakfast?" he asked.

Professor Gran shook his head.

"Come on, then. I'll take you to the canteen and get them to cook you something."

Gran groaned at the idea, but nevertheless allowed himself to be assisted to his feet. Half carrying the exhausted Professor, Smith set off towards the canteen at the far edge of the site.

After seeing the Professor fed, stocked up with cigarettes and matches and returned to the Coronagraph dome, Smith hurried to his office and checked with the airport that Mildred had not phoned in the meantime. She had not, and he knew the four women were engaged on a store crawl before going for the afternoon flight.

He phoned the underground chamber of the Solar telescope and asked Swanson to come to the office. Swanson arrived irritated at being called away from the sensational developments going on. "Yes, I know, Will," said Smith. He tugged at his moustache, which felt untidy as he had omitted to trim it that morning.

"Have you guessed what it all means?" he asked.

Swanson stared at Smith, said "No!" carefully, and waited.

"The Sun's dying," said Smith. In an unemotional voice he went through the conclusions reached by Weiner and Gran. "I called you here because I want you to tell the rest. It's only fair. By now Weiner will have passed it on to the President and I guess it doesn't matter any more. If anybody wants to go off, let them. I'm sorry I had to hold it up so long."

"My God!" said Swanson. He continued sitting, his eyes on the bright-lit sky outside. "We guessed, of course, but we didn't believe it. Who could?"

He went out like a man in a trance. Ten minutes later Smith heard cars leaving the car park.

At two-thirty the phone rang and it was Mildred. Tears came into his eyes as he heard her voice. "Listen, dear," he said, "don't argue with me. Leave Helen there and come

back immediately with Mona and Sally." She attempted to break in but he over-rode her. "No, listen, dear, listen. Weiner's gone to Washington to break the news about a terrible disaster that's going to happen today. I want you back here . . ."

"What disaster?" she thrust in. He heard the fear in her voice. "Leonard, what are you talking about!"

"Now, now, dear," he soothed. "You've got plenty of time to get back. I'll tell you when I see you. Now just go out and say good-bye to Helen. Tell her I've been taken ill. Bring the other two, and be careful how you drive, dear. Come straight up to the Observatory." He cut across her appeals, repeated his instructions, then hung up.

He went outside and walked to the end of the terrace to stare out over the beautiful bowl between the mountains. The Sun had a peculiar pink tinge about it. So this is how the world ends, he thought, all a mess of trivialities, secrecy, cigarettes, shopping wives, headaches.

After phoning Helen in the morning, Weiner spent an hour talking to Canowitch, then had a simple lunch in the staff dining-room. After lunch he was taken back to the Secretary's room and they began to discuss what might be done to avert panic among the people. A telephone call came in from London and it appeared the news had been passed to H.M. Government who were cautiously checking the validity of the evidence. Other transatlantic calls came in as the hours ticked off.

Weiner felt himself going to pieces. Helen could not possibly arrive until nightfall, by which time, panic would be everywhere. He longed to be away from this quiet haven and to go to the airport where, at least, he could comfort Helen and plan something with her. But the figure of the President loomed over the house and nothing could move until he arrived to press his magic finger on the button marked "go".

Afternoon coffee was served.

About five-thirty Canowitch came in looking white. "Have you seen the Sun?" he asked. "It's red."

Weiner rushed to the tall windows overlooking the lawn at the rear of the house. The Sun, still high, was a fierce orange colour. All three men stared at it in stricken silence.

The Secretary turned away and sat abruptly into his chair. "Somehow I hadn't believed until now," he said in a hushed voice. He picked up the telephone: "Get me a connection to the President's plane at once," he ordered. He waited while the other two men stood at the window. Eventually the telephone rang and he grabbed it. "Hallo, sir." He listened. "Yes, sir, it's about the Sun. Yes, I've got Professor Weiner here. It's to do with the Black Alert. It's imperative you let nothing delay you, sir." The guarded interchange went on. "I've had to make emergency civil arrangements. Can I release them before you arrive? Yes, I'll do that. I've already alerted Pentagon. Yes, sir. Right, sir." The Secretary replaced the telephone, and immediately asked for another connection.

"Black Alert!" thought Weiner. "How prophetic!"

The Secretary was speaking to somebody, referring to the pages of notes they had made that afternoon. "At once," he concluded. "This has the President's top priority. At once. Yes, at once."

He put down the telephone and for a moment held his head in his cupped hands. He suddenly picked up the telephone again and asked for a number. He ignored the two men and stared at the portrait of Washington hanging on the wall facing his desk.

"Hallo, dear," he said softly. "I'm afraid I shan't be able to get home tonight. Something's blown up. Yes, yes, I know. I'm terribly sorry. Don't forget to wish Mary good night from me, will you." He forced a chuckle. "I'll try to get in tomorrow morning. Good-bye, dear."

The Secretary turned to Weiner. "The President asked if you would mind stopping until he arrived. Can you do that? I don't like to ask it, but I think your help in working

out the release to the Press, Radio and Television will be invaluable. The President needs all the help he can get at a time like this."

Weiner nodded. The Secretary went on hesitantly, "Is there any hope we can offer the people?"

Quite sincerely Weiner said, "Only prayer." He wandered tiredly back to the desk and sat down again. "As for the News Services, I can tell you what is happening but not why it's happening. The President can only ask the people to face death with resignation and courage."

The Secretary turned a pencil over and over between his fingers.

"He'll be here within the hour. Will the Sun last out that long?"

The telephone rang. It was Public Relations asking if there was any informaion he could give the newspapers who were bombarding the office with calls.

The Secretary hesitated. "Tell them a news release will be put out in an hour's time."

He put down the telephone. "I expect they'll find out soon enough from the Observatory," he remarked to Weiner. He seemed to have forgotten his previous question.

They went again to look at the Sun. It was a deep red as if seen through high fog. Even as they looked the light took on a subtle purple hue.

"If he doesn't hurry," said Canowitch hysterically, "it will be too late!"

"Too late for what?" asked the Secretary sharply. "You can't expect the President to stop it, can you." He turned away and opened a cabinet. Solemnly he poured drinks and handed them round.

"Oh, Helen, Helen!" thought Weiner. His chest ached with a hopeless sorrow.

Again the telephone gave its sharp ring. The Secretary went and took the call. "Right," he said. "The President's car has left the airport," he announced. "Let us get out of this infernal room and meet him on the porch."

The room was red like an inferno.

The President's car came up the drive with its headlights on. Weiner saw the white head duck out of the car and the tall figure commence to mount the steps. As the President approached in the gloom he called, "Well, Charlie?"

The Secretary went down a step and greeted the President with an urgency showing his held-down panic.

"This is Professor Weiner," he said, turning.

The President extended his hand.

The Sun went out.

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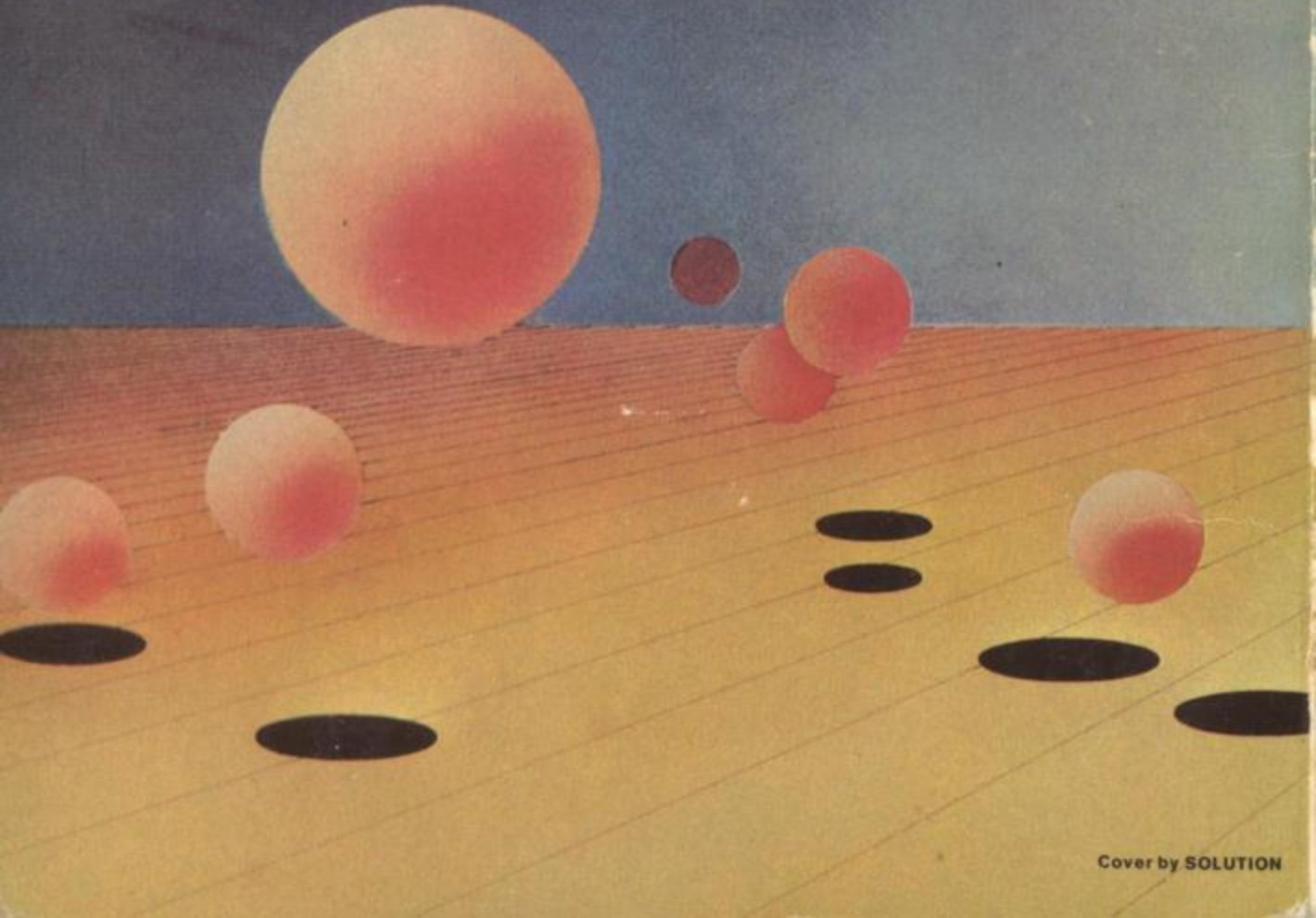

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