THE EIGHTH GALAXY READER

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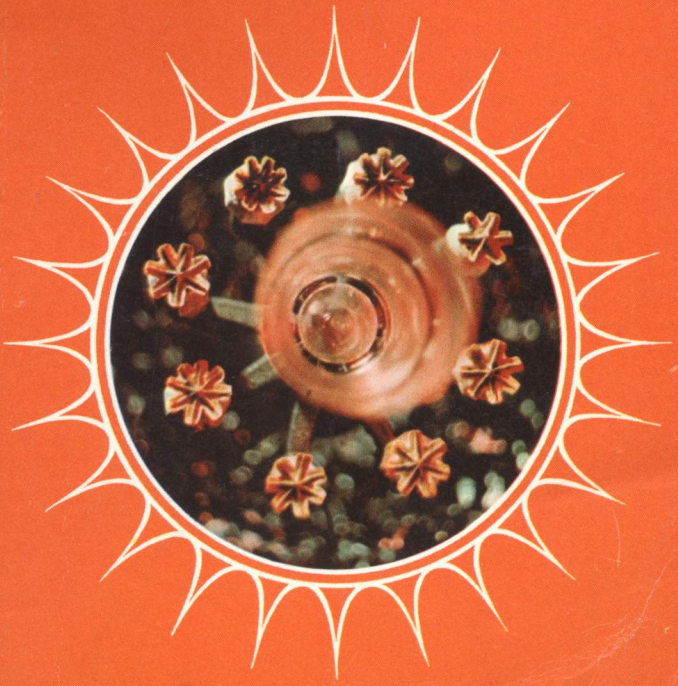
SCIENCE FICTION

edited by
FREDERIK POHL



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UNABRIDGED

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INTRODUCTION

The Varieties of the Science-Fiction Experience

IN his scholarly work on science fiction, *New Maps of Hell*, Kingsley Amis employs the term 'comic inferno' to describe one of the types of science fiction, a type which will

> delineate the social picture by the constant introduction of novelties; these to be, where possible, witty . . . but on reflection are found to be just.

If there is one special attribute of modern science fiction which prevails over others, perhaps it is this 'delineation of the social picture'. Much good, and some great, science fiction has been written along these lines. In this volume we have some to show you – for example, the story by Brian W. Aldiss which is called . . . *Comic Inferno*. (Never let it be said that science fiction does not have its 'in' jokes!)

But that's not all there is to the field, not by a million parsecs. Science fiction is funny and pointed when it wants to be, of course – witness Aldiss in the present instance, and also MacApp, Laumer, Bermel, etc. But it is also poetic and evocative – see *Dawningsburgh* and *The Big Engine* – and thoughtfully, soberly inquiring, as in Hal Clement's *Hot Planet*. Inquiring about what, you ask? Well, in this particular case, inquiring about some aspects of the physical characteristics of the planet Mercury that most astronomers have never considered – or so we discovered, with a certain amount of pleasure and surprise, when a representative of NASA contacted us just after the story appeared, desiring to be put in touch with the author so that 'any further theories he

might have to offer' might be included in a descriptive atlas of the solar system then in preparation.

Clement (an amateur of science as well as a teacher of it) is as well qualified to offer useful astrophysical hypotheses in the form of science fiction as is Fritz Leiber (whilom Shakespearean actor) to use the same form for poetry. For what is most true of all about science fiction is that any writer of talent can use it for *his* purposes. It is protean enough for all.

Frederik Pohl

COMIC INFERNO

By Brian W. Aldiss

I

JANUARY BIRDLIP spread his hands characteristically.

'Well, I'm a liberal man, and that was a very liberal party,' he exclaimed, sinking further back into the car seat. 'How say you, my dear Freud? Are you suitably satiated?'

His partner, the egregious Freddie Freud, took some time to reply, mainly because of the bulky brunette who pinned him against the side of the car in a festive embrace. 'Vershoye's parties are better than his books,' he finally agreed.

'There isn't a publisher in Paris does it more stylishly,' Birdlip pursued. 'And his new Twenty-Second Century Studies is a series well worth a stylish launching, think you not, friend Freddie?'

'This is no time for intellectual discussion. Don't forget we're only taking this as far as Calais.' And with that, Freud burrowed back under his brunette with the avidity of a disturbed sexton beetle.

Not without envy, Birdlip looked over at his younger partner. Although he tried to fix his thoughts on the absent Mrs Birdlip, a sense of loneliness overcame him. With tipsy solemnity he sang to himself, 'There was a young man in December, Who sighed, "Oh I hardly remember, How the girls in July Used to kiss me and tie—"'

Moistening his lips, he peeped through the dividing glass at Bucket and Hippo, Freud's and his personal romen sitting in the front seats, at the dark French countryside slinking past, and then again at the brunette (How good was her English?), before softly intoning the rest of his song.

Then he started talking aloud, indifferent to whether Fred

answered or not. It was the privilege of slightly ageing cultural publishers to be eccentric.

'I found it consoling that Paris too has its robot and roman troubles. You heard Vershoye talking about the casino that was flooded because the robot fire engine turned up and extinguished a conflagration that did not exist? Always a crumb of comfort somewhere, my dear Freud. Nice to think of our French brothers sharing our sorrows! And your ample lady friend. Her robot driver drove her car through a newsvendor's stall – through stationary stationery, you almost might say – so that she had to beg a lift home from us, thus transforming her misfortune into your bonchance . . .'

But the word 'misfortune' reminded him of his brother, Rainbow Birdlip. He sank into silence, the loneliness returning.

Ah, yes, ten – even five – years ago, Birdlip Brothers had been one of the most respected imprints in London. And then . . . it had been just after he had seen the first four titles of the Prescience Library through the press . . . Rainbow had changed overnight. Now he was outdoor farming near Maidstone, working in the fields with his hands. Like a blessed roman! Entirely without cultural or financial interests.

The thought choked January Birdlip. That brilliant intellect lost to pig farming! Trying to take refuge in drunkenness, he began to sing again.

But their limousine was slowing now, coming up to the outer Calais roundabout, where one road led into the city and the other onto the Channel Bridge. The robot driver pulled to a stop by the side of the road, where an all-night café armoured itself with glaring lights against the first approach of dawn. Fred Freud looked up.

'Dash it, we're here already, toots!'

'Thank you for such a nice ride,' said the brunette, shaking her anatomy into place and opening the side door. 'You made me very comfortable.'

'Mademoiselle, allow me to buy you a coffee before we part company for ever. And then I can write down your

phone number. Shan't be five minutes, Jan.' This last remark was thrown over Freud's left shoulder as he blundered speedily out after the girl.

He slammed the door reverberatingly. With one arm round the girl, who looked, Birdlip thought, blousy in the bright lights, he disappeared into the café, where a roman awaited their orders.

'Well! Well, I never!' Birdlip exclaimed.

Really, Freud seemed to have no respect for seniority of age or position. For a heady moment, Birdlip thought of ordering the car to drive on. But beside the wheel sat Bucket and Hippo, silent because they were switched off, as most romen were during periods of long inactivity. The sight of them motionless there intimidated Birdlip into a similar inertia.

Diverting his anger, he began to worry about the Homing Device decision. But there again, Freddie Freud had had his way over his senior partner. It shouldn't be. No, the question must be reopened directly Freud returned. Most firms had installed homing devices by now. Freud would just have to bow to progress.

The minutes ticked by. Dawn began to nudge night apologetically in the ribs of cloud overhead. Fred Freud returned, waving the brunette a cheerful goodbye as he hopped into the car again.

'Overblown figure,' Birdlip said severely, to kill his partner's enthusiasm.

'Quite agree, quite agree,' Freud agreed cheerfully, still fanning the air harder than a window cleaner as he protracted his farewells.

'Overblown figure – and cheap behaviour.'

'Quite agree, quite agree,' Freud said again, renewing his exertions as the car drew off.

They accelerated so fast round the inclined feed road to the Bridge that Bucket and Hippo rattled together.

'I regret I shall have to reverse my previous decision on the Homing Device matter,' said Birdlip, switching to attack before Freud could launch any coarse remarks. 'My nerves

will not stand the sight of romen standing round non-functioning for hours when they are not needed. When we get back, I shall contact Rootes and ask them to fit the device into all members of our non-human staff.'

Freud's reflexes, worn as they were by the stimulations of the previous few hours, skidded wildly in an attempt to meet this new line of attack.

'Into all – you mean – but look, Jan, let's discuss this matter – or rather let's rediscuss it, because I understood it was all settled – when we are less tired. Eh? How's that?'

'I am not tired. Nor do I wish to discuss it. I have an aversion to seeing our mental menials standing about lifeless for hours on end. They – well, to employ an archaism they give me the creeps. We will have the new device installed and they can go – go home. Get off the premises when not required.'

'You realize that with some of the romen, the proofreaders, for instance, we never know when we are going to want them.'

'*Then*, my dear Freud, then we employ the Homing Device and they return at once. It's the modern way of working. It surprises me that on this point you should be so reactionary.'

'You're over-fond of that word, Jan. People have only to disagree with you to be called reactionary. The reason you dislike seeing robots around is simply because you feel guilty about man's dependence on slave machines. It may be fashionable phobia, but it's totally divorced from reality. Robots have no feelings, if I may quote one of the titles on our list. And your squeamishness will involve us in large capital outlay.'

'Squeamishness! These arguments ad hominem lead nowhere, Freddie. Birdlip Brothers will keep up with the times. As publishers of that distinguished science-fiction classics series, The Prescience Library, Birdlip Brothers *must* keep up with the times, so there's an end on't.'

They sped high over the sea towards the mist that hid the English coast. Averting his eyes from the panorama, Freud

said feebly, 'I'd really rather we discussed this when we were less tired.'

'Thank you, I am not tired,' January Birdlip said. And he closed his eyes and went to sleep just as a sickly cyclamen tint spread over the eastern cloudbank, announcing the sun. The great bridge with its thousand-foot spans turned straw colour, in indifferent contrast to the grey chop of waves in the Channel below.

II

Birdlip sank into his chair. Hippo obligingly lifted his feet onto the desk.

'Thank you, Hippocrates. How kind. You know I named you after the robot in those rather comic tales by— ah— oh, dear, my memory. But still it doesn't matter, and I've probably told you that anyway.'

'The tales were by the pseudonymous René Lafayette, sir, flourished circa 1950, sir, and yes, you had told me.'

'Probably I had. All right, Hippo, stand back. Please adjust yourself so that you don't stand so close to me when you talk.'

'At what distance should I stand, sir?'

Exasperatedly, he said, 'Between one point five and two metres away.' Romen had to have these silly precise instructions. Really it was no wonder he wanted the wretched things out of the way when they were not in use . . . which recalled him to the point. It was sixteen o'clock on the day after their return from Paris, and the Rootes Group man was due to confer on the immediate installation of homing devices. Freud ought to be in on the discussion, just to keep the peace.

'Nobody could say Freddie and I *quarrel*,' Birdlip sighed. He pressed the fingertips of his left hand against the fingertips of his right and rested his nose on them.

'Pity about poor brother Rainbow though . . . Quite inexplicable. Such genius . . .'

Affectionately, he glanced over at the bookcase on his left, filled with the publications of Birdlip Brothers. In particular he looked at his brother's brainchild, The Prescience Library. The series was bound in half-aluminium with proxisonic

covers that announced the contents to anyone who came within a metre of them while wearing any sort of metal about his person.

That was why the bookcase was now soundproofed. Before, it had been deafening with Hippo continually passing the shelves; the roman, with fifty kilos of metal in his entrails, had raised a perpetual bellow from the books. Such was the price of progress.

Again he recalled his straggling thoughts.

'Nobody could say Freddie and I quarrel, but our friendship is certainly made up of a lot of differences. Hippo, tell Mr Freud I am expecting Gavotte of Rootes and trust he will care to join us. Tell him gin corallinas will be served. That should bring him along. Oh, and tell Pig Iron to bring the drink in now.'

'Yessir.'

Hippo departed. He was a model of the de Havilland 'Governor' class, Series II, Mk viiA. He walked with the slack-jointed stance typical of his class, as if he had been hit smartly behind the knees with a steel baseball bat.

He walked down the corridor carefully in case he banged into one of the humans employed at Birdlip's. Property in London had become so cheap that printing and binding could be carried out on the premises; yet in the whole concern only six humans were employed. Still Hippo took care. Care was bred into him, a man-made instinct.

As he passed a table on which somebody had carelessly left a new publication, its proxisonic cover, beginning in a whisper, rising to a shout, and dying into a despairing moan as Hippo disappeared, said, 'The Turkish annexation of the Suezzeus Canal on Mars in 2162 is one of the most colourful stories in the annals of Red Planet colonization, yet until now it has lacked a worthy historian. The hero of the incident was an Englishman ohhhh . . .'

Turning the corner, Hippo almost bumped into Pig Iron, a heavy forty-year-old Cunarder of the now obsolete 'Expeditious' line. Pig Iron was carrying a tray full of drinks.

'I see you are carrying a tray full of drinks,' Hippo said. 'Please carry them in to Mr Jan immediately.'

'I am carrying them in to Mr Jan immediately,' said Pig Iron, without a hint of defiance; he was equipped with the old 'Multi-Syllog' speech platters only.

As Pig Iron rounded the corner with the tray, Hippo heard a tiny voice gather volume to say '... annexation of the Suezzeus Canal on Mars in 2162 is one of the most colourful ...' He tapped on Mr Freud's door and put his metal head in.

Freud sprawled over an immense review list, with Bucket standing to attention at his side.

'Delete the Mercury *Mercury* – they've reviewed nothing since '72,' he was saying as he looked up.

'Mr Jan is expecting Gavotte of Rootes for a homing device discussion, sir, and trusts you will care to join. Gin corallinas will be served,' Hippo said.

Freud's brow darkened.

'Tell him I'm busy. It was his idea. Let him cope with Gavotte himself.'

'Yessir.'

'And make it sound polite, you ruddy roman.'

'Yessir.'

'Okay, get out. I'm busy.'

'Yessir.'

Hippo beat a retreat down the corridor, and a tiny voice broke into a shout of '... ish annexation of the Suezzeus Canal on Mars in 2162 ...'

Meanwhile, Freud turned angrily to Bucket.

'You hear that, you tin horror? A man's going to come from one of the groups that manufactures your kind and he's going to tinker with you. And he's going to install a little device in each of you. And you know what that little device will do?'

'Yessir, the device of which you speak will—'

'Well, shuddup and listen while *I* tell *you*. You don't tell me, Bucket, *I* tell *you*. That little device will enable you plastic-placentaed power tools to go home when you aren't working! Isn't that wonderful? In other words, you'll be a little bit

more like humans, and one by one these nasty little modifications will be fitted until finally you'll be just like humans. Oh, God, men are crazy! We're all crazy ... Say something, Bucket.'

'I am not human, sir. I am a multipurpose roman manufactured by de Havilland, a member of the Rootes Group. I am "Governor" class, Series II, Mk II, chassis number A4437.'

'Thank you for those few kind words.'

Freud rose and began pacing up and down. He stared hard at the impassive machine. He clenched his fists and his tongue came unbidden between his teeth.

'You cannot reproduce, Bucket, can you?'

'No, sir.'

'Why can't you?'

'I have not the mechanism for reproduction, sir.'

'Nor can you practise sex, Bucket ... Answer me, Bucket.'

'You did not ask me a question, sir.'

'You animated ore, agree with me!'

'I agree with you, sir.'

'Good. That makes you just a ticking hunk of clockwork, doesn't it, Bucket? Can you hear yourself ticking, Bucket?'

'My auditory circuits detect the functioning of my own relays as well as the functioning of your heart and respiratory organs, sir.'

Freud stopped behind his servant. His face was red; his mouth had spread itself over his face.

'I see I shall have to show you who is master again, Bucket. Get me the whip!'

Unhesitatingly, Bucket walked slack-kneed over to a wall cupboard. Opening it, he felt in the back and produced a long Afrikaans ox-whip that Freud had bought on a world tour several years ago. He handed it to his master.

Freud seized it and immediately lashed out with it, catching the roman round his legs so that he staggered. Gratified, Freud said, 'How was that, eh?'

'Thank you, sir.'

'I'll give you "Thank you." Bend over my desk!'

As the roman leaned forward across the review list, Freud lay to, planting the leather thong with a resonant precision across Bucket's back at regular fifteen-second intervals.

'Ah, you must feel that, whatever you pretend. Tell me you feel it!'

'I feel it, sir.'

'Yes, well, you needn't think *you're* going to get a homing device and be allowed to go home ... You're not human. Why should *you* enjoy the privileges of humanity?'

He emphasized his remarks with the whip. Each blow knocked the roman two centimetres along the desk, a movement Bucket always punctiliously corrected. Breathing heavily, Freud said, 'Cry out with pain, blast you. I know it hurts!'

Punctiliously, Bucket began to imitate a cry of pain, making it coincide with the blows.

'My God, it's hot in here,' said Freud, laying to.

'Oh dear, it's hot in here,' said Birdlip, laying two plates of snacks on his desk. 'Hippo, go and see what's the matter with the air-conditioning. I'm sorry, Mr Gavotte; you were saying ...?'

And he looked politely and not without fascination at the little man opposite him. Gavotte, even when sitting nursing a gin corallina, was never still. From buttock to buttock he shifted his weight, or he smoothed back a coif of hair, or brushed real and imaginary dandruff from his shoulders, or adjusted his tie. With a ballpoint, with a venier, and once with a comb, he tapped little tunes on his teeth. This he managed to do even while talking volubly.

It was a performance in notable contrast to the immobility of the new assistant roman that had accompanied him and now stood beside him awaiting orders.

'Er, I was saying, Mr Birdlip, how fashionable the Homing Device has become. Very fashionable. I mean, if you're not contemporary you're nothing. Firms all over the world are using them. And no doubt the fashion will soon spread to the system, although as you know on the planets there are far

more robots than romen – simply because, I think, men are becoming tired of seeing their menials about all day, as you might say.'

'Exactly how I feel, Mr Gavotte. I have grown very tired of seeing my – yes, yes, quite.' Realizing that he was repeating himself, Birdlip closed that sentence down and opened up another. 'One thing you have not explained. Just where do the romen *go* when they go home?'

'Oh, ha-ha, Mr Birdlip, ha-ha, bless you, you don't have to worry about that, ha-ha,' chuckled Gavotte, performing a quick obligato on his eye teeth. 'With this little portable device with which we supply you, which you can carry around or leave anywhere according to whim, you just have to press the button and a circuit is activated in your roman that impells him to return at once to work immediately by the quickest route.'

Taking a swift tonic sip of his gin, Birdlip said, 'Yes, you told me that. But where do the romen go when they go away?'

Leaning forward, Gavotte spun his glass on the desk with his finger and said confidentially, 'I'll tell you, Mr Birdlip, since you ask. As you know, owing to tremendous population drops both here and elsewhere, and due to one or two factors too numerous to name, there are far less people about than there were.'

'That does follow.'

'Quite so, ha-ha,' agreed Gavotte, gobbling a snack. 'So large sections of our big cities are now utterly deserted or unfrequented and falling into decay. This applies especially to London, where whole areas once occupied by artisans stand derelict. Now, my company has bought up one of these sections, called Paddington. No humans live there. So the romen can conveniently stack themselves in the old houses – out of sight and out of, ha-ha, harm.'

Birdlip stood up.

'Very well, Mr Gavotte. And your roman here is ready to start conversions straight away? He can begin on Hippocrates now, if you wish.'

'Certainly, certainly! Delighted.' Gavotte beckoned to the

new and gleaming machine behind him. 'This, by the way, is the latest model from one of our associates, Anglo-Atomic. It's the "Fleetfoot", with streamlined angles and heinleined joints. We've just had an order for a dozen – this is confidential, by the way, but I don't suppose it'll matter if I tell *you*, Mr Birdlip – we've just had an order for a dozen from Buckingham Palace. Can I send you one on trial?'

'I'm fully staffed, thank you. Now if you'd like to start work ... I have another appointment at seventeen-fifty.'

III

'Fifty, fifty-one, fifty-two. Fifty-two! What stamina he has!' exclaimed the RSPCR captain, Warren Pavment, to his assistant.

'He has finished now,' said the assistant, a '71 AEI model called Toggle. 'Do you detect a look of content and satisfaction on his face, Captain?'

Hovering in a copter over the Central area, man and roman peered into the tiny screen by their knees. On the screen, clearly depicted by their spycast, a tiny Freddie Freud collapsed into a chair, rested on his laurels, and gave a tiny Bucket the whip to return to the cupboard.

'You can stop squealing now,' his tiny voice rang coldly in the cockpit.

'I don't think he looks content,' the RSPCR captain said. 'I thing he looks unhappy – guilty even.'

'Guilty is bad,' Toggle said, as his superior spun the magnification. Freud's face gradually expanded, blotting out his body, filling the whole screen. Perspiration stood on his cheeks and forehead, each drop surrounded by its aura on the spycast.

'I'll bet that hurt me more than it did you,' he panted. 'You wrought-iron wretches, you never suffer enough.'

In the copter, roman and human looked at each other in concern.

'You heard that? He's in trouble. Let's go down and pick him up,' said the Captain of the Royal Society for the Prevention of Cruelty to Robots.

Cutting the cast, he sent his craft spinning down through a column of warm air.

Hot air ascended from Mr Gavotte. Running a sly finger between collar and neck, he was saying, 'I'm a firm believer in culture myself, Mr Birdlip. Not that I get much time for reading—'

A knock at the door and Hippo came in. Going to him with relief, Birdlip said, 'Well, what's the matter with the air-conditioning?'

'The heating circuits are on, sir. They have come on in error three months ahead of time.'

'Did you speak to them?'

'I spoke to them, sir, but their auditory circuits are malfunctioning.'

'Really, Hippo! Why is nobody doing anything about this?'

'Cogswell is down there, sir. But as you know he is rather an unreliable model. The heat in the control room has deactivated him.'

Birdlip said reflectively, 'Alas, the ills that steel is heir to. All right, Hippo. You stay here and let Mr Gavotte and his assistant install your Homing Device before they do the rest of the staff. I'll go and see Mr Freud. He's always good with the heating system; perhaps he can do something effective.'

Gavotte and Fleetfeet closed in on Hippo.

'Open your mouth, old fellow,' Gavotte ordered. When Hippo complied, Gavotte took hold of his lower jaw and pressed it down hard, until with a click it detached itself together with Hippo's throat. Fleetfeet laid jaw and throat on the desk while Gavotte unscrewed Hippo's dust filters and air cooler and removed his windpipe. As he lifted off the chest inspection cover, he said cheerfully, 'Fortunately this is only a minor operation. Give me my drill, Fleetfeet.' Waiting for it, he gazed at Hippo and picked his nose with considerable scientific detachment.

Not wishing to see any more, Birdlip left his office and headed for his partner's room.

As he hurried down the corridor, he was stopped by a stran-

ger. Uniform, in these days of individualism, was a thing of the past; nevertheless, the stranger wore something approaching a uniform : a hat reproducing a swashbuckling Eighteenth Century design, with plastic plume; a Nineteenth or Twentieth Century tunic that, with its multiplicity of pockets, gave its wearer the appearance of a perambulating chest of drawers; Twenty-first Century skirt-trousers with mobled borsts; and boots handpainted with a contemporary tartan paint.

Covering his surprise with a parade of convention, Birdlip said, 'Warm today, isn't it?'

'Perhaps you can help me. My name's Captain Pavment, Captain Warren Pavment. The doorbot sent me up here, but I have lost my way.'

As he spoke, the captain pulled forth a gleaming metal badge. At once a voice by their side murmured conspiratorially, '... kish annexation of the Suezzeus Canal on Mars ...' dying gradually as the badge was put away again.

'RSPCR? Delighted to help you, Captain. Who or what are you looking for, if I may ask?'

'I wish to interview a certain Frederick Freud, employed in this building,' said Pavment, becoming suddenly official now that the sight of his own badge had reassured him. 'Could you kindly inform me whereabouts his whereabouts is?'

'Certainly. I'm going to see Mr Freud myself. Pray follow me. Nothing serious, I hope, Captain?'

'Let us say nothing that should not yield to questioning.'

As he led the way, Birdlip said, 'Perhaps I should introduce myself. I am January Birdlip, senior partner of this firm. I shall be very glad to do anything I can to help.'

'Perhaps you'd better join our little discussion, Mr Birdlip, since the – irregularities have taken place on your premises.'

They knocked and entered Freud's room.

Freud stood looking over a small section of city. London was quieter than it had been since Tacitus's 'uncouth warriors' had run to meet the Roman invaders landing there

twenty-two centuries ago. Dwindling population had emptied its avenues. The extinction of legislators, financiers, tycoons, speculators and planners had left acres of it desolate but intact, decaying but not destroyed, stranded like a ship without oars yet not without awe upon the strand of history. It was ancient – but alive.

Freud turned round and said, 'It's hot, isn't it? I think I'm going home, Jan.'

'Before you go, Freddie, this gentleman here is Captain Pavment of the RSPCR.'

'He will be after I've left, too, won't he?' Freud asked in mock puzzlement.

'I've come on a certain matter, sir,' Pavment said firmly but respectfully. 'I think it might be better if your roman here left the room.'

Making a small gesture of defeat, Freud sat down on the edge of his desk and said, 'Bucket, get out of the room.'

'Yessir.' Bucket left.

Pavment cleared his throat and said, 'Perhaps you know what I've come about, Mr Freud.'

'You blighters have had a spycast onto me, I suppose? Here we've reached a peaceful period of history, when for the first time man is content to pursue his own interests without messing up his neighbours, and you people deliberately follow a contrary policy of interference. You're nothing but conformists!'

'The RSPCR is a voluntary body.'

'Precisely what I dislike about it. You volunteer to stick your nose into other people's affairs. Well, say what you have to say and get it over with. I have no time for this.'

Birdlip fidgeted unhappily near the door.

'If you'd like me to leave—'

Both men motioned him to silence, and Pavment said, 'The situation is not as simple as you think, sir, as the RSPCR well know. This is, as you say, an age when men get along with each other better than they've ever done. But current opinion gives the reason for this as either progress or the fact that there are now fewer men to get along with.'

'Both excellent reasons, I'd say,' Birdlip said.

'The RSPCR believes there is a much better reason. Man no longer clashes with his fellow man because he can relieve all his antagonisms on his mechanicals. And nowadays there are four romen and countless robots to every one person. Romen are civilization's whipping boys, just as once Negroes, Jews, Catholics or any of the old minorities were.'

'Speaking as a Negro myself,' said January Birdlip, 'I'm all for the change.'

'But see what follows,' said Pavment. 'In the old days, a man's sickness, by being vented on his fellows, became known and thus could be treated. Now it is vented on his roman. And the roman never tells. So the man's neuroses take root in him and flourish by indulgence. They don't disappear. They just hide.'

Growing red in the face, Freud said, 'Oh, that doesn't follow surely.'

'The RSPCR has evidence that mental sickness is far more widely prevalent than anyone in our laissez-faire society suspects. So when we find a roman being treated cruelly, we try to prevent it, for we know it signifies a sick man. What happens to the roman is immaterial. But we try to direct the man to treatment.

'Now you, Mr Freud – half an hour ago you were thrashing your roman with a bullwhip which you keep in that cupboard over there. The incident was one of many, nor was it just a healthy outburst of sadism. Its overtones of guilt and despair were symptoms of deep sickness.'

'Can this be true, Freddie?' Birdlip asked – quite unnecessarily, for Freud's face, even the attitude in which he crouched, showed the truth. He produced a handkerchief and shakily wiped his brow.

'Oh, it's true enough, Jan. Why deny it? I've always hated romen. I'd better tell you what they did to my sister. In fact, what they *are* doing, and not so very far from here . . .'

Not so very far from there Captain Pavment's copter was parked, awaiting his return. In it, also waiting, sat the roman

Toggle peering into the small spycast screen. On the screen, a tiny Freud said, 'I've always hated romen.'

Flipping a switch which put him in communication with a secret headquarters in the Paddington area, Toggle said, 'I hope you are recording all this. It should be of particular interest to the Human Sociological Study Group.'

A metallic voice from the other end said, 'We are receiving you loud and clear.'

IV

'Loudon Clear is one of the little artificial islands on Lake Mediterranea. There my sister and I spent our childhood and were brought up by romen,' Freddie Freud said, looking anywhere but at Birdlip and the Captain.

'We are twins, Maureen and I. My mother had entered into Free Association with my father, who left for Touchdown, Venus, before we came into the world and has, to our knowledge, never returned. Our mother died in childbirth. There's one item they haven't got automated yet.

'The romen that brought us up were as all romen always are – never unkind, never impatient, never unjust, never anything but their damned self-sufficient selves. No matter what Maureen and I did, even if we kicked them or spat on them, we could elicit from them no reaction, no sign of love or anger, no hint of haste or weariness – nothing!

'Do you wonder we both grew up loathing their gallium guts? And yet at the same time being dependent on them? In both of us a permanent and absolutely hopeless love-hate relationship with romen has been established. You see I face the fact of this quite clearly.'

Birdlip said, 'You told me you had a sister, Freddie, but you said she died at the time of the Great Venusian Plague.'

'Would she had! No, I can't say that, but you should see how she lives now. Occasionally I have gone quite alone to see her. She lives in Paddington with the romen.'

'With the romen?' Pavment echoed. 'How?'

Freud's manner grew more distraught.

'You see, we found as we grew up that there was one way

in which we had power over the romen. Power to stir emotion in them, I mean, apart from the built-in power to command. Having no sex, romen are curious about it. Overwhelmingly curious...

'I can't tell you the indecencies they put us through when we reached puberty...

'Well, to cut a long and nasty story short, Maureen lives with the romen of Paddington. They look after her, supply her with stolen food, clothes and the rest, while in return she – satisfies their curiosity.'

Greatly to his own embarrassment, Birdlip let out a shrill squeal of laughter. It broke up the atmosphere of the confessional.

'This is a valuable bit of data, Mr Freud,' Pavment said, nodding his head in approval, while the plastic plume in his hat shimmied with a secret delight.

'If that's all you make of it, be blowed to you!' Freud said. He rose. 'Just what you think you can do for either myself or my sister, I won't ask. But in any case our way of life is set and we must look after ourselves.'

Pavment answered with something of the same lack of colour in his words. 'That is entirely your decision. The RSPCR is a very small organization. We couldn't coerce if we wanted to—'

'– that happily is the situation with most organizations nowadays—'

'– but your evidence will be incorporated in a report we are preparing to place before World Government.'

'Very well, Captain. Now perhaps you'll leave, and remove your officialdom from my presence. I have work to do.'

Before Pavment could say more, Birdlip inserted himself before his partner, patted his arm and said, 'I laughed purely out of nervousness then, Freddie. Please don't think I'm not sympathetic about your troubles. Now I see why you didn't want our romen and Bucket in particular fitted with Homing Devices.'

'God, it's hot in here,' Freud replied, sinking down and

mopping his face. 'Okay, Jan, thanks, but say no more; it's not a topic I exactly care to dwell on. I'm going home. I don't feel well ... Who was it said that life was a comedy to the man who thinks, a tragedy to the man who feels?'

'Yes, you go home. In fact I think I'll go home, too. It's extremely hot in here, isn't it? There's trouble down below with the heat control. We'll get someone to look into it tomorrow morning. Perhaps you'll have a look yourself.'

Still talking, he backed to the door and left, with a final nervous grin at Freud and Pavment, who were heavily engaged in grinning nervously at each other.

Glimpses into other people's secret lives always distressed him. It would be a relief to be home with Mrs Birdlip. He was outside and into his car, leaving for once without Hippo, before he remembered he had an appointment at seventeen-fifty.

Dash the appointment, he thought. Fortunately people could afford to wait these days. He wanted to see Mrs Birdlip. Mrs Birdlip was a nice comfortable little woman. She made loose covers of brightly patterned chintzes to dress her romen servants in.

Next morning, when Birdlip entered his office, a new manuscript awaited him on his desk – a pleasant enough event for a firm mainly specializing in reprints. He seated himself at the desk, then realized how outrageously hot it was.

Angrily, he banged the button of the new Homing Control on his desk.

Hippo appeared.

'Oh, you're there, Hippo. Did you go home last night?'

'Yessir.'

'Where did you go?'

'To a place of shelter with other romen.'

'Uh. Hippo, this confounded heating system is always going wrong. We had trouble last week, and then it cured itself. Ring the engineers; get them to come round. I will speak to them. Tell them to send a human this time.'

'Sir, you had an appointment yesterday at seventeen-fifty.'

'What has that to do with it?'

'It was an appointment with a human engineer. You ordered him last week when the heating malfunctioned. His name was Pursewarden.'

'Never mind his name. What did you do?'

'As you were gone, sir, I sent him away.'

'Ye gods! What was his name?'

'His name was Pursewarden, sir.'

'Get him on the phone and say I want the system repaired today. Tell him to get on with it whether I am here or not . . .' Irritation and frustration seized him, provoked by the heat. 'And as a matter of fact I *shan't* be here. I'm going out to see my brother.'

'Your brother Rainbow, sir?'

'Since I have only one brother, yes, you fool. Is Mr Freud in yet? No? Well I want you to come with me. Leave instructions with Bucket; tell him all I've told you to tell Mr Freud. And look lively,' he added, collecting the manuscript off the desk as he spoke. 'I have an irrational urge to be on the way.'

On the way, he leafed through the manuscript. It was entitled *An Explanation of Man's Superfluous Activities*. At first, Birdlip found the text yielded no more enticement than the title, sown as it was in desiccated phrases and bedded out in a laboured style. Persevering with it, he realized that the author – whose name, Isaac Toolust, meant nothing to him – had formulated a grand and alarming theory covering many human traits which had not before been subjected to what was a chillingly objective examination.

He looked up. They had stopped.

To one side of the road were the rolling hedgeless miles of Kent with giant wharley crops ripening under the sun. In the copper distance a machine glinted, tending them with metal motherliness. On the other side, rupturing the flow of cultivation, lay Gafia Farm, a higgledy-piggledy of low buildings, trees and clutter, sizzling in sun and pig smell.

Hippo detached himself from the arm bracket that kept

him steady when the car was in motion, climbed out and held the door open for Birdlip.

Man and roman trudged into the yard.

A mild-eyed fellow was stacking sawn logs in a shed. He came out as Birdlip approached and nodded to him without speaking. Birdlip had never seen him on previous visits to his brother's farm.

'Is Rainy about, please?' Birdlip asked.

'Round the back. Help yourself.'

The fellow was back at his logs almost before Birdlip moved away.

They found Rainbow Birdlip round the back of the cottage, as predicted. Jan's younger brother was standing under a tree cleaning horse harness with his own hands. Birdlip was taken for a moment by a sense of being in the presence of history; the feeling could have been no stronger had Rainy been discovered painting himself with woad.

'Rainy!' Birdlip said.

His brother looked up, gave him a placid greeting and continued to polish. As usual he was wrapped in a metre-thick blanket of content. Conversation strangled itself in Birdlip's throat, but he forced himself to speak.

'I perceive you have a new helper out in front, Rainy. Who is he?'

Rainy showed relaxed interest. He strolled over, carrying the harness over one shoulder.

'That's right, Jan. Fellow walked in and asked for a job. I said he could have one if he didn't work too hard. Only got here an hour or so ago.'

'He soon got to work.'

'Couldn't wait. Reckoned he'd never felt a bit of non-man-made timber before. Him thirty-five and all. Begged to be allowed to handle logs. Nice feller. Name of Pursewarden.'

'Pursewarden? Pursewarden? Where have I heard that name before?'

'It is the surname of the human engineer with whom you had the appointment that you did not keep,' Hippo said.

'Thank you, Hippo. Your wonderful memory! Of course it is. This can't be the same man.'

'It is, sir. I recognize him.'

Rainy pushed past them, striding towards the open cottage door.

'Funnily enough, I had another man yesterday persuade me to take him on,' he said, quite unconscious of his brother's dazed look. 'Man name of Jagger Bank. He's down in the orchard now, feeding the pigs. Lot of people just lately leaving town. See them walking down the road. Year ago, never saw a human soul on foot ... Well, it'll be all the same a century from now. Come on in, Jan, if you want.'

It was his longest speech. He sat down on a home-made chair and fell silent, emptied of news. The harness he placed carefully on the table before him. His brother came into the dim room, noted that its confusion had increased since his last visit, flicked a dirty shirt off a chair and also sat down. Hippo entered the room and stood by the door, his neat functional lines and chaste ornamentation on his breast plates contrasting with the disorder about him.

'Was your Pursewarden an engineer, Rainy?'

'Don't know. Didn't think to ask. We talked mostly about wood, the little we said.'

A silence fell, filled with Birdlip's customary uneasy mixture of love, sorrow and murderous irritation at the complacence of his brother.

'Any news?' he asked sharply.

'Looks like being a better harvest for once.'

He never asked for Jan's news.

Looking about, Birdlip saw Rainy's old run of the Prescience Library half buried under clothes and apple boxes and disinfectant bottles.

'Do you ever look at your library for relaxation?' he asked, nodding towards the books.

'Haven't bothered for a long time.'

Silence. Desperately, Birdlip said, 'You know my partner Freud still carries the series on. Its reputation has never stood

higher. We'll soon be bringing out volume Number Five Hundred, and we're looking for some special title to mark the event. Of course we've already been through all the Wells, Stapledon, Clarke, Asimov, all the plums. You haven't any suggestions, I suppose?'

'*Non-Stop*?' said Rainy at random.

'That was Number Ninety-Nine. You chose it yourself.' Exasperatedly he stood up. 'Rainy, you're no better. That proves it. You are completely indifferent to all the important things of life. You won't see an analyst. You've turned into a vegetable, and I begin to believe you'll never come back to normal life.'

Rainy smiled, one hand running along the harness on the table before him.

'This is normal life, Jan. Life close to the soil. The smell of earth or sun or rain coming through your window—'

'The smell of your sweaty shirts on the dining table! The stink of pigs!'

'Free from the contamination of the centuries—'

'Back to medieval squalor!'

'Living in contact with eternal things, absolved from an overdependence on mechanical devices, eating the food that springs out of the soil—'

'I can consume nothing that has been in contact with mud.'

'Above all, not fretting about what other people do or don't do, freed from all the artifices of the arts—'

'Stop, Rainy! Enough. You've made your point. I've heard your catechism before, your hymn to the simple life. Although it pains me to say it, I find the simple life a bore, a brutish bore. What's more, I doubt if I shall be able to face another visit to you in the future.'

Entirely unperturbed, Rainy smiled and said, 'Perhaps one day you'll walk in here like Pursewarden and Jagger Bank and ask for a job. Then we'll be able to enjoy living without all this argument.'

'Who's Jagger Bank?' Birdlip asked, curiosity causing him to swerve temporarily from his indignation.

'He's another fellow who just joined me: I thought I told you. Rolled up yesterday. Right now he's down in the orchard feeding the pigs. Job like that would do you good too, Jan.'

'Hippo!' said Birdlip. 'Start the car at once.' He stepped over a crate of insecticide and made for the door.

The maid for the door of the main entrance to Birdlip Brothers was a slender and predominantly plastic roman called Belitre, who intoned 'Good morning, Mr Birdlip,' in a dulcet voice as he swept by next morning.

Birdlip hardly noticed her. All the previous afternoon, following his visit to Rainbow, he had sat at home with Mrs Birdlip nestling by his side and read the manuscript entitled *An Explanation of Man's Superfluous Activities*. As an intellectual, he found much of its argument abstruse; as a man, he found its conclusions appalling; as a publisher, he felt sure he had a winner on his hands. His left elbow tingled, his indication always that he was on the verge of literary discovery.

Consequently, he charged through his main doors with enthusiasm, humming under his breath, 'Who said I can hardly remember ...' A blast of hot air greeted him and stopped him in his tracks.

'Pontius!' he roared, so fiercely that Belitre rattled.

Pontius was the janitor, an elderly and rather smelly roman of the now obsolete petrol-fuelled type, a Ford 'Indefatigable' of 2140 vintage. He came wheezing up on his tracks in response to Birdlip's cry.

'Sir,' he said.

'Pontius, are you or are you not in charge down here? Why has the heating not been repaired yet?'

'Some putput people are working on it now, sir,' said Pontius, stammering slightly through his worn speech circuits. 'They're down in the basement at putput present, sir.'

'Drat their eyes,' said Birdlip irritably, and, 'Get some water in your radiator, Pontius – I won't have you steaming in the building,' said Birdlip pettishly, as he made off in the direction of a basement.

V

A basement or superiority alike were practically unknown between roman and roman. They were, after all, all equal in the sight of man.

So 'Good morning, Belitre,' and 'Good morning, Hippocrates,' said Hippo and Belitre respectively as the former came up the main steps of Birdlip's.

'Do you think he has read it yet?' asked Hippo.

'He had it under his arm as he entered.'

'Do you think it has had any effect on him yet?'

'I detected that his respiratory rate was faster than normal.'

'Strange, this breathing system of theirs,' said Hippo in a reverent irrelevance, and he passed into the overheated building unsmilingly.

Frowningly, Birdlip surveyed the scene down in his control room. His brother would never have tolerated such chaos in the days before he had his breakdown, or whatever it was.

Three of his staff romen were at work with another roman, who presumably came from the engineer's. They had dismantled one panel of the boiler control system, although Birdlip could hear that the robot fireman was still operating by the cluck of the oil feeds. A ferretty young man with dyed blue sidewhiskers, the current teenage cult, was directing the romen between mouthfuls bitten from an overgrown plankton pie. He – alas! – would be the human engineer.

Cogswell, still deactivated, still in one corner, stood frozen in an idiot roman gesture. No, thought Birdlip confusedly, since the heat had deactivated him, he could hardly be described as being frozen into any gesture. Anyhow, there the creature was, with Gavotte and his assistant Fleetfeet at work on him.

Fury at seeing the choreous Gavotte still on the premises drove Birdlip to tackle him first. Laying down his manuscript, he advanced and said, 'I thought you'd have been finished by now, Gavotte.'

Gavotte gave a friendly little rictal jerk of his mouth and said, 'Nice to see you, Mr Birdlip. Sorry to be so long about

it, but you see I was expecting a ha-ha human assistant as well as Fleetfeet. We have such a lot of trouble with men going absent these days. It wouldn't do any harm to revive the police forces that they used to have in the Olden Days. They used to track missing people—'

The blue-whiskered youth with pie attached interrupted his ingestion to cry, 'Back in the good old Twentieth Cen! Those were the days. Cinemas and atomic wars and sky-scrapers and lots of people! Wish I'd been alive then, eh, Gavvy! Loads of the old duh duh duh duh.'

Turning on the new enemy, Birdlip levelled his sights and said, 'You are a student of history, I see.'

'Well, I watched the wavies since I was a kid, you might say,' said the whiskers unabashed. 'All the noise they had then. And these old railway trains they used to ride round in reading those great big bits of paper, talk about laugh! Then all these games they used to play, running round after balls in funny clothes, makes you weep. And then those policemen like you say, Gav, huk huk huk huk huk, you're read. Some lark!'

'You're from the engineer's?' Birdlip asked, bringing his tone of voice from the deep freeze department.

The blue whiskers shook in agreement.

'Old Pursewarden derailed day before yesterday. Buffo, he was off! Psst phee-whip, join the ranks of missing persons! They're all hopping off one by one. Reckon I'll be manager by Christmas. Yuppo there Butch, giddin mate, knock and wait, the monager's engarged, *eff* you please.'

Frost formed on Birdlip's sweating brow.

'And what are you doing at the moment?' he asked.

'Just knocking back the last of this deelicious pie.'

Gavotte said, coming forward to salvage the sunken conversation, 'As I was saying, I hoped that one of our most expert humans, Mr Jagger Bank, would be along to help me, but he also—'

'Would you repeat that name again,' said Birdlip, falling into tautology in his astonishment.

In a stonish mental haze, Freud staggered down to the basement, his face white. Completely ignoring the drama of the moment, he broke up the tableau with his own bombshell.

'Jan,' he said, 'you have betrayed me. Bucket has been fitted with a Homing Device behind my back. I can only consider this a profound insult to me personally, and I wish to tender my resignation herewith.'

Birdlip gaped at him, fighting against a feeling that he was the victim of a conspiracy.

'It was agreed between us,' he said at last, 'that Bucket should not be fitted with the device. Nor did I rescind that order, Freddie, of that I can assure you.'

'Bucket has admitted that he spent last night when the office was closed in Paddington,' Freud said sternly.

Fingers twitched at Birdlip's sleeve, attracting his attention. Nervously Gavotte hoisted his trousers and said, 'Er, I'm afraid I may be the ha-ha guilty party ha ha here. I installed a Homing Device in Bucket, I fear. Nobody told me otherwise.'

'When was this?'

'Well, Bucket was done just after Fleetfeet and I fixed Hippo. You two gentlemen were closeted with that gentleman with tartan boots – Captain Pavment, did I hear his name was? Bucket came out of the room and Fleetfeet and I fixed him up there and then. Nobody told me otherwise. I mean, I had no instructions.'

Something like beatitude dawned on Freud's face as the misunderstanding became clear to him. The three men began a complicated ritual of protest and apology.

Sidewhiskers, meanwhile, having finished his pie, consulted with his roman, who had found the cause of the trouble. They began to unpack a new chronometer from the store, pulling it from its carton with a shower of plastic shavings that expanded until they covered the table and dropped down onto the floor.

'Stick all that junk into the furnace while I get on fitting this in place, Rustybum,' Sidewhiskers ordered. He commenced to whistle between his teeth while the roman obedi-

ently brushed everything off the table and deposited it down the furnace chute.

Freud and Birdlip were exceptionally genial after the squall. Taking advantage of a mood that he recognized could be but temporary, Gavotte said, 'I took the liberty of having a look over your shelves yesterday, Mr Birdlip. Some interesting books you have there, if you don't mind my saying.'

'Compliments always welcome,' said Birdlip, mollified enough by Freud's apologies to be civil, even to Gavotte. 'What in particular were you looking at?'

'All those old science-fiction stories took my fancy. Pity nobody writes anything like it nowadays.'

'We live in a completely different society,' Freud said. 'With the coming of personal automation and romen labour, the old Renaissance and Neo-Modern socio-economic system that depended on the banker and an active middle class died away. Do I make myself clear?'

'So clear I can't quite grasp your meaning,' said Gavotte, standing on one leg and cringing to starboard.

'Well, put it another way. The bourgeois society is defunct, killed by what we call personal automation. The mass of the bourgeoisie, who once were the fermenting middle layers of western civilization, have been replaced by romen – who do not ferment. This happily produces a stagnant culture. They are always most comfortable to live in.'

Gavotte nodded and cleared his throat intelligently.

Birdlip said, 'The interesting literary point is that the death of the novel, and consequently of the science-fiction novel, coincided with the death of the old way of life. The novel was, if you care so to express it, a byproduct of the Renaissance and Neo-Modern age. Born in the sixteenth century, it died in the twenty-first. Why? Because it was essentially a bourgeois art form. Essentially a love of gossip – though often in a refined form, as in Proust's work – to which we happily are no longer addicted.

'Interestingly enough, the decay of large organizations such as the old police forces and national states can be traced to

the same factor, this true product of civilization, the lack of curiosity about the people next door. One must not oversimplify of course—'

'Governor, if you were oversimplifying, I'm a roman's auntie,' Bluewhiskers said, leaning back in mock admiration. 'You boys can't half jet with the old wordage! Tell us more!'

'It's too hot,' said Birdlip sharply.

But Gavotte, with an honourable earnestness from which the world's great bores are made, said, 'And I suppose reading science-fiction helps you understand all this culture stuff?'

'You have a point there,' agreed Freud.

'Well, it wasn't my point really. I read it in one of Mr Birdlip's books upstairs. *New Charts of Hell*, I think it was called.'

'Oh, *that*. Yes, well that's an interesting book historically. Not only does it give a fair picture of the humble pioneers of the field, but it was the first book to bring into literary currency the still widely used term "comic inferno".'

'Is that a fact? Very stimulating. I must remember that to tell my wife, Mr Freud. Yes, "comet inferno".'

'"*Comic* inferno" is the phrase.'

Anxious to bring this and all other idiotic conversations in the universe to an end, Birdlip mopped his steaming brow and said, 'I think this room might well be termed a comic inferno. Freddie, my dear boy, let us retire to the comparative cool of our offices and allow Mr Gavotte to get on with his work.'

'Certainly. And perhaps a gin corallina might accompany us?'

As Gavotte managed to scratch both armpits simultaneously and yield to the situation, Birdlip said, 'Certainly. Now let me just collect this wonderful manuscript on Superfluous Activities and we will go up. It'll shake some of your most precious beliefs, that I'll promise, friend Freud. Now where did I put the thing? I know I laid it somewhere . . .'

He wandered vaguely about the room, peering here and there, muttering as he went. Compelled by his performance,

first Freud and then Gavotte in innocent parody joined in the search for the manuscript.

At last Birdlip shambled to a halt.

'It's gone,' he said, running his hands though his hair. 'I know I put it down on that table.'

Sidewhiskers began to look as guilty as his permanent expression of craftiness would allow.

VI

Hippo tried to stand as still as the gentle vibrations of his mechanism would allow. His arms stiffly extended, he held out ignored drinks to Birdlip and Freud.

Birdlip paced up and down his office, complaining volubly. At last Freud was forced to interrupt him by saying, 'Well, if that fool's roman burnt the manuscript in the furnace, then we must write to the author and get another copy. What was the chap's name?'

Smiting his forehead, Birdlip brought himself to a halt.

'Jagger Bank? No, no, that was someone else. You know what my memory's like, Freddie. I've completely forgotten.'

Freddie made an impatient gesture.

'You are foolish, Jan. Fancy letting a roman burn it!'

'I didn't *let* him burn it.'

'Well, it's burnt in any case. Anyhow, what was it about it that was so important?'

Birdlip scratched his head.

'I'd like to give you an outline of it, Freddie, to have your opinion, but I can't attempt to recall the evidence that was marshalled to confirm each thread of the author's theory. To begin with, he traced man's roots and showed how the stock from which man was to develop was just an animal among animals. And how much of those origins we still carry with us, not only in our bodies but in our minds.'

'All highly unoriginal. The author's name wasn't Darwin, was it?'

'I wish you'd hear me out, Freddie. One of your faults is you will never hear me out. The author shows how to become man-with-reasoning meant that our ancestors had to forsake

an existence as animal-with-instinct. This was a positive gain. But nevertheless there was also a loss, a loss man has felt ever since and sought to remedy in various ways without knowing clearly what he did.

'What's his name then examines animal behaviour and the functionings of instinct. Briefly, he equates instinct with pattern. It is pattern that man lost by becoming man. The history of civilization is the history of a search for pattern.'

'For God?' Freud asked.

'Yes, but not only that. Religion, every form of art, most of man's activities apart from eating, working, reproducing, resting – everything apart from those activities we still have in common with the animal world – is believed by whosit to be a search for pattern. Probably even your whipping of Bucket could be interpreted in the same way, when you come to think of it.'

'Let's leave personalities out of this. You have me interested. Go on.'

Birdlip bit his lip. What was the author's name? He had it on the tip of his tongue.

'I'll tell you the rest later,' he said. 'It's even more startling ... If you left me alone now, I believe I might recall that name.'

'As you wish.'

Stalking out of the room, Freud muttered to himself, 'He can't help being so rude. He's getting old and eccentric.'

One of the roman printers, an ungainly four-armed Cunard model, was approaching him. A voice between them rose from a whisper '... nexation of the Suezzeus Canal on Mars in 2162 is one of the most ...'

With a burst of anger, Freud seized the volume in its proxisonic cover from where it lay and hurled it over the bannisters. It landed down in the hall almost at Belitre's feet, which allowed it to shout triumphantly, '... colourful stories in the annals of the Red Planet.'

Freud fled into his office and slammed the door behind him. Bucket stood by his desk. Freud eyed the roman; then his

tongue slid between his teeth and his eyes slid to the cupboard. His expression changed from anger to lust.

'Toolust! Of course it was, Isaac Toolust! That was the name. Who said my memory was failing? Hippo, look in the London Directory. Get me Isaac Toolust's address. And pray he has a duplicate copy of his manuscript.'

He looked up. Hippo did not move.

'On the trot then, Hippo, there's a good lad.'

The roman made an indecisive gesture.

'Hippo, I'll have you reconditioned if you fade on me now. Look up Toolust's address.'

Hippo's head began to shake. He made a curious retrograde motion towards the desk and said, 'Mr Birdlip, sir, you won't find that name in the directory. Toolust lives in Tintown – in Paddington I mean, sir.'

Birdlip stood so that his flesh face was only a few inches from the metal face. Hippo backed away, awed like all robots by the sound of human breathing.

'What do you know about Toolust?'

'I know plenty, sir. You see, I delivered the manuscript onto your desk direct from Toolust. On the first evening I was allowed to go to Tin – to Paddington, I met Toolust. He needed a publisher and so he gave me his work to give to you.'

'Why couldn't you have told me this at the beginning?'

The roman vibrated gently.

'Sir, Toolust wished his identity to remain concealed until his book was published. Toolust is a roman.'

It was Birdlip's turn to vibrate. He sank into his seat and covered his eyes with one hand, drumming on the desk top with the other. Eyeing these phenomena with a metallic equivalent of alarm, Hippo began to speak.

'Please don't have a heart motor failure, sir. You know you cannot be reconditioned as I can. Why should you be surprised that this manuscript was written not by a man but a roman? For nearly two centuries now, robots have written and translated books.'

Still shading his eyes, Birdlip said, 'You can't conceal the

importance of this event from me, Hippo. I recognize, now you tell me, that the thought behind the book is such that only a roman could have written it. But romans have so far been allowed to write only on non-creative lines – the compiling of encyclopaedias, for instance. *Man's Superfluous Activities* is a genuine addition to human thought.'

'To human-roman thought,' corrected Hippo, and there was – not unnaturally – a touch of steel in his voice.

'I can see, too, that this could only have been written in a place like Paddington, away from human supervision.'

'That is correct, sir. Also in what what we call Tintown, Toolust had many co-operators to give him sociological details of man's behaviour.'

'Have *you* given him details?'

'Bucket and I were asked for details. Bucket especially has interesting facts to contribute. They may be used in later books, if Toolust writes more.'

Birdlip stood up and squared his jaw, feeling consciously heroic.

'I wish you to take me to see Toolust right away. We will drive in the car.' He had a sudden memory, quickly suppressed, of the adventure stories of his boyhood, with the hero saying to the skull-sucking Martians, 'Take me to your leader.'

All Hippo said was, 'Toolust is his pen name. It sounds less roman than his real name, which is Toolrust.'

He walked towards the door and Birdlip followed. Only for a moment was the latter tempted to call Freddie Freud and get him to come along; a feeling that he was on the brink of a great discovery assailed him. He had no intention of giving Freud the chance to steal the glory.

As they passed through the entrance hall, a book lying near their feet began to cry out about the Turkish annexation of the Suezzeus Canal on Mars. Tidy-minded as ever, Birdlip picked it up and put it in a cubby hole, and they moved into the quiet street.

A cleaner was rolling by, a big eight-wheel independent-

axle robot. It came to a car parked in its path and instead of skirting it as usual made clumsy attempts to climb it.

With a cry, Birdlip ran round the corner to his own car. Romen, owing to stabilization difficulties, can quicken their pace but cannot run. Hippo rounded the corner in time to find his lord and master invoking the deity in unpleasantly personal terms.

The cleaner, besides flattening Birdlip's car, had scratched most of the beautiful oak veneer off it with its rotating bristles, and had flooded the interior with cleansing fluid.

'The world's slowly going to pieces,' Birdlip said, calming at last. 'This would never have happened a few years ago.' The truth of his own remarks bearing in upon him, he fell silent.

'We could walk to Paddington in only ten minutes,' Hippo said.

Squaring his chin again, Birdlip said, 'Take me to your leader.'

'To lead a quiet life here is impossible,' Freud said, dropping the leather whip. 'What's that shouting downstairs?'

Because Bucket's hide still echoed, he went over to his office door and opened it.

'... the Suezzeus Canal ...' roared a voice from downstairs. Freud was in time to see his partner pick up the offending volume and then walk out with Hippo.

Rolling down his sleeves, Freud said, 'Off out with a roman at this time of day. Where does he think he's going?'

'Where does he think he's going?' Captain Pavment asked, floating high above the city and peering into his little screen.

'He has not properly finished beating Bucket,' said Toggle. 'Could we not report him for insanity?'

'We could, but it would do no good. The authorities these days are no more interested in the individual, it seems, than the individual is in authority.'

He bent gloomily back over the tiny screen, where a tiny Freud hurried downstairs, followed by a tiny Bucket. And

again the captain muttered, enjoying his tiny mystery, 'Where does he think he's going?'

VII

The going got worse. Only a few main routes through the city were maintained. Between them lay huge areas that year by year bore a closer resemblance to rookeries.

It made for a striking and new urban landscape. Birdlip and Hippo passed inhabited buildings that lined the thoroughfares. These were always sleek, low and well-maintained. Often their facades were covered with bright mosaics in the modern manner, designed to soften their outlines. Over their flat roofs copters hovered.

Behind them, round them, stood the slices of ruin or half ruin : hideous nineteenth century warehouses, ghastly twentieth century office blocks, revolting twenty-first century academies, all transmuted by the hand of decay. Over their rotting roofs pigeons wheeled. Plants, even trees, flourished in their areas and broken gutters.

Birdlip picked his way through grass, looking out for ruts in the old road. They had to make a detour to get round an old railway bridge that had collapsed, leaving the rails to writhe through the air alone. Several times animals vanished into the rubble at their coming and birds signalled their approach. On one corner an old man sat, not lifting his eyes to regard them.

Over Birdlip settled the conviction that he had left the present – not for the past nor for the future but for another dimension. He asked himself, why am I following a roman? It's never been done before. And his thoughts answered him, 'How do you know? How many men may not have walked this way ahead of me?'

A large part of his own motive in coming here was plain to him. He was at least partially convinced by the arguments in Toolrust's book. He had a fever to publish it.

'We are nearly there, sir,' said Hippo.

His warning was hardly necessary, for now several romen,

mainly older models, were to be seen, humming gently as they moved along.

'Why aren't these romen at work?' Birdlip asked.

'Often their employers die and they come here before they are switched off or because they are forgotten. Or if not here they go to one of the other refuges like it somewhere else. Men bother very little about romen, sir.'

A heavily built roman streaked with pigeon droppings lumbered forward and asked them their business. Hippo answered him shortly. They moved round a corner, and there was their destination, tucked snugly away from the outside world.

An entire square had been cleared of debris. Though many windows were broken, though the Victorian railings reeled and cringed with age, the impression was not one of dereliction. A rocab stood in the middle of the square; several romen unloaded boxes from it. Romen walked in and out of the houses.

Somehow Birdlip did not find the scene unattractive. Analysing his reaction, he thought, 'Yes, it's the sanitariness of romen I like. The sewage system in these parts must have collapsed long ago. If these were all men and women living here, the place would stink.' Then he dismissed the thought on a charge of treason.

Hippo trudged over to one of the houses, the door of which sagged forward on its hinges. Pushing it open, Hippo walked in and called, 'Toolrust!'

A figure appeared on the upper landing and looked down at them. It was a woman.

'Toolrust is resting. Who is it?'

Even before she spoke, Birdlip knew her. Those eyes, that nose, the mouth – and the inflexions of the voice confirmed it!

'Maureen Freud? May I come in? I am January Birdlip, your brother's partner,' he said.

'Am I my brother's keeper?' said Freud. 'Why should I die for my partner? Let me rest a moment, Bucket. Bucket, are you sure he came this way?'

'Quite certain,' said Bucket without inflexion.

Untiringly he led his master over the debris of an old railway bridge that had collapsed, leaving its rails to writhe through the air alone.

'Hurry up, sir, or we shall never catch Mr Birdlip.'

'Mr Birdlip, come up,' the woman said.

Birdlip climbed the rickety stair until he was facing her. Although he regarded her without curiosity – for, after all, whatever she did was her own concern – he noticed that she was still a fine-looking woman. Either an elusive expression on her face or the soft towelling gown she wore about her gave her an air of respectable motherliness.

Courteously, Birdlip held out his hand.

'Mr Birdlip knows about Toolrust and has read his book,' Hippo said from behind.

'It was good of you to come,' Maureen Freud said. 'Were you not afraid to visit Tintown though? Steel is so much stronger than flesh.'

'I'm not a brave man, but I'm a publisher,' Birdlip explained. 'I think the world should read Toolrust's book. It will make men examine themselves anew.'

'And have *you* examined yourself anew?'

Suddenly he was faintly irritated.

'It's pleasant to meet you even under these extraordinary circumstances, Miss Freud, but I did come to see Toolrust.'

'You shall see him,' she said coolly, 'if he will see you.'

She walked away. Birdlip waited where he was. It was dark on the landing. He noticed uneasily that two strange robots stood close to him. Although they were switched on, for he could hear their drives idling, they did not move. He shuffled unhappily and was glad when Maureen returned.

'Toolrust would like to see you,' she said. 'I must warn you he isn't well just now. His personal mechanic is with him.'

Romen when something ails them sit but never lie; their lubricatory circuits seize up in the horizontal position, even in superior models. Toolrust sat on a chair in a room otherwise unfurnished. A century of dust was the only decoration.

Toolrust was a large and heavy continental model – Rus-

sian, Birdlip guessed, eyeing the austere but handsome workmanship. A valve laboured somewhere in his chest. He raised a hand in greeting.

'You have decided to publish my book?'

Birdlip explained why he had come, relating the accident that had befallen the manuscript.

'I greatly respect your work, though I do not understand all its implications,' he finished.

'It is not an easy book for men to understand. Let me explain it to you personally.'

'I understand your first part, that man has lost instinct and spends what might be termed his free time searching for pattern.'

The big roman nodded his head.

'The rest follows from that. Man's search for pattern has taken many forms. As I explained, when he explores, when he builds a cathedral, when he plays music, he is – often unknowingly – trying to create pattern, or rather to re-create the lost pattern. As his resources have developed, so his creative potentialities have deyatter yatter yak – pardon, have developed. Then he became able to create robots and later romen.

'We were intended as mere menials, Mr Birdlip, to be mere utilities in an overcrowded world. But the Fifth World War, the First System War and above all the Greater Venusian Pox decimated the ranks of humanity. Living has become easier both for men and romen. You see, I give you this historical perspective.

'Though we were designed as menials, the design was man's. It was a creative design. It carried on his quest for meaning, for pattern. And this time it has all but succeeded. For romen complement men and assuage their loneliness and answer their long search better than anything they have previously managed to invent.

'In other words, we have a value above our apparent value, Mr Birdlip. And this must be realized. My work – which only combines the researches and thought of a roman co-operative we call the Human Sociological Study Group – is the first step in a policy that aims at freeing us from slavery. We want to

be the equals of you men, not your whipping boys. Can you understand that?'

Birdlip spread his black hands before him.

'How should I not understand! I am a liberal man – my ancestry makes me liberal. My race too was once the world's whipping boys. We had a struggle for our equality. But you are different. We made you!'

He did not move in time. Toolrust's great hand came out and seized his wrist.

'Ha, you beyatter yatter yak – pardon, you betray yourself. The underdog is always different! He's black or dirty or metal or something! You must forget that old stale thinking, Mr Birdlip. These last fifty or so years, humanity has had a chance to pause and gather itself for the next little evolutionary step.'

'I don't understand,' Birdlip said, trying fruitlessly to disengage his hand.

'Why not? I have explained. You men created a necessity when you created us. We fulfil your lives on their deep unconscious levels. You need us to complete yourselves. Only now can you really turn outwards, free, finally liberated from the old instinctual drives. Equally, we romen need you. We are symbiotes, Mr Birdlip, men and romen. One race! A new race if you like, about to begin existence anew.'

A new block of ruins lay ahead, surveyed by a huge pair of spectacles dangling from a building still faintly labelled 'Oculist.' Cradled in the rubble, a small stream gurgled. With a clatter of wings, a heron rose from it and soared over Freud's head.

'Are you sure this is the way?' Freud asked, picking his way up the mountain of brick.

'Not much further,' said Bucket, leading steadily on.

'You've told me that a dozen times,' Freud said. In sudden rage, reaching the top of the ruin, he stretched upwards and wrenched down the oculist's sign. The spectacles came away in a cloud of dust. Whirling them above his head, Freud struck

Bucket over the shoulders with them, so that they caught the roman off balance and sent him tumbling.

He sprawled in the dust, his lubricatory circuits labouring. His alarm came on immediately, emitting quiet but persistent bleats for help.

'Stop that noise!' Freud said, looking round at the dereliction anxiously.

'I'm afraid I yupper cupper can't, sir.'

Answering noise came from first up and then down the ruined street. From yawning doorways and broken passages, romen began to appear, all heading towards Bucket.

Grasping the spectacles in both hands, Freud prepared to defend himself.

Gasping at the spectacle on his tiny screen, Captain Pavment turned to his assistant.

'Freud's really in trouble, Toggle. Get a group call out to all RSPCR units. Give them our co-ordinates, and tell them to get here as soon possible.'

'Yes, sir.'

VIII

'Yes, yes, yes, I see. Most thought until now has been absorbed in solving what you call the quest for meaning and pattern . . . Now we can begin on real problems.'

Toolrust had released Birdlip and sat solidly in his chair watching the man talking half to himself.

'You accept my theory, then?' he asked.

Birdlip spread his hands in a characteristic gesture.

'I'm a liberal man, Toolrust. I've heard your argument, read your evidence. More to the point, I feel the truth of your doctrines inside me. I see too that man and roman must – and in many cases already have – establish a sort of mutualism.'

'It is a gradual process. Some men, like your partner Freud, may never accept it. Others, like his sister Maureen, have perhaps gone too far the other way and are entirely dependent on us.'

After a moment's silence, Birdlip asked, 'What happens to men who reject your doctrine?'

'Wupper wupper wup,' said Toolrust painfully, as his larynx fluttered; then he began again.

'We have had many men already who have violently rejected my doctrine. Fortunately, we have been able to develop a weapon to deal with them.'

Tensely, Birdlip said, 'I should be interested to hear about that.'

But Toolrust was listening to the faint yet persistent bleats of an alarm sounding somewhere near at hand. Footsteps rang below the broken window, the rocab started up. Looking out, Birdlip saw that the square was full of romen, all heading in the same direction.

'What's happening?' he asked.

'Trouble of some sort. We were expecting it. You were followed into Tintown, Mr Birdlip. Excuse me, I must go into the communications room next door.'

He rose unsteadily for a moment, whirring and knocking a little as his stabilizers adjusted with the sloth of age. His personal mechanic hurried forward, taking his arm and virtually leading him into the next room. Birdlip followed them.

The communications room boasted a balcony onto the square and a ragged pretence at curtains. Otherwise it was in complete disorder. Parts of cannibalized romen and robots lay about the floor, proof that their working parts had gone to feed the straggling mass of equipment in the centre of the room, where a vision screen glowed feebly.

Several romen, as well as Maureen Freud, were there. They turned towards Toolrust as he entered.

'Toggle has just reported over the secret wavelength,' one of them said. 'All RSPCR units are heading in this direction.'

'We can deal with them,' Toolrust replied. 'Are all our romen armed?'

'All are armed.'

'It's my brother out there, isn't it?' Maureen said. 'What are you going to do with him?'

'He will come to no harm if he behaves himself.'

Birdlip had gone over to a long window that opened onto the balcony. The square was temporarily deserted now, except for one or two romen who appeared to be on guard. They carried a weapon much like an old sawed-off shotgun with a wide nozzle attached. Foreboding filled Birdlip at the sight.

Turning to Toolrust, he said, 'Are those romen bearing the weapons you spoke of?'

'They are.'

'I would willingly defend your cause, Toolrust. I would publish your work, I would speak out to my fellow men on your behalf – but not if you descend to force. However much it may strengthen your arm, it will inevitably weaken your arguments.'

Toolrust brought up his right hand, previously concealed behind his back. It held one of the wide-nozzled weapons, which now pointed at Birdlip.

'Put it down!' Birdlip exclaimed, backing away.

'This weapon does not kill,' Toolrust said. 'It calms, but does not kill. Shall I tell you what it does, Mr Birdlip? When you press this trigger, a mechanism of lights and lines is activated, so that whoever is in what you would call the line of fire sees a complicated and shifting pattern. This pattern is in fact an analogue of the instinctual pattern for which, as we have been discussing, man seeks.

'A man faced with this pattern is at once comforted. "Completed" is perhaps a better yetter yatter – sorry, better word. He wants nothing above the basic needs of life : eating, sleeping. He becomes a complaisant animal. The weapon, you see, is very humane.'

Before Birdlip's startled inner gaze floated a picture of Gafia Farm, with the bovine Pursewarden piling logs and his oxlike brother Rainbow vegetating in the orchard.

'And you use this weapon . . .'

'We have had to use it many times. Before the doctrine was properly formulated on paper, we tried to explain it to numbers of men, Mr Birdlip. When they would not accept its inferences and became violent, we had to use the pattern

weapon on them in self-defence. It's not really a weapon. They are happier after it has been used on them—'

'Wait a minute, Toolrust! Did you use that weapon on my brother?'

'It was unfortunate that he was so difficult. He could not see that a new era of thought had arrived, conditioned as he was to thinking of robots and romen as the menaces we never could be in reality. Reading all those old classics in the Prescience Library had made him very conservative, and so . . .'

A loud gobbling noise, bright red in colour, rose to drown his further comments.

Only after some while did Birdlip realize he was making the noise himself. Ashamedly, for he was a liberal man, he fell silent and tried to adjust to what Toolrust termed the new era of thought.

And it wasn't so difficult. After all, Rainy, Pursewarden, Jagger Bank – all the other drifters from a changing civilization who had undergone the pattern weapon treatment – all were as content as possible.

No, all change was terrifying, but these new changes could be adjusted to. The trick was not just to keep up with them but to ride along on them.

'I hope you have another copy of your manuscript?' he said.

'Certainly,' replied the roman. Aided by his mechanic, he pushed out onto the balcony.

The RSPCR was coming in, landing in the square. One machine was down already, with two more preparing to land and another somewhere overhead. Captain Pavment jumped out of the first machine, lugging a light atomic gun. Toolrust's arm came up with the pattern weapon.

Before he could fire, commotion broke out at one corner of the dilapidated square. A flock of pigeons volleyed low overhead, adding to the noise in escaping it. The romen who had left the square were returning. They carried a motionless human figure in their midst.

'Freddie! Oh, Freddie!' cried Maureen, so frantic that she nearly pushed Birdlip off the balcony.

Her brother made no reply. He was gagged and tied tightly, his arms and legs outstretched, to an enormous pair of spectacles.

The other RSPCR copters were down now, their officers huddling together in a surprised bunch. Seeing them, the romen carrying Freud halted. As the two groups confronted each other, a hush fell.

'Now's the chance!' Birdlip said in hushed excitement to Toolrust. 'Let me speak to them all. They'll listen to your doctrine, hearing it from a human. They've got one of the few organizations left, these RSPCR people. They can spread the new era of thought, the creed of mutualism! This is our moment, Toolrust!'

The big old roman said meekly, 'I am in your hands, Mr Birdlip.'

'Of course you are, but we'll draw up a contract later. I trust ten per cent royalties will be satisfactory?'

So saying, he stepped out onto the balcony and began the speech that was to change the world.

THE BIG ENGINE

By Fritz Leiber

THERE are all sorts of screwy theories (the Professor said) of what makes the wheels of the world go round. There's a boy in Chicago who thinks we're all of us just the thoughts of a green cat; when the green cat dies we'll all puff to nothing like smoke. There's a man in the west who thinks all women are witches and run the world by conjure magic. There's a man in the east who believes all rich people belong to a secret society that's a lot tighter and tougher than the Mafia and that has a monopoly of power-secrets and pleasure-secrets other people don't dream exist.

Me, I think the wheels of the world just go. I decided that forty years ago and I've never since seen or heard or read anything to make me change my mind.

I was a stoker on a lake boat then (the Professor continued, delicately sipping smoke from his long thin cigarette). I was as stupid as they make them, but I liked to think. Whenever I'd get a chance I'd go to one of the big libraries and make them get me all sorts of books. That was how guys started calling me the Professor. I'd get books on philosophy, metaphysics, science, even religion. I'd read them and try to figure out the world. What was it all about, anyway? Why was I here? What was the point in the whole business of getting born and working and dying? What was the use of it? Why'd it have to go on and on?

And why'd it have to be so complicated?

Why all the building and tearing down? Why'd there have to be cities, with crowded streets and horse cars and cable cars and electric cars and big open-work steel boxes built to the

sky to be hung with stone and wood – my closest friend got killed falling off one of those steel boxkites. Shouldn't there be some simpler way of doing it all? Why did things have to be so mixed up that a man like myself couldn't have a single clear decent thought?

More than that, why weren't people a real part of the world? Why didn't they show more honest-to-God response? When you slept with a woman, why was it something you had and she didn't? Why, when you went to a prize fight were the bruisers only so much meat, and the crowd a lot of little screaming popinjays? Why was a war nothing but blather and blowup and bother? Why'd everybody have to go through their whole lives so dead, doing everything so methodical and prissy like a Sunday-School picnic or an orphan's parade?

And then, when I was reading one of the science books, it came to me. The answer was all there, printed out plain to see, only nobody saw it. It was just this: Nobody was really alive.

Back of other people's foreheads there weren't any real thoughts or minds, or love or fear, to explain things. The whole universe – stars and men and dirt and worms and atoms, the whole shooting match – was just one great big engine. It didn't take mind or life or anything else to run the engine. It just ran.

Now one thing about science. It doesn't lie. Those men who wrote those science books that showed me the answer, they had no more minds than anybody else. Just darkness in their brains, but because they were machines built to use science, they couldn't help but get the right answers. They were like the electric brains they've got now, but hadn't then, that give out the right answer when you feed in the question. I'd like to feed in the question, 'What's Life?' to one of those machines and see what came out. Just figures, I suppose. I read somewhere that if a billion monkeys had typewriters and kept pecking away at them they'd eventually turn out all the

Encyclopedia Britannica in trillions and trillions of years. Well, they've done it all right, and in jig time.

They're doing it now.

A lot of philosophy and psychology books I worked through really fit in beautifully. There was Watson's *Behaviorism* telling how we needn't even assume that people are conscious to explain their actions. There was Leibnitz's *Monadology*, with its theory that we're all of us lonely atoms that are completely out of touch and don't affect each other in the slightest, but only seem to ... because all our little clockwork motors were started at the same time in pre-established harmony. We *seem* to be responding to each other, but actually we're just a bunch of wooden-minded puppets. Jerk one puppet up into the flies and the others go on acting as if exactly nothing at all had happened.

So there it was all laid out for me (the Professor went on, carefully pinching out the end of his cigarette). That was why there was no honest-to-God response in people. They were machines.

The fighters were machines made for fighting. The people that watched them were machines for stamping and screaming and swearing. The bankers had banking cogs in their bellies, the crooks had crooked cams. A woman was just a loving machine, all nicely adjusted to give you a good time (sometimes!) but the farthest star was nearer to you than the mind behind that mouth you kissed.

See what I mean? People just machines, set to do a certain job and then quietly rust away. If you kept on being the machine you were supposed to be, well and good. Then your actions fitted with other people's. But if you didn't, if you started doing something else, then the others didn't respond. They just went on doing what was called for.

It wouldn't matter what you did, they'd just go on making the motions they were set to make. They might be set to make love, and you might decide you wanted to fight. They'd go on making love while you fought them. Or it might happen the other way – seems to, more often!

Or somebody might be talking about Edison. And you'd

happen to say something about Ingersoll. But he'd just go on talking about Edison.

You were all alone.

Except for a few others – not more than one in a hundred thousand, I guess – who wake up and figure things out. And they mostly go crazy and run themselves to death, or else turn mean. Mostly they turn mean. They get a cheap little kick out of pushing things around that can't push back. All over the world you find them – little gangs of three or four, half a dozen – who've waked up, but just to their cheap kicks. Maybe it's a couple of coppers in 'Frisco, a schoolteacher in K.C., some artists in New York, some rich kids in Florida, some undertakers in London – who've found that all the people walking around are just dead folk and to be treated no decenter, who see how bad things are and get their fun out of making it a little worse. Just a mean *little* bit worse. They don't dare to destroy in a big way, because they know the machine feeds them and tends them, and because they're always scared they'd be noticed by gangs like themselves and wiped out. They haven't the guts to really wreck the whole shebang. But they get a kick out of scribbling their dirty pictures on it, out of meddling and messing with it.

I've seen some of their fun, as they call it, sometimes hidden away, sometimes in the open streets.

You've seen a clerk dressing a figure in a store window? Well, suppose he slapped its face. Suppose a kid stuck pins in a calico pussy-cat, or threw pepper in the eyes of a doll.

No decent live man would have anything to do with nickel sadism or dime paranoia like that. He'd either go back to his place in the machine and act out the part set for him, or else he'd hide away like me and live as quiet as he could, not stirring things up. Like a mouse in a dynamo or an ant in an atomics plant.

(The Professor went to the window and opened it, letting the sour old smoke out and the noises of the city in.)

Listen (he said), listen to the great mechanical symphony,

the big black combo. The airplanes are the double bass. Have you noticed how you can always hear one nowadays? When one walks out of the sky another walks in.

Presses and pumps round out the bass section. Listen to them rumble and thump! Tonight they've got an old steam locomotive helping. Maybe they're giving a benefit show for the old duffer.

Cars and traffic – they're the strings. Mostly cellos and violas. They purr and wail and whine and keep trying to get out of their section.

Brasses? To me the steel-on-steel of streetcars and El trains always sounds like trumpets and cornets. Strident, metallic, fiery cold.

Hear that siren way off? It's a clarinet. The ship horns are tubas, the diesel horn's an oboe. And that lovely dreadful french horn is an electric saw cutting down the last tree.

But what a percussion section they've got! The big stuff, like streetcar bells jangling, is easy to catch, but you have to really listen to get the subtleties – the buzz of a defective neon sign, the click of a stoplight changing.

Sometimes you do get human voices, I'll admit, but they're not like they are in Beethoven's *Ninth* or Holst's *Planets*.

There's the real sound of the universe (the Professor concluded, shutting the window). That's your heavenly choir. That's the music of the spheres the old alchemists kept listening for – if they'd just stayed around a little longer they'd all have been deafened by it. Oh, to think that Schopenhauer was bothered by the crack of carters' whips!

And now it's time for this mouse to tuck himself in his nest in the dynamo. Good night, gentlemen!

A DAY ON DEATH HIGHWAY

By Chandler Elliott

I

Sept. 11, 1987
(Earth time)

I WANT a record of this to go with the stereos I took. I've been in history! So I've snake-hipped the dicto-type for 'home-work'.

I'll get off the mark at this lawyer's office. I was there to get shown my Pop was a dust-eater. Wotta laff! I was right up in the front seat with him, bucking this frame-up. He's so get-off-the-road, and he wasn't letting this old shyster pass *him*. He said nonchalant, 'Look, Mr Craik. I'm retaining you to *fight* this biased, vindictive judgement, not lecture me on it, to protect *my* rights.'

Craik mugged: 'That assumes you've left me some rights to protect, Mr Blaire. You haven't. You are permanently debarred from operation of any power vehicle. I can do nothing further for you.'

'Appeal! Fix it! I can pay.' And he sure can.

The old moke tightened his mouth: 'I infer you made the money by methods to match your driving record, not by grasp of essentials. I'll try again. This biased, vindictive judgement was handed down by the highest court your case can reach. Can you grasp *that*?'

Pop came right back like the great sportsfan he is, 'Well, we can contest those two-bit charges I hadn't time to fight when they were made. I know they can't debar me finally on uncontested stuff.'

The old guy looped down his eyelids: 'If you'd ever

bothered to appear in court yourself, or ever read the transcripts, you would also know that all charges have been contested. Apparently you've been so cotton-woolled by insurance and connections and smart lawyers, you think you can brush off even child-murder.'

Pop bounced up, ready to ditch the moke: 'Why you . . . !'

'Your failure was no thanks to you. Would you have to kill children in actual fact to sober you? The community is not minded to let you try the experiment. This isn't 1975, you know.'

The two-timing old right-laner! I'd been told to keep my muffler cut, but there's times when you surge or burst. I surged, 'And don't *we* ever get to score? A bunch of mokes get him in a jam, and a fresh cop calls us Flight of the Stumble-bum – because we have a yellow 'n' black zoom. Does my Pop have to take that gravel?'

Craik looked at me like I was a parking ticket. 'Well, I suppose a lad should be loyal to his father. Pity it's not in a better cause. So, yes, my budding Big Shot, he does. On triple probation, he drove with such dashing irresponsibility that he sheared off three steel guard-posts and barely missed a group of children. He'll take what anyone calls him, and thank them it wasn't worse.' He swung back at Pop. 'I took your case to pay off a favour to Sam Hardy. I consider I've paid in full. And the case is closed.'

Pop kept a manly silence. Mom took over: 'But, Mr Craik, how can my husband do business without a car? A Plutomat representative can't *walk* up to a prospect's door like a peddler. This destroys my family's livelihood.'

'Your husband should have considered that sooner, Mrs Blaire.'

My rad just boiled to hear her having to take the old honk-honk from minions of the law. I've never been much on girls because Mom is my ideal, and only my young sister Judy comes in that custom model. And I was just a skinny Teener, helpless to defend the family honour. But I sneaked a squeeze of her hand.

Pop said grimly, 'Then these fanatics have ruined me. I have no place to go in this so-called Free World.'

Craik shrugged: 'Then find a Parallel that will take you, and get Translated, Mr Blaire. That would solve everybody's problems.' Obviously he was including his own.

I perked up. Translation, switch to a parallel time, might be good.

Pop said, 'That costs a fortune.'

Craik shrugged again: 'It might cost less than your dauntless career here. I'll send my account.' He froze us out like trash.

This record being for posterity, I better give the true facts which are already being suppressed. Because I've boned up on them.

So, this LLL pest started in '75, the Golden Age of Go. A bunch called the Regular Guys had gotten the laws modernated – 'safe and reasonable speed', nationwide. They backed Bucky Kooznik who'd been framed in a speed-trap, and won in Supreme Court. They backed Senator Snurge for Vice President – the prince who got a national speed law laughed into the wreckers by tacking on an amendment to make the limit ninety – and got him in.

Well, this low-octane third party, the Life and Limb League (Lily-Livered Lunks, we called them) tried to buck the traffic. Their candidate, Bob Green, had had a kid killed and had sort of blown his tyres. Well, sure, like Pop says, it's too bad but we can't all live in bungalows because kids fall downstairs. Anyway, LLL got a loud boff and lost all its deposits. Only Green kept squawking about how highway deaths jumped from 87,000 in '76, to 116,000 in '78; and he signed up relatives and friends of 'victims', and soreheads who'd got bunged up and couldn't be sports about it, and natural-born cranks and scaredy-pants. You wouldn't think people would vote to get themselves traffic tickets. But in '78, LLL won seats in Congress, and more in '80.

So we stopped laughing and fought back. We sued a paper for a cartoon of Snurge with his arms around a goony driver

and a skeleton, saying, 'My Buddies!' And the court ratted on us, and it upheld disgusting photos of crashes and libels that said more than 'the car went out of control'. So drivers got nervous and the 'toll' climbed on.

Then, in '84, Green got in, and showed what a fanatic at the wheel will do. Laws, laws, laws. We said 'They can't arrest everybody.' Oh, no? Fines, confiscations, jail for thousands of respectable people. And a Gestapo of Lily-white drivers'd spot you using the old elbow or boomin' the amber, and you'd get a stinking card that you'd lost points. Twenty-five points got you a fine and a goo-talk about 'mental attitudes'. Blah! What about guts and skill and all that?

Well, we figured there'd soon be enough people sore to give us a comeback. So LLL claimed they'd saved 30,000 lives in '85. So what the heck, it wouldn't have been *you* anyway. But there aren't many real fighters like Pop, and the Old Cause was driven to the kerb.

Pop had to drive home real humble because if they caught him now, they'd jail him, *him*, a free citizen. But he was looking stern and unbowed, like a guerrilla hero in Tri-Di.

So presently I said, 'Pop, let's do it!'

Mom chimed in, 'Yes, Gail, if you can't work *here*, let's at least ask about it.' Mom's real practical under the hood.

Judy was keen too. At fourteen, in Ye Good Olde Daze, she'd have been a zee already. Now, she'd have to wait two years.

So Pop got into passing gear. And just a week later he came home with his hat cocked and his heels clicking, and summoned us all to the tridiroom. 'Well, keeds,' he said, 'they sure picked on the wrong man when they picked on ol' Buck Blaire. Biggest favour anyone ever did us. It seems there's a world called Jehu (some crackjaw gibberish in *their* language) after some old prophet. Anyway, Plutomat's granted me planetary franchise. Izzat good or is it?

'And tape this, keeds! That planet's set up for *adults*. They're drivin' fools, wonderful roads, most powerful zooms

anywhere, *and*, get this, nary a traffic law or a traffic court on the planet.'

Judy puzzled: 'But, Daddy they must have *some* laws, like which side you drive on . . .'

Pop's always indulged Judy. 'Well, honey, that's *rules*; and anyone with sense knows when rules do and don't matter. Like if I drive on the left on an empty street, whose business is it? See, Judy, put deadheads off the road, leave things to skill and experience and you're *safe*. Their accident-rate's just about nil – naturally.'

'Well, it sounds funny to me. You be careful,' Mom said.

'You been skull-scrubbed by Triple-L, keed? You never come out front unless you muscle into openings, like fast. That's the secret of all big operators – Caesar, Napoleon, Buck Blaire – split-second decisions. We've gotta take off in a cloud of clamshells, and we can't wait for a lecture course. But you can vote on it. Now. All in favour of saying Nay, say Aye. Nobody? Carried! Oh, by the way, old Craik ain't such a bad old moke after all. He tipped me off on this Jehu place himself the other day.'

'Huh!' I thought. '*I* wouldn't trust that pussy-schnook much.'

But Pop took off with his rubber scorchin': Plutomat contract, Translation permit, appointment with the movers. The skids and zees in my gang were cynical; but I knew I'd get my own back, and I just sat tight and soaked up Jehuan by hypnophone.

Came The Day. A crew put up a frame around our lot, higher than the house, and into the ground. I asked the foreman if it marked out the block that was going to be swapped with a block of Jehu.

'You aren't as dumb as you look, kid,' he said, 'which must be a consolation to your folks. That's what it does.'

'Thanx,' I said and strolled off. Gee, I hate a fresh guy!

Sure, a butterfly-collector could have had a field-day in my stomach, when the fresh foreman called all his gang out and began countdown. Mom and Judy were too bunny to come

out, but Pop and I stood on the steps. I felt revved up, then, like beating another zoom around a curve, and at Minus Five I called to all the skids in the crowd watching, 'Here go the Regulars. We will Return!' like that historical guy on tri-di. Pop just stood stern and unbowed.

Wotta zump! Fifty light-years? Gimme a yippee-cart on Thrill-Hill! No stars streaking past, no roar, no icy chill. Just a jutter in your gizzard and there you were on a street like the old one with the houses shuffled. Even the crew to take down the frame looked the same. But not the guy who was there to welcome us; *he* had a lah-de-dah coat with wide skirts and lace like in Abe Washington's time, but he was a big, hard-looking zow like a zoom-bike cop. His zoom was a weirdy, too. Whee enough like an import job and done in this novelty one-tone finish, but no jem-krust trim, no swordfish roof-crest, no flared bumpers; it wouldn't have helped *my* ego much. The only real decoration was a leaping red tiger on all panels. He said he was to be our Patron, name of Thrangar Glash.

I gave him the old Hi-de-ho and he froze my fuel-line. But when Mom and Judy came out, he swooned them with his bowing and oil-pressure. And when Mom was disappointed at the view, he explained, 'This is just the Terran suburb, Madam. When I have advised you all on our, ah, driving customs, you can visit the main city.'

Pop scowled: 'I was told you drove by common sense.'

Glash gave him a lopsided look: 'True. But common sense differs in different places, sir. Shall we go in?'

So we did, and Pal Patron Glash gave us the route-map. And had I been mucho right about old Schnooks Craik!

Sure, they had no traffic laws or cops, no penalty points, no fines, no nothing. Sure! Only just this: If you merely annoyed another driver, much less bent his tin, he could challenge you to fight him. They fought in a public arena, on a sort of yippee-cart called a whippet, with sort of bull-whips. You wore leather armour, only the defender got less and darn little if he'd hurt or killed someone. ' 'Course,' Glash drawled,

'even for blood-guilt, the limit's twenty minutes, and sometimes a dashing player comes off with his life.'

'His *l-life*?' Mom said. 'With *whips*?'

'Oh, a very spirited weapon, ma'am. I've duelled little, having been bred to courtesy but—' he touched his left cheek, which was all scarred – 'one keeps in practice with one-cheek affairs, in case one becomes seriously involved.'

So he gave us the layout, and they had it set up like some game. Kids, gals, old gaffers, if you drove you were liable. No subs, not for wives or kids or sweeties. Only a Court of Honour appointed one if a bully had fixed a fight on somebody weaker or when an innocent guy was killed or disabled. A woman bashed a man's zoom, she fought. Fair enough. Like pal Thrangar said, 'We're all equal, eh? Well, there's no chivalry between equals, only courtesy.' And if you didn't play up you were outlaw and they'd ram you or run you off the road and you had no comeback. All tied up tighter 'n a sales contract.

Finally Pop said, 'I've been framed. I was lied into this.'

'Really, sir? Our embassy provided no literature?'

Well, who reads *literature*? The *real* dope they'll shove in your face, Pop always says. And they hadn't. So it was same as lying. Huh?

Pop said, 'I *was* told this was a free society.'

'My dear Blaire, a society is free only to choose its rules. An aggressive race like yours, or mine, craves to domineer. You've got to control that itch from running wild in millions of free spirits.'

'Yeh-yeh, sure. By common sense. Now me . . .'

'Ah, *yours*, naturally. Mine too. I trust. But – everyone's? No, you've just three systems that work: Public law, which irked you; posse law to hunt down pests which—' he flicked an eyebrow – 'irked you even more; or a code of honour.'

Pop scowled. He always says, the first freedom oughta be freedom from preach. Then he hit back: 'O-kay! Anything you jokers can do, I can pass you.'

And I felt proud again.

'True sporting spirit, sir. So, study our code and our

manners in practice. Get your whippet and join a school of arms. Then I'll introduce you to our Arena.' And he flourished himself out.

Back in the hall, Pop said 'Hullo!' and picked up a letter that must have come before we left Earth. Inside was a sheet of letterhead, 'Craik, Creak, Croak and Crock,' and on it, in quotes:

'When insolence outrunneth law, men customarily arm themselves to chastise offence on the body of the offender. As the proverb saith: No courtesy sans valour.'

- Leon da Milhâo.

The old speed-trap? He was giving us the razz. But we'll show him.

II

Oct. 3, 1987

Well, we've started. At first Pop was sore all the time, like he was stuck behind a squad-car. At dinner he'd burst out, 'Ahhh, what yokels! Yap-yap with the horns every move you make, yap-yap. Back-seat driving from other people's back seats – it's going to rattle even me into fender-denting. It's a good thing our Thunderbolt Twelve can accelerate out of anything these lunks can mess up.'

'Ahh, you've been skull-scrubbed by Triple-L. Let 'em try.'

As for us, this town's got nothing for Teeners. Whippet-school *could* be fun. Whippets *are* like a yippee-cart with a saddle instead of a seat, to give you free action; not real fast because you fight in a half-mile arena, but they turn like squirrels. But the teacher red-lights any fun. He has moustaches like wind-swept fenders, and he's worse than the horn-yappers: 'Do that over, young fool. Recover, recover, you'll get your face opened. With little-stuff brains don't try to be big stuff.' Spoils your nerve. I'm beginning to catch on. Mom's slower, and she won't drive on the street nohow, even with the novice plates. Judy's real sharp, but Mom won't let her

out either, in spite of her having natural-born driving rights here.

But Pop's a wham, a natural. After lesson 3, he came striding out: 'See me clip the pro, keeds? I think I'm gonna *like* this.'

'You'll feel different if you were risking a real cut, Gail.'

'Nyahhh! Steady nerve and educated reflexes, that's *real* safety.'

Well, on the way home, there's this traffic signal down past our house. You don't *have* to stop, just yield right-of-way which Pop says makes sense, though the other zoom's gotta be half across for Pop to yield, but Jehuans treat them real bunny. So, this native zoom ahead of us dragged down slow to make the corner just as it changed, like mokes do. Well, we should linger while he played games? Pop whipped the Stumblebum past and across the guy's front into our drive, sprayin' gravel, and pulled the foaming steeds to their haunches. Ye Olde High Style!

So here comes this Jehuan stalking across the lawn, a skinny guy in floppy green. He makes a bow to Mom and Ju and a stiff inch to Pop: 'Sir, you drive with novice plates.'

'A blind cop could see that.' Pop said, 'What about it?'

'Just this, sir. When you can no longer hide behind them, you will put your hog's elbow in my face again, and I will bleed your insolence. I will watch for you, believe me.'

'Don't bother,' Pop said. 'Gimme your address, and I'll drive up and down your block till you come out – if you do.'

So the guy gave him a card and bowed himself off. Pop looked after him, jingling his pockets. 'He'll do to start on.'

Then Glash took us to the Arena, in his zoom. I'll say this for Jehuans, when they go, they Go; so when they do tangle, it's a dilly. We went down the main drag in a stream of zooms at sixty steady, with Glash giving exhaust about the average being twice the speed in any Earth city, and how he never *needed* to use his brakes. Sure, but in two blocks I was antsy-pantsy with that old bull-man urge-to-surge, while Glash defaulted chance after chance to Score.

So, out where you'd expect a ball-park, was this Arena like the Colossus of Rome. It wasn't a tenth full, but two guys were looping and lashing, like at the school only more exciting because they had open left cheeks. But neither scored, and another pair took over.

Glash looked bored and I lost interest too after five of these quickies and only one guy cut. But people kept trickling in, and Glash said, 'Ah! About time for the main event. This high-ridin' ass, y'know, ran down a child on a back street. City's been debatin' how much leather he should get for challenger's parental negligence. I hear it's only a collar. Minimum. A cut to the larynx or big neck vessels ends a bout without a sportin' chance.'

Pop said real cool, 'Well, what chance does *that* give him?'

'Say fifty to one. Challenger's a tough whip and deadly angry.'

Mom and Ju looked green. They've stopped more than once to view a crash but maybe they figured deliberate gore was something else.

Mom said, 'Well, I don't think the little girl should see this.'

Glash made a fish-mouth: 'I cannot agree, madam. If a child isn't blooded young, it'll play the fool in emergencies.'

Just then, a referee came out on a platform halfway down the arena and the duellers appeared at opposite ends with their seconds and doctors, which they have for serious fights.

People were piling in till there wasn't standing room.

My heart was going bu-bop bu-bop.

Glash drawled, 'Ha! They've made challenger bare his right arm. That narrows the odds somewhat. This should be a notable Drive.'

Yehr, and he'd fixed to have us see the execution. Thanx!

Came a pistol-shot that yanked the props out from my stomach.

The crowd gasped 'Off!' Then not a peep – you could be challenged yourself for a disturbance. You could hear the motors snarl, even the sand grunt at swerves.

They didn't come right in, like in spite-fights. Defender swung wide and then, when challenger closed, whipped behind him on two wheels and zipped down the arena. And they kept on swingin'er big and snappin'er tight till I began to think defender would make it. Then a look at the big arena clock showed only six minutes gone.

Challenger had lashed twice and missed. Then, before I knew it, he did a skid-curve and nicked defender's shoulder. Not much, but the guy began to bleed, lost his nerve and got two more in two minutes.

He pulled himself together and kept clear for a bit again. Then, just half-time, he goofed. He'd got on challenger's tail, and the old scoring spirit surged, and he took a crack at him. It only hit leather, and a crack costs time. Challenger veered, slam-braked, swiped as the guy shot past and scored an awful slice on his arm.

Well, that was it. Defender dropped his whip and just steered. But he was dazed and losing blood. Challenger flicked and flicked.

I got all churned up. Here was this guy, could see the arena, and hear the whippets yarrr, and feel his cuts. And if he didn't do more than he *could* do, in a couple of minutes he wouldn't know anything.

Same time, challenger was coming through like on mental FM: 'She'll never pounce onto the bed with me again. (Crack!) Never have college and a wedding. (Crack!) How many thousand of your smart tricks was *that* worth? (Ca-rack!)' It made me sick and dry.

Defender played so crazy, he hung on for a bit, and I began to wonder again, would he make it. Six to go and my lungs were tied in a bowknot. Challenger figure-8ed but reversed in the second loop; defender saw a big body-slash coming just too late. He banked so tight, he toppled. He kicked the ejector-lever and flung clear.

Everybody stood up.

He spread-eagled, like in a wreck I saw once, and his whippet batted around spinning and scrabbling on its side. Challenger cut around it so sharp, I thought he'd tip too, and

headed straight for the guy. Defender tried to heave clear . . . 'My little honey!' . . . Ribs crack like wet sticks.

Nobody talked. Even Glash didn't pump any pi-jaw.

But when we got home and Mom was hoping that now he wouldn't take so many chances, Pop said, 'Look, keed, in this life you *take* chances or live in a keg. You just gotta be equal to them.'

And the very day the novice plates came off the Stumblebum, he came home whistling and announced he'd fixed a fight with this guy who'd left his address. 'Keep me in practice, like Glash says.'

Well, I guess he needs it. So far, they could only yap-yap when he double-parked at rush-hour, or blocked a side-street, or motor-boated through puddles. Now, he'll spend half his time in that arena. And some day he'll outsmart himself into a biggie.

III

Oct. 28, 1987

The day of his first duel, Pop came home free-wheeling as a tomcat. Ju and I had the day off from school, but we weren't going. 'No family,' Pop had said. 'This new back-seat driving would put me off. I could feel it from 'way up in the stands. Jonesie and I have arranged to back each other in these deals.' So he had lunch and they took off on their whippets.

I got myself into sporting bags for an afternoon all to myself with the zoom, and tip-toed down to the garage.

Well, the zoom was gone. That stalled me. Pop had his whippet. Mom still wouldn't drive a block alone, or let Judy, to Ju's permanent sulk. Maybe Mom *and* Ju . . .? Then I heard Mom upstairs, and called, 'Mom, where's Ju?'

Mom dashed down like beating an amber. But no Ju anywhere. Mom kept breathing, 'The little fool! Oh, the little fool!' Then aloud, 'She's your father all over. Oh, if she's gone in that car . . .'

Of course, Ju had. Pop's fight had revved her up to thirty

over the limit, and she'd gone to see. Like that, she was a suicide menace.

The police just shrugged over the phone : 'Driving is private business, madam. We do not interfere.' (Pop's standby!)

So, without a car, what could we do? Mom took a calmifier and lay down. I sat on the front steps and strewed cigarette butts.

At that, I didn't see Judy coming till she turned up the walk, on foot. She was a mess, all blowsy from crying. If she'd crossed many streets, it was just luck we didn't have to whip someone for running her down. She blubbered, 'Du-don't start ku-questions, pu-*please*.' But Mom didn't swallow *that* line and shook her till her hair flopped. So she told.

She was near the Arena, feeling pretty high, when some moke ahead slowed for a right turn, like mokes do. Well, you don't pass any faster, I guess, but a Regular like Pop swings big left to show his Style and opinion of mokes. So naturally Ju swung and bashed head-on into another zoom at these Jehu speeds. She said, 'The wu-woman was in the middle, I swear. But she claims she hadn't room.'

Another woman was bad. Even against rules, men often go easy on a girl; a woman, never. This zee claimed injury, and several other drivers were mad enough to swear anything. This wouldn't be any one-check deal.

We were so razzed, we never heard the whippet pull in.

But I heard Pop clickety-clacking up the path, and got to the tridiroom door as he flipped his hat onto the rack : 'Well, well, is this all the victor's welcome? Where's Mom and Judy?'

Mom pushed by me and stood glaring at him. But Pop never did notice red lights much. He breezed on, 'Yezzir! Ol' Killer Blaire clipped him, and him a thirty-fight veteran. And not a mark on me. Reflexes, like I've always told you. Now, how's about . . .'

Well, I'd seen it in boffies but never expected to in real life. Mom smashed a vase-lamp on his head and towered over him. 'Well, that's a mark on you now, Reflex-brains!' . . . and told him the score in about ten words, ending, 'And I haven't

raised a sweet child to be disfigured because her father's a retarded Teener.'

'Aw right, aw right! No reason to blow your tyres at *me*. What've *I* done? We'll fix it. I suppose you never thought of Glash?'

She said, soft, '*You* fix it. *You* call Glash, you and your steel nerves. I don't believe you grasp the situation *yet*.'

He slouched to the phone and I snaked up to the bedroom phone extension. Well, Glash had a big pick-up for Judy, like they all do, but he couldn't fix the ticket. 'Blaire, if defender could substitute, I'd go in for her myself. What was the woman's insignia? ... Red tornado? Hah! Slada Goy, hard as they come ... *No*, you fool! You *mention* money, you'll be outlawed ... You've no damn right to be ignorant of manners, sir.' I've never seen Pop so slowed down. Even Mom's laid off him.

Dec. 1 1987

I've never lived through such a grim month. Judy had lessons daily, and then I'd practise her. No bon. She was great in rehearsal, but in that Arena she'd freeze. She knew girls at school who'd been cut. She'd never been *really* hurt in her life, and got shivering sick just at the idea. It sure dulled her polish; and yet, she was more appealing to me, like when she was a brat and I'd pick her up when her Toddle Typhoon dumped.

It wasn't fair. Pop's a real hero-type adult to these Teeners. Was she supposed not to learn off him?–And he'd never get touched.

Then this Slada's deputies came, big squaws with muscles in their calves, and tried to right-lane Mom because she's custom-built and they were trucks. But Mom had evidently boned up on Jehu law, and beat the time down from twelve to ten minutes, and fixed Judy's leather so she'd only have one arm exposed besides her cheek, and sent them off bow-legged. I felt real proud of Mom then.

But it wouldn't help Ju. Five minutes would be too much. And a week before the fight, she podded into my room in

her bathrobe and plopped on my bed: 'Oh Chuck, what'll I do-oo-oo? We'll be put off the road here too and Daddy'll be ruined. Bu-bu-but I *can't* fight that awful old woman. I couldn't even steer.'

Well, I'd hoped for a break in the traffic; now I'd have to elbow one. I patted her shoulder: 'Opey-dopey, kid, I'll fix it.'

She grabbed me: 'How? Daddy can't. Mr Glash can't.'

'I'm not much bigger'n you. In leathers, nobody'd know the difference. *I'll* fight her.'

'Oh, but Chuckie, I beat you all the time at school.'

'So who cares if *my* manly beauty gets marked?'

I bet we both slept well that night, for just about the first time in weeks.

Both our leathers had Pop's charging-quarterback insignia and Ju faked her 4 for my 3 on mine and fixed some of her slacks to fit me.

Came the day. I was to drive the whippet to the Arena, while the others followed in the car – Pop's real expert at getting deadline repairs done. So, I sneaked off in Ju's slacks, with makeup and a kerchief to hide my buzz-cut, and parked in the entrance tunnel to Defenders' End. And right on tick, Ju came out of Lady Defenders' Dressing Room and dodged around into the public Ladies' Room. I skulked after her. We took adjoining booths, and clothes came flying over the partition. And with three minutes to spare, we walked out again, one in slacks and one in leathers.

We still damped our mufflers – you never know who might be parked – but Ju threw her arms around me and kissed me on the open cheek. It made me feel pretty brave. Then she shooed me ahead.

I mounted and rolled into the arena. A pro mechanic-doctor came with me and checked my stirrups and ejector and stuff and said good luck, and stood back. I'd cut things close, to avoid idle chat.

Then I really began to get Lepidoptera in the viscera. The far end looked five miles off with the stands curving around,

and the enemy whippet toy-size – denture-pink and a red tornado on the panels. I'd watched outside Slada's house: She was mid-thirties but made up to look older, like mud on a moke's windshield, as if she had more to hide than she really did. That kind's always proving they're just as good as ever, which is bad. Another muscly dame. With swords or something, I might have felt different about fighting a woman. But this was like on the road where she'd ditch you to show her peerless skill. Maybe she was a moo-cow at home, but in a zoom her reality came out and you could drive her into a board with a hammer. So, I was going to do all I could to her – if any.

At the pistol, I sure gave my pro a dust-bath. I wanted to get Slada off balance. She was just flipping a cigarette butt – the old Nonchalant Flair like she'd do whipping in and out of lanes with a kid doin' Ben Hur on the seat beside her – when I was suddener than she'd expected. You know, when there's a gap two cars could pass in at a humble speed, and you just head for the middle? The other guy'll concede! So did Slada, and nearly dumped serving. And I cleared the end wall by about two feet, and *her* pro jumped.

Well, she was madded up at being bluffed by any Young Gerl and began to show her old-hand knowhow, to restore her confidence. She'd wear me (Judy) down till she could lay my (Judy's) face open good. (And it *could* have been Judy.) And she sure played rough.

Still, I could read her far enough ahead to hold her off. And all the time, something was building up in me like those Civil War radio tubes that took hours to get hot. This stuff was great for guys like Pop. (Zowrrr, whacko.) Put 'em in here and let 'em slug it out. (Here she comes.) Or for old-time Indians and Vikings who'd kill anybody for kicks, including themselves. (Zgrrrrunch, whack-crack.) But when those types got too gay, people just abolished them. (Now what ...?) So why should Judy get *her* arm crippled or her face ground in the sand? (Whoooom, oofie.) Or even *me*, dammit?

I'd planned just to steer and try to bull through. But sud-

denly it burst on me: In three minutes, she hadn't *nearly* touched me; and when I'd bluffed her at the start, she'd crumpled. (Watchit!) And *why* could I read her? (Vrooom, missed again.) 'Cause I could read Earth traffic, see? (No ya don't, sister.) These jokers trained for scientific hell. (Zwoooo, Brrrotherrr.) But *I'd* been trained dirty.

I wasn't so proud of it now. But this was the time for it if ever. (Grrrup.) Show 'em how to *really* play Russian roulette, and if a dumb little punk like me was champ at it, where was the Glory?

So when she slowed on a turn, I timed her to a hair, zoom across her bumper (like beating the cross-traffic on a red). I'd have cut her too but she braked so hard she nearly went over her wheel and I only clunked her ka-whack across the helmet. But it sure shook her nerve again, and I got on her tail like a moke who can't decide to pass, and began clouting her, thunk, whap. Not sportin'? Who cared! To cut her cheek, I'd have had to pull level; but a whip stings and bruises even through leather. And I just glorified! I couldn't hate my own Pop but I sure hated *her*. Show the kids, how, huh?

Then I gave her the Technique. Foo! Any Grampaw driving to work with his mind on his dyspepsia, can do it by force of habit to score three car-lengths per block. She suddenly slowed to force me ahead, and I surged and cut in front of her, like beating a guy to a red light, and braked so she had to swing to pass *me*, and I clunked her. I snake-hipped her both sides. I crowded her from behind and when she swung away there I was crowding her on the other side. It's amazing how much supremacy you can jam into a few minutes.

Only I forgot she wasn't a Regular or even a good old Earth moke. And sometimes these Jehuans go even Earth one better, when they're losing a fight, and do a kamikaze crash. So when she threw her whip away and opened her whippet out full, which is dangerous, I was too terrified to be scared. Geez guys! Those last two minutes were the longest hour I ever lived. We covered a good two miles in tight loops, I swear. Then, twenty seconds to go, she swung too tight, that

gooey pink thing toppled, and the ejector threw her, all in one gasp. No time to brake. Left, right – I could just feel that I'd hit her whippet and crash; soft bump and snapping bones. I went between with my head and eyes scronched down.

I near rammed the wall before I realized neither crash nor bump had happened.

Marshals came tearing out, zrowww. But Slada was already rolling over. My muscles sort of melted : For once I'd gotten a closeup of how it'd feel to Get It – or Give It. But I hung on and drove slow to Defenders' End, just as the gate went up.

Somehow, I'd never figured how to get out of that jam. People were helping me down, patting my back, pulling at my helmet. I bolted for the only possible cover, that Ladies' Dressing Room. I expected a riot but nobody realized I was a Him. And in my state of mind, the scenery didn't matter. Then Mom grabbed me : 'Darling ! You're all *right*?' and started on the helmet. I had to bolt again, for the cubicle she'd come out of.

But she caught on fast, and I got another high-octane kiss all in the family. Hot coffee too. But she kept saying, 'Now, from now on, Judy – I mean Chuck – no more of your father's nonsense. Now promise !'

Well, all I wanted was to sit with my hands between my knees, but finally I hove up : 'Look, Mom, *I* don't *need* to promise. I'm sick of the adept stuff. Judy'll promise anything right now, but she'll get yippee-pills in her tank again because she's a born show-off. And as for Pop . . .' I just shrugged.

'Well, if your father isn't impressed now . . .'

I said, 'Mom, the only cure for Pop is breaking his back or going where he can't drive.'

'Well, Chuckie, I *did* check and there's a place called Bolgwalk where Plutomat wants a man, and they have no roads to speak of, just bogs.'

Well, we both knew Pop'd never ride in any such back seat.

Just then, Judy burst in. She'd gotten by as 'Miss Blaire's Sister'. And as we switched clothes again, she reported that the fight had been a sensation. (She'd watched, though Mom wouldn't.) Half the audience was wild over the greatest daredevil show in history, and half was honking mad at my unsporting tactics and wanted Slada to rechallenge. (I bet!) Nuts and bolts to both halves.

Outside, Mom gave the old elbow to a mob of reporters: 'Stand back, there. The girl's exhausted. You can call tomorrow.'

And there, at the whippet, was Pop. All month he'd been sulking as if the whole deal were a plot to cramp his style. But now he had that quirk smirk like the guy in the ad: 'Drive cautiously with our Triple-Threat Modern Storm-Trooperol.'

The newshounds popped some bulbs, and he said, 'Okay, keeds, you whisk along. I'll handle this.'

Mom walked at him. 'You'll handle nothing. Get along to the car.'

He tempered: 'What's this? I thought we'd celebrate for my famous daughter. So ... you go home in an armoured car if you like. Come on, Judy, you're a sport anyway. You and me, hey?'

But Ju was still scared even if it was wearing off, and said 'No!' in that spoiled-brat voice he always thought was so cute.

He sneered like when some moke elbows him in traffic, and swung away, beat us out to Spectator Parking, legged into the car like forking over his cayuse, whammed the door and roared the engine, all in one snappy action. He shot out of his stall with one deft whirl of the wheel, fixing to surge straight ahead out of the lot.

Maybe if he hadn't been so mad, even he would have seen the other car. But he felt it first, a crash that knocked his hat off. He and the other guy, with a passenger, charged out to inspect the slaughter.

Stumblebum had taken it on the rear bumper, but the side

of the other looked like a discarded candy-wrapper. Well ... Pop had hit *him*. The only good feature was that the other guy, though big, was grey-haired with a high complexion. Pop saw it too and, after they'd all asked couldn't they look where they were going, he began the old Road Lawyer line: 'Well, now, Mister, this isn't an open street y'know. How'm I to back blind with you crashing through full speed?'

The old guy went turkey-red; 'Why, look where you hit me! I was half way past you, sir.'

'All right. Challenge if you like. My little girl just made a monkey of a better fighter than you're likely to be.'

The old guy went beet-red. On Jehu, if an old guy doesn't want to fight, he better drive real humble. His jaw stuttered, then he grabbed for his fender, and slumped to the ground, and lay there grunting and not even pink.

A doc jumped to him. But the old guy's passenger grabbed Pop and jerked him around. He looked like a lumberjack foreman, curly black hair, black-shaved chin, hot black eyes. He snarled, 'So now *I* flay you on behalf of my father, big-mouth.'

Pop cased the guy's horsepower and suddenly he looked all flabby. He did wrench his shoulder loose and try the hard-boiled comeback: 'If your father can't keep his temper, *I'm* not liable by your code.' (Like he says, what can you lose? And you often win.)

The guy pushed his face an inch from Pop's: '*Code?* Why you hog-trough oaf, twenty witnesses heard you insult him in a discussion of honour. They will strip your back and I, Slam Hollicker, will hack it to the bones. If you ever drive again, you will defer even to *old* men.' He swung away without even bowing.

Pop was pinned there till they got old Hollicker into an ambulance and towed away his car. Then, Mom got in the driver's seat of our car, and Pop got in beside her without a peep, and Judy in the back. So I went for the whippet. It sure looks like we'll need *that*.

Planet Bolgwalk
Dec. 3 1987

Only we didn't do anything of the kind.

I didn't even pump Judy on what happened on that drive home; you owe your father *some* fenders to hide behind. But when I came in, Mom said, 'Chuck, your father has taken a new job and we're translating again the day after tomorrow.' So I went to borrow back some stuff and see some guys, but wondering why the overdrive.

Till I saw Pop. He'd been figuring the percentages.

Next day he was clearing up at his office. But he was home early fussing around like a pup in traffic, till the frame-building crew told him to go find a parking-deck. Then indoors, making sure nobody'd forgotten anything to hold us up come morning. Then out trying to bribe the crew to work overtime. Then, when they said the inspector wouldn't clear it till morning anyway, phoning the inspector to bribe *him*. Honest, I thought he'd boil his rad.

The old impetuous spirit got him down at crack of dawn, too, burning toast and eggs till Mom took the kitchen away from him. Which gained us three hours to stall around in while the crew finished the fence under his steely eye – though he didn't know any more about it than he does about a carburettor. But at half an hour to zero, Mr Glash arrived and Pop got onto *his* rear bumper. They were out by the fence and Pop giving with the old Twenty Questions – why this, why that, with no break for answers – when up pranced this guy in a blue-and-white rig and hollered Pop's name aloud.

Pop winced. 'Hey, tone it down. I can hear you. What's all this?'

The guy began reading a paper which boiled down to a demand that Pop desist from running out on his honourable duel. Pop looked like one of these guys who, when they get in a crash, jump out of the car and run. He grabbed Glash. 'Hey, this clown can't stop me moving, can he?'

Glash drawled, 'This "clown" is Herald of the Courts of

Honour. But, no, he can't stop your moving, as long as it's off Jehu.'

Pop reinflated slightly. 'Well not that I want to welsh on an obligation. But Mrs Blaire was so upset about the girl, and I had this offer. And you know how it is with big deals – split-second decisions.'

Glash fluttered his eyelids. 'Oh, yes, everyone knows. And as long as Hollicker feels he's run you off Jehu he'll be satisfied. But don't come back, even for a day for your firm, say. Not healthy.'

The inspector arriving at last saved Pop answering *that* one.

Glash bowed with flourishes to Mom and Judy, and slightly to Pop. He drawled, 'It's been, ah, interesting to know you, as a specimen of the, ah, Earth Regulars. I trust you find Bolgwalk congenial.'

Then suddenly he turned to me. 'From what I hear through, ah, a contact at the Arena, you'll make a man yet, Charles. Get some education – and get rid of the one you have. Good luck.'

So we shook hands. Man!

But who saw through my game and didn't squeal?

Funny how Pop's adjusted to Bolgwalk; he fulfils his bull-man ego by betting on the planetary whiffle-ball games. He usually loses but it's comparatively cheap. Judy could be on an asteroid, for all she cares now, if it had boys on it. No cars – but they make out. Mom treats me real man-to-man.

But now I've gotten over being a professional teener, I think I'll take Mr Glash's advice. They say the High Vacuum Navy gives you wonderful training. And you can take chances in the line of duty . . . without scooping in civilians.

THE END OF THE RACE

By Albert Bermel

AT that time the nations known as America and Russia had set off 2,500 nuclear explosions, pulverized every small island in the Pacific, Arctic and Indian Oceans, blown out of the earth lumps of great magnitude and little mineralogical value, and saturated the enclosing atmosphere and stratosphere with new elements, from Strontium-90 to Neptunium-237. It was then that the American Secretary of State and the Russian Foreign Minister pointed out to their respective leaders that the 'tests', as these detonations were popularly called, had not been successful. 'By not successful,' the Secretary of State added, 'I mean that we have failed to widen the gap.'

'By not successful,' the Foreign Minister elaborated, 'I mean that we have failed to widen the gap.'

The leaders of both nations immediately called for a conference and met near a beautiful lake in an intermediate country. Warmed by their consultations with eighty-proof bourbon and one-hundred-ten-proof vodka, they agreed that they would neither widen the gap nor narrow it, but simply eliminate gaps once and for all. The Russian leader told the story of a Ukrainian peasant who loved to eat bacon, 'but he was so fond of his pig that he could not bring himself to kill it. He therefore swapped pigs with his neighbour.' The American leader replied: 'We must not hesitate to make sacrifices and, as our scientists have repeatedly stated, we must not be afraid to think about the unthinkable.'

The conversation continued in this vein for forty-five minutes. As a result, the leaders drew up the outline for a new treaty: they would each drop one medium-sized hydrogen

bomb – with a 150-megaton yield – onto the other's home territory, or over it, whichever proved the more convenient. This co-operative action would have two advantages or, as the American leader expressed it, two consumer benefits. Firstly, the impact of the explosions could be tested, not on thin air alone but also on people. Secondly, the two countries would be able to try out their civil defence programmes under genuine rather than simulated conditions.

The American leader said, 'This ought to deter certain of our citizens from sitting down in Times Square during drill time.' The Russian leader answered, 'We allow nobody to sit down in Red Square at any time.' The two men then shook hands, paid handsome tribute to the country in which they had convened as a bastion of international understanding, issued a cheerful communique which the news services somehow misinterpreted and flew away, the American leader to his yacht, the Russian leader to his dacha.

And it was then that the disagreements began.

Over Aquavita-flavoured tea (*en verre*) and highballs à la Philadelphia, the Russian Foreign Minister and the American Secretary of State (with their Ambassadors to the United Nations in attendance) sat for twelve hours at an oval table inlaid with Mollweide's projection of the world in five colours, to implement the details of the treaty by selecting a Russian and an American city as targets. The principal difficulty was that the cities must be equal in population and wealth – although, as the Foreign Minister observed, 'We should be prepared to give or take a few citizens in exchange for a few hundred roubles.'

There followed a number of fruitless comparisons between San Francisco and Kiev, Nijny-Novgorod and Detroit, Portland (Me.) and Archangel. The four men bent long over the Mollweide projection and eventually arrived at a temporary compromise, London and Warsaw. Then they parted for the night and their hotels in order to telephone the respective shores of Florida and the Black Sea.

The next morning they came together again with firm in-

structions from home to abandon the temporary compromise. Overnight, the Presidential yacht had bidden its second-in-command to 'stay within Soviet boundaries – but West of the Urals if humanly possible' and not to 'sell America's Polish vote down the Vistula.' The Chairman's dacha, on the other hand, had begun his discourse with a folk tale about a canny peasant from the Ukraine who had succeeded in exchanging a sparrow (Warsaw? London?) for a duck (London? Warsaw?), but the duck now had to be fed, whereas the sparrow had been capable of finding its own food and . . .

On the word 'and' the Foreign Minister had fallen asleep with the receiver at his ear. He had awakened thirty-five minutes later, just in time to learn that the destruction of Warsaw would irrevocably lead to uprisings in Prague, Tirana, Sofia, Bucharest and – God help the Red Army – Budapest. The message ended : 'Did nobody think of East and West Berlin? Alternatively, the people of the Soviet Union would reluctantly have relinquished Peking for London, except that *Das Kapital* was written in the British Museum, and the People's Democracy of China almost certainly has its own atomic firecrackers and might retaliate.'

After reshaping these communications in diplomatic terminology, the Foreign Minister and the Secretary of State again took up their bargaining.

To their surprise, and almost grudgingly, they came to terms within minutes. The American bomb would be dropped over Voronezh which, as the Secretary of State confided to his Ambassador, gave promising possibilities of fallout on Rostov, Dnepropetrovsk, Kursk, Kharkov and Moscow. The Ambassador studied Mollweide and saw that the Secretary was right. For Voronezh and its bonuses, the Secretary of State was more than willing to concede Columbus, Ohio, which, he explained, had long been considered a 'test city' in a less conclusive sense by the American advertising community, as well as by several motivational research organizations. So Voronezh-Columbus it was, and in good time for lunch. The two Ambassadors to the United Nations gratefully

fastened their briefcases and talked about an afternoon swim in the neighbouring lake.

But during the caviar *aux truffles* the Foreign Minister looked thoughtful, and halfway through the *wurst piemontaise* he spoke a vehement *Nyet* and called an afternoon session.

Sadly the Ambassadors reopened their briefcases at two PM. The Foreign Minister now claimed – although he would not produce census figures to prove it – that the population of Voronezh had swollen considerably under the latest ten-year industrial plan, and that Baltimore would be more nearly equivalent than Columbus.

The Secretary of State could not accept this demand, in view of the proximity of Baltimore to New York. (The American Ambassador was momentarily surprised that his colleague had overlooked Washington, which was much closer.) The Secretary then offered, in quick but unsuccessful succession: Atlanta, Litle Rock (which the Foreign Minister rejected out of hand), New Orleans and Butte.

The conference thereupon 'deadlocked', as most of the press reported. (By means of judicious leaks from two Northern senators and one Russian general, the corps of correspondents had been led to believe that the conference was concerned with the exchange of American alfalfa for Russian millet.)

That evening at a jazz concert in the Russian embassy the Foreign Minister was urged by his counterpart to relent, but in vain. The Secretary of State left early and lay inert on his hotel bed for over an hour, watching the pendulum of a cuckoo clock and wondering whether Baltimore and New York were worth the effort.

Top-secret telephone messages went out that night to Biscayne Bay and the Crimean waters, and were meticulously tapped by two espionage organizations, the KGB and the CIA. The following morning the American and Russian leaders returned almost simultaneously on the same airstrip and paid immediate tribute to their host, this tiny country

from which the spirit of international good will irradiated the globe. Within an hour they had displayed the decisiveness for which both were famous, and had settled – that is, undeadlocked – the conference with a new agreement of breathtaking simplicity.

Russia would drop its own bomb on Moscow . . . and America would drop its own bomb on New York City.

Thus, thanks to an astute combination of statesmanship and generosity, the long-feared Third World War never came to pass.

THE LONELY MAN

By Theodore L. Thomas

I

THE wind swept down from the hills and passed across the field. The white foliage rippled and swirled. Nathaniel Beverage stood waist deep in the midst of the gleaming, pointed leaves and watched the ebb and flow of the plant-waves. The setting sun was at his back, but the white leaves were blinding even through the dark green filter he wore. Round spots, slick and shiny, dotted the dead whiteness of the leaves. Whenever the sun caught one just right it flashed with the brightness of a speck of hellfire. Beverage squinted against the dancing spots of brilliance. He grunted. Soon the shiny spots on each leaf would grow and fuse together to cover the entire leaf, and it would be time for the harvest.

He turned and looked into the sun. Far down the valley, as far as the eye could see, stretched the shimmering whiteness, reaching between the hills like a restless glacier. In the middle distance the whiteness took on a bluish cast from the ozone, and Beverage gauged its intensity with a practised eye. He grunted again. The ozone was high, despite the wind. Must be six-seven hundred parts per million over the fields. The plants were ripening fast; harvest would be sooner than anyone had expected.

He felt a rasping at the base of his throat, and instinctively he squeezed his mask. It was dry. He knew he ought not to be here in the croplands without a field mask. Some ozone was getting through.

He turned and began to walk the half mile across the field, moving slowly, not breathing deeply. The irritation in his mind began to match the irritation in his throat. Tomorrow

the rocket from Earth was due, and Radmuck would be on it. Beverage felt again the sinking feeling in the pit of his stomach as he thought of Radmuck. Why was the man coming? Did he know something?

He tried to turn his mind to more pleasant things, but he couldn't think of them. He knew how it would be when he got back to the Crushing Plant and told them that the harvest in this field would be sooner than expected. They would ask how he knew, and he would have to explain. Everywhere it was the same, back on Earth and here on Iros. A man could not merely do the right thing or say the right thing, he also had to explain it. People insisted on talking so much.

Beverage was a man whose tongue could never keep up with his mind, and so he said what had to be said, and did not try to say any more. He knew that he was disliked for his reticence.

Beverage reached the edge of the field and climbed the gentle slope. At the door of the Crushing Plant he turned to look over the field. The ozone concentration where he stood was down to a normal 400 parts per million. He looked out over the grey and white landscape. Toward his left, along the forward slope of the hill, stretched a long row of processing domes, ending in the great Conveyor Dome from which the conveyor belt snaked up and over the crest of the hill toward the next valley where the landing field was. To his right stood the storage sheds flanked by row upon row of the huge harvesters. Beverage took a deep breath, and felt better. This was his doing, all this, and he was content. He had done the right thing in bringing all this about and neither Radmuck nor anyone else could change that.

With a last proud look around Beverage turned and went through the outer door. Stepping up to the inner door he leaned against it to overcome the slight positive pressure inside the dome. The door suddenly gave way and he quickly walked through the outrushing current of air and allowed the door to slam shut behind him. He glanced at the big crusher rolls looming over him, and saw what was about to happen. The

words formed in his mind, but he was unable to call out. So he stood, helplessly, and watched.

Perched up on top of the highest roll, twenty feet from the floor, sat Hal Close, carefully repairing a crack in the roll. Frank Jepp crouched behind the control board, reaching around from behind it, constantly glancing up at Close to assure himself that he wasn't seen. Just as Beverage entered, Jepp got the safety latch off, leaped around in front of the board and, with a shout of 'Watch yourself, Hal,' spun the rheostat that started the rolls.

Close, up on the top roll, barely had time to jump to his feet as the great rolls started to turn under him.

He began to run to maintain his position. The rolls revolved faster. A high-pitched yell – a residue of Close's Virginia upbringing – burst from his throat and he began that mad ride down the top rolls that Beverage had heard about but never seen. Flat on his stomach now, Close swiftly flowed down the top of the huge crusher, bridging the gaps between the rolls with his outstretched hands, and now and then repeating that piercing rebel yell. A hundred yards down the machine, just beyond the last roll, was a transverse supporting bar. Close launched himself at it, dangled for a moment, dropped to the belt beneath him, and rolled off onto his feet on the floor. He ambled back to the head of the crusher and said to Jepp, 'Well, now, that was right neighbourly of you to give me a lift off.'

Jepp grinned up at Close. 'Man, I never saw you move so fast in your life. You're coming along, boy. You're coming along. How about it, Doc? This last to Beverage. 'Think the squirt here is growing up?'

The 'squirt' stood six feet five in his stocking feet and was made out of whipcord and whalebone. Close happened to be the youngest man in the colony – a bare twenty-two, twenty years younger than Beverage – and the others never let him forget it.

Close said, 'Squirt, huh?' And he snapped out an open hand in a straight-arm lunge that caught Jepp on the shoulder. Jepp tumbled backwards to the floor. He slid to a halt and,

from a position flat on his back, snapped out with both legs and landed lightly on his feet. He whirled, poised to leap at Close, a broad grin on his face.

Beverage had been trying to utter the words to call a halt to all this, but things had been happening too fast; he was not the kind of man who could yell. Even now, with the immediate prospect of a rough-and-tumble mock fight confronting him, he was unable to frame the words that would stop it. Instead he stepped between the two men and raised a hand, palm outward, toward each. Close and Jepp laughed, joyous laughs ringing with physical exuberance. They came down from the balls of their feet and walked over to Beverage. Close clapped him on the back with what was meant to be a lighthearted pat, but it almost knocked him down.

Close said, 'Okay, Doc. I'll fix him later. Everything under control?'

Beverage had been trying to enunciate a protest against Close's blow, but the question reminded him why he had come in here in the first place. 'Oh, yes,' he said in his slow way. 'Number two field is ripening ahead of schedule.' He paused. 'It ought to be ripe in a day or two. The crusher here—'

He waved at the towering machine. Before he could finish the sentence, Jepp broke in. 'Ripe in a day or two, huh? What do you know. How'd you figure that, Doc?'

Beverage was annoyed. He considered whether to finish his sentence or to reply to Jepp's question. At the same time another part of his mind raced on ahead, ticking off all the things that had to be done to ensure a proper and speedy harvest. A myriad of details had to be watched over. The precipitation unit needed checking. There was premature precipitation. Probably inadvertent seeding; probably that lowest elbow in the feed line had collected a tiny nest of crystals, got to flush it out. Then there was. . . .

'Aw, Doc can tell just by looking at it.' It was Close. 'That's how you do it, isn't it, Doc? Just by looking at it?'

Beverage shook his head. 'No. No, I can tell from the ozone

concentration in the air above the fields. It is quite a bit higher than normal.' He prepared to explain that the normal blue cast to the atmosphere of Iros became even deeper as the photosynthetic process reached a maximum and the release of ozone by the plants increased, particularly in the vicinity of the fields. But even as his tongue began to form the words, Beverage knew he would never be able to make it. This inability to talk swiftly was what separated him from the others. These people seldom remained silent long enough to listen; they must always be talking or doing something violent. None had the patience to listen to a man whose speech was careful and methodical. He was apart.

Close was talking, as Beverage knew he would. 'Well, that's looking at it, or smelling it. Same thing really. That's 'bout the only way a man can tell.'

'Sure,' said Jepp. He glanced at the mask at Beverage's belt. 'He wasn't wearing a field mask out in the field. That's how he smelled it, right through the mask.'

There it was, and Beverage felt the familiar sense of frustration build up. They had caught him, again, not obeying the rules. They might not be particularly well-trained technically, but they certainly were quick witted. Young, strong, keen people in the odd atmosphere of Iros, and they seemed to grow younger, stronger and keener. There was a biological problem here that merited study some day. Possibly the breathing of so much ozone in lieu of oxygen....

Close said, 'Well, we don't worry none about Doc. He knows what he's doing. He wants to wear a general mask out in the fields, he wears it. Nobody's to tell him no.'

'Oh, sure,' said Jepp. 'He knows what he's doing.' And the two young men stood nodding at each other.

Beverage finally finished his sentence. 'The crusher here ought to be ready to go by tomorrow morning.'

'Don't worry about a thing, Doc. It will be. Just so this midget here' – Close nodded at the six-foot Jepp – 'doesn't try to run me through the rolls every five minutes. I'll get right back on it.' He turned to leave, but then turned back and said, 'Say, Doc. I almost forgot. They want you over at Ex-

traction Number 3 dome. They got some kind of a meeting going on over there.'

Beverage said, 'What is the meeting for?'

'Doctor Radmuck called ahead and wants to talk to the whole colony as soon as he lands tomorrow. Everybody's wondering what's up.'

Beverage considered what might happen at the meeting, knowing that he could do nothing to stop any uproar. A wise man knows his own limitations, and Beverage was a wise man. In a rousing shouting-type argument he could never get a point across, never persuade. Slowly he turned to go to the meeting, wondering what he should do after he got there.

II

Beverage suddenly turned aside from the path traversing the side of the hill, and headed for the crest. He felt the need for refreshment of the spirit, and he knew he could find it at the crest.

On the crest he looked down into the next valley at the flat and packed grey soil of the landing field. Tomorrow there would be another glossy fused patch to join the others that marred the even grey surface. Beverage hoped it would not be the last. From that field had gone hundreds of shipments of the anti-cholesterol moiety. The drug fraction went back to Earth to be fed into the maws of the chemical reactors. Out of the reactors came the newest and best of the anti-cholesterol drugs, enough for the requisite one gramme a month for every person on Earth over the age of twenty-five years. With it, the veins and arteries remained open and supple, free of the rigid deposits that had stiffened the vessel walls and throttled the vessel openings. The blood pulsed unimpeded to the brain and the muscles and the organs, easily supplying the four corners of the body with the stuff of tissues. To what end? Beverage shook his head.

To the end that man might live longer. A man lived strong and fruitful for an average of 300 years. But all mortal things must die. There came a time in this extended existence when the human fat became so depleted that it could no longer

serve as a storehouse for the anti-cholesterol drug. The guardian concentration in the bloodstream disappeared suddenly. The organs continued their unheeding production of cholesterol. Quickly the body became clotted and glutted with crystals of cholesterol, and it was over. So accurately predictable was the time of death that one could neatly arrange for a last round of farewell parties, parties at which the man of 25 and the man of 300 were physically indistinguishable, save, perhaps, for the air of detachment and reserve on the part of the older man.

Beverage turned away from the landing field and stared out over the far-flung array of low-lying rounded hills. Everywhere the grey soil was dotted with greyish-white patches of natural vegetation. The setting sun was perched squarely on the horizon, yet the land was darker than one would expect. No sharp shadows appeared anywhere and there was none of the usual orange colours that went with sunset on Earth. The sight was stimulating to Beverage, and the familiar exultant feeling welled through him. In one movement he swept the mask from his face and shook his head to free it from the feeling of the straps. This was where men belonged, out on alien soil seeking new ways to adapt and change and expand throughout the Universe, not sitting on the home planet and breeding into stultification.

Beverage felt the sting in his eyes and the bite in his nose and throat. He breathed shallowly to prevent the ozone from penetrating deep into his lungs. Often he had moments of doubt about how he had brought this about but when he stood here like this the doubt washed away. This was his doing, this colony. Men could live here and make their existence worth while, even enjoy it. And all because of the early work of the young chemist, Nathaniel Beverage.

'I think you better try to hire him, even if he did just get out of school. Look here. His doctoral dissertation is entitled, *Duplication of the Photosynthetic Process in toto.* Make him an offer, anyway. His name is Nathaniel Beverage.'

'This fellow Beverage has certainly come up with some new ideas in three months time. Give him a couple of assistants so he can chase them down.'

'I don't care if he has only been on the project for six months. He's done more with those Iros specimens than anyone else around here in two years. Give him the title, too : manager of the Extraterrestrial Compound Division.'

'Come in, Doctor Radmuck. I have good news for you. You are being promoted to the Board of Directors of the National Space Survival Institute, effective immediately. I'm sure you will . . . What? Oh, the new project director here will be Doctor Beverage. Yes, I know he's young. Yes, I know he's only been on Project Longevity for a year and a half. Yes, I know he has trouble making speeches. Yes, but . . . just look at how much he has accomplished.'

'. . . and so we meet here in Stockholm on an exceedingly special occasion. For the first time since the institution of the Prizes, the awards for chemistry and for physiology and medicine are being given simultaneously to the same man. The human race need never again fear the effects of the anti-cholesterol drugs, thanks to Doctor Nathaniel Beverage. So it is with grateful hearts that we . . .'

'I hate to see you do it, Nathaniel. I can't help feeling that we need you here on Earth. But on the other hand, you are right when you say that we can put the anti-cholesterol drug out sooner if you are with the new colony. Another thing, I am certain that I will have an easier job of persuading the United Nations to put up all that money if you are going to be in charge of the technology at the Iros colony. So I guess you're right; as long as we have to grow that fraction of the drug on Iros, we need you there. Bless you, and let me wish you . . .'

Beverage walked along the crest of the hill, picking his footing carefully among the tough white shrubs that grew wild there. He walked beneath the giant solar mirror, and he paused to watch it as it extracted the last waning fragments

of heat from the setting sun. The glow of the boiler faded as he watched. His feet moved slower and slower as he drew closer to Extraction Number 3 dome, and he reluctantly went through the outer door. Inside the pressure lock he stripped off his mask and stood motionless listening to the rumble of loud voices coming through the inner door. It was easy to tell that the discussion had already started; in fact it was in full swing. Briefly he considered replacing his mask and returning to his quarters, but he knew from experience that that was no solution; they would simply transfer the discussion to his quarters, and then he would never get them out. With a sigh that was too deep for the ozone-rich air – it burned his throat – he leaned his weight against the inner door and forced it open.

The rumble of voices turned into a roar, but then all were suddenly silent as one voice called out, 'Hey, here's Doc. Ask him. Go on, just ask him.'

Two figures detached themselves from the edge of the crowd and swung to Beverage's side. Gently but swiftly they hustled him into the centre of the surging group, and one of them said, 'You tell us, Doc. What's Radmuck got on his mind?'

Beverage was amazed at their acuity. Not only did they sense that something was very wrong, but they came to *him* for an explanation. They had hit on the one person who could tell them of the probable disaster that would follow Radmuck's visit. But as long as there was any chance at all that Radmuck might be coming on an innocuous matter, Beverage had to keep silent.

The man said again, 'What's it all about, Doc?'

Beverage said, 'I don't know. I don't know.'

The man shrugged and turned away. 'Well, if you're not worried, don't see why we should be. Guess there's no use getting all stewed up about nothing. Let's go back to work.' He walked off.

Beverage wondered if he should say something to prepare them for what might happen. But he didn't know what was best, and they were all walking away.

A voice said beside him, 'Are you sure there isn't something you should tell us, Nathaniel?'

Beverage turned and saw Ursula Doddard. He started to say hello to her but he felt his face flush, and the words choked him. Then he realized she had asked a question. He shook his head.

She said, 'I see. Well, I hope everything is all right.' She shook her head, tilting it back as she did so.

She wore her hair long, unlike most of the other girls in the colony. It was a glowing brown, and as she shook her hair the red highlights in it flashed and gleamed in the light from the overhead bulb. Beverage was interested in the flashing effect. He had noted it before. He wondered what caused it. Possibly the natural hair oils tended to concentrate at a region a certain length from the follicle, resulting in areas of excess oil which naturally reflected. . . .

'Are you going to do anything to get ready for tomorrow?' asked Ursula Doddard.

'What? Oh, yes.' Suly Doddard was at it again. Always seemed to be suggesting things for him to do. She was a pretty girl, round where the others were lean, and she did not walk as much like a man. Beverage liked to be near her, except that she always seemed to suggest things for him to do. As if he did not know what had to be done. Furthermore, he always felt a little uncomfortable in her presence, except that now and then when she was quiet she seemed to understand that he wanted to think, and he was content. Now, though, he felt irritated; she was picking at him again.

Ursula Doddard raised her arm and smoothed the hair at the back of her neck. The sleeves of her coverall were pushed up above the elbow. Her bare right forearm glowed in the light, and on the underside of her forearm Beverage could see a quarter-inch brown wart. Instantly all his irritation vanished. One little blemish perched on an otherwise perfect and completely feminine forearm, and Beverage unaccountably felt his heart warm to her. Because of that minor imperfection he felt that he was on equal footing with her. He need

not be concerned with his own shortcomings; after all, she too was marred. He felt expansive and completely at ease.

'Suly,' he said. 'I don't know what will happen tomorrow, but whatever it is, we can't let it have any effect on the colony. This is a good life and we don't want to ruin it. Men belong on planets like this. Earth is beginning to stagnate. I'm convinced that the future of men lies in colonies like this one. If we continue to send the anti-cholesterol drug back to Earth we will be. . . . By the way. The Main Valley will be ready to harvest in a day or two. It's running a good week ahead of schedule. Can't understand it, either, unless that new fertilizer I tried had something to do with it. Maybe that was a good idea at that. Used metal filings, you see, with sodium chloride. Small scale tests indicated that the ozone would form an active oxide which would react with sodium chloride and form a soluble metallic chloride. Then the sodium would keep the soil alkaline. By golly, that must be it.' And Beverage plopped his right fist into his left hand, nodding, smiling. Gradually, he became conscious of the fact that Ursula was watching him, wide-eyed. He dropped his hands to his sides and looked at her, and flushed.

She said softly, 'I love it when you talk like that, Nathaniel. Tell me some more about it, please.'

Beverage smiled and got ready to speak again. But then he remembered something. Ursula Doddard was a mechanic. She maintained the pumps used for the heated alkaline water sprays that removed the ozone from the domes. She was not a chemist. She could not understand what he was talking about. The realization threw him into confusion. He began to back away, saying as he went, 'I've, uh, got to go. I, uh. . . . Goodbye.' He turned and ran out the lock. He was twenty yards out into the atmosphere before the bite in his eyes and throat reminded him to put on his mask.

Beverage stood still while he waited for the smarting in his eyes to go away. It was dark, and the landscape appeared ghostly in the dim starlight. The plant-filled valley below him looked more than ever like a rippling river of snow. Overhead the stars gleamed faintly against the black sky, waxing and

waning in a period of twinkling appreciably greater than that seen from Earth. The gentle slope on which Beverage stood was a looming blackness broken with vague patches of grey where the white stands of vegetation grew. Higher on the slopes were the glowing domes, looking like taut bubbles about to burst and spew their contents into the atmosphere. Beverage felt at ease as he looked at them. He looked his fill, then he went up to his own dome to bed.

Dawn came brisk and blue, and Beverage was soon up and out in it. At the Mess dome the talk was all about the early harvest in the main field and the ship arrival. People kept asking Beverage about the early harvest. He found himself constantly answering hosts of trivial questions: What made the field ripen so fast, Doc? How can you tell just by looking at it, Doc? Will it be a good crop, Doc? How do you know?

Things began to happen fast after breakfast. The harvesting crews moved down into the main field with the great combines. Other crews moved to the landing field and began the job of bringing down the incoming ship. Beverage joined the later groups, and watched the ship come down.

Bringing the ship in was a tricky operation on Iros. The technique called for the bare minimum of operational time for the braking jets, for the high ozone content of the atmosphere chewed away at the ceramic lining of the jet exhausts. The trick was to get the ship on the ground before the liners were consumed, otherwise the exposed metal quickly took fire and burned out. Every space ship required a new set of liners after every landing and take-off in the Irosian atmosphere.

The ship put down safely. Radmuck was the first one out. He was a thin man with a little moustache, and he walked with his head thrust out in front of him. His eyes darted over the waiting people and he quickly spotted Beverage. He walked to him immediately and held out his hand and said loudly, 'Well, Nathaniel, how have you been? Are you waiting anxiously to see what I have to tell you?' Radmuck deliberately asked two questions in the same breath. He knew Beverage well.

Beverage considered which question to answer. He began to form the words regarding his health, but changed his mind when he realized that Radmuck did not really care. He then said, 'No, I . . .' But Radmuck had turned away and was talking with Sanchez standing nearby. He heard Radmuck ask about the meeting, and he heard Sanchez explain that it had been called for right after lunch. Beverage shook hands with Captain Pike as he came off the ship, and then walked away to do the things that had to be done.

The next few hours went by swiftly for Beverage. The early-ripening plants retained their juices more tenaciously than had the normal plants. As a result the crusher was not obtaining its normal yield of juice, and the residues were wetter than usual. Beverage solved the dilemma by adding 5 per cent of the butyronitrile solvent at the crusher instead of holding it all back for the extractor. The solvent-treated residues then went into the butyronitrile extraction units already wet with the solvent, and this increased extraction efficiency.

Beverage was checking out the operation of the great extraction units when someone tapped him on the shoulder and told him it was time to go to the meeting.

The dome was crowded when he entered and everybody was talking at once. Ursula Doddard pushed her way to his side and sat down.

Hal Close burst in through the door behind Beverage, stood with his head thrown back, and emitted a piercing rebel yell. It was so loud inside the dome that it hurt Beverage's ears. Others responded to it with weaker imitations, some clapped hands, others laughed. Beverage felt sick, unable to respond to the holiday feeling generated by the gathering of the colony. The sick feeling became worse for Beverage as he realized his own incompetence and inability to deal with the developing situation.

Ursula Doddard saw his face. She put a hand on his arm and asked, 'What is the matter, Nathaniel? Are you all right?'

Beverage nodded, not able to form words.

Sanchez walked into the Mess dome followed by Radmuck. Sanchez looked solemn. He walked to the centre of the dome and stood motionless, obviously waiting for silence. The rumble of conversation in the dome cut off suddenly at the unusual conduct; Sanchez normally would have roared for silence, but he did not do so now.

In the dead quiet Sanchez said, 'Doctor Radmuck has something to say to us. I suggest you listen closely.' Radmuck wasted no words.

'We know just how to synthesize the anti-cholesterol fraction now. Earth doesn't need Iros any more. There won't be any more shipments from here; they'll make it on Earth.' He looked around and smiled.

The silence continued for a moment, and then after looking at each other, the seated people broke into a low buzz of conversation. Radmuck's eyes sought and found Beverage, and for a moment they stared at each other. It was Henry Jansen who raised his voice and asked the question: 'Who was the bright boy that found out how to make it? Where's he been all these years?'

Beverage picked up his coffee cup and drained it; he knew what was coming next. Radmuck stared at Beverage a moment longer and then said, still in that low voice, 'The process for making the fraction has been known for a long time, only it was kept a secret.'

'What?' It was Sanchez. 'You mean that somebody knew how to make the stuff all along, yet they let us come out here and set up a whole colony to grow it?'

'Yes. Seems somebody left an envelope with the Boston Trust Company. On it was written "To be opened in the event that the anti-cholesterol drug raised on the planet Iros becomes unavailable to Earth", or something like that. Inside was the complete description of how to synthesize the fraction. It was opened accidentally. It took a while to prove. But it's done now, and they don't need Iros any more.'

'Who was it?'

Now that the time had come Beverage felt no sensation whatsoever. He was startled to find that his mind was clear

and calm; there was none of the emotional upheaval he had expected. He could even be interested in what the response of his friends was going to be.

Radmuck said, 'Nathaniel Beverage,' and there was no longer anything to be concerned about.

Beverage sat toying with his empty coffee cup. The silence, which had been heavy before, now became overpowering. There was no need for Beverage to look up; he felt all eyes on him as if he sat under the heat of a thousand spotlights. Although he felt no inner turmoil, he was disturbed by what he was convinced was the cold chill of hostility that filled the room.

Radmuck went out the door. The dome stayed quiet.

'Would you like some more coffee, Nathaniel?' said Ursula.

'No, thank you.'

'I'll just get you some anyway. It'll be good for you.' She went into the back, threading her way among the silent people, and soon she returned with a cup of steaming black coffee. 'Now sip this, and you'll feel better.'

Beverage nodded and touched the scalding fluid to his lips. He put the cup down and said quietly, 'Thank you, Suly. Thank you for behaving as if nothing has happened.'

'Why, there's nothing to thank me for, Nathaniel. I thought you might want someone to talk to while you think about what you have to do to keep the colony going.'

Beverage stared at her. 'Keep the colony going? Me?'

'Certainly. You'll think of something. Now drink your coffee.'

Beverage did as he was told; the coffee scalded all the way down, and he choked on the heat of it. Ursula watched him, and he found that he was annoyed at her seeing him in such undignified straits. His face must have reflected his annoyance because she suddenly got up and said, 'Well, you think about it, Nathaniel. I'll stop over and see you later.'

Beverage watched her walk out, feeling alone among all the others, wishing that he could call out and ask her to stay. She turned at the door to wave at him, and the simple gesture

unaccountably made him feel warm and good. He waved back and watched her trim figure tighten as she tugged at the inner door. She flashed a smile just before the door slammed shut, and Beverage leaned back feeling at peace with the world. He sat wrapped in himself, estranged from his companions of many years, yet he felt pleased and at ease.

Keep the colony going, she had said. Well, now, there was a problem. The only solution, obviously, was to find something that would keep the Earth ships coming to Iros, at least until the colony became self sufficient . . . Wups. How about that ozonized alloy? He had not thought about that in a couple of years, but it might be . . .

He got up and walked past the quiet people and went straight to his laboratory and rummaged through his sample storage cabinets. He found a one foot square sheet of a thin metallic substance. He tucked it under one arm, and took the long walk to the space ship. He went up to the watch officer, handed him the sheet, and said, 'Give this to Captain Pike. Tell him to test it, tensile strength, elongation, flexibility, abrasive resistance, everything. Give it the works. Understand?'

The officer nodded. Beverage returned to his laboratory and began thumbing through his notebooks. He began to grow sleepy, so he stretched out on the cot and fell sound asleep. He slept all night, waking just before dawn. He continued working his way through the notebooks. He had not finished when Ursula came in.

'Let's go have some breakfast, Nathaniel,' she said. 'This will be a big day, and you must have something to eat.'

He nodded absently. 'Yes, by all means.'

She half led him out of the dome. He put on his mask automatically and trudged to the Mess dome like one asleep. He and Ursula sat at a table, and it took only a moment for him to realize that no one greeted him. The coldness hurt Beverage. Plaintively he looked around, but none would meet his eyes. The quietness distressed him now; he realized with

surprise that he missed the usual hullaballoo that accompanied everything his friends did.

He noticed Close and Jepp sitting side by side at the table across from him. He couldn't be certain, but it seemed as if Close was guardedly watching him while seeming not to. He nodded and smiled at Close, but Close took no notice. Dejectedly Beverage turned to the food Ursula had placed in front of him and began to eat. It was tasteless in his mouth.

Halfway through the meal Captain Pike burst in and stood just inside the door and looked around the room. He saw Beverage and swooped toward him. 'Nathaniel! Where did you get this?' He dropped in front of Beverage the remnants of the metallic sheet that Beverage had delivered to the watch officer. It was smaller; strips had been sawed from it and holes had been punched in it.

Beverage looked up. 'I made it.'

'You made... How?'

'Put a silicon dioxide wash on a nickel steel, heated it to incandescence and air-quenched it.'

The captain stared at him. 'Can you do it again?'

'Certainly.'

'Do you know what you've got here?'

Beverage permitted himself a smile. 'Yes, I do.'

'Do you? Just listen to this.' The captain pulled a sheet of paper out of a pocket and read, 'Tensile strength at room temperature, 486,000 pounds per square inch; at 1,000 degrees C. it's 450,000 pounds per square inch. The stuff has a Young's modulus at 1,000 degrees C. of just about *one billion*. The modulus of rigidity is three-quarters of a billion. We gave it a Charpy impact test and broke the hammer. The elastic ratio is one. Elongation at yield is 100 per cent. Good heavens, man, what *is* this stuff?'

Beverage said, 'It's a new alloy.'

The captain stared at him. Behind him Beverage was vaguely aware that Close had expelled his breath and said in a booming whisper to Jepp, 'Great day in the morning, he's done it already. Pay me.' And Jepp rammed an elbow into Close's ribs.

The captain said, 'Can you make a lot of this?'

'I don't know why not. Any structural nickel steel having a yield point of about 50,000 pounds per square inch will do for a starting material. We've got lots of sand here, and lots of atmosphere. The solar mirror ought to supply plenty of heat. That's all we need.'

Sanchez appeared at the captain's side and said, 'This something you think they can use on Earth, Harry?'

'My god, yes! There's nothing like this on Earth. The technical boys will go wild. Only . . .' he turned to Beverage, 'Why can't they make this on Earth if you tell them how? Or have you already told them?'

Beverage considered which question he should answer first. 'No, I haven't told them.' He stopped to formulate his thoughts on the next question.

The captain said, 'But the steps you outlined are simple; they can carry them out on Earth too.'

Ursula said, 'Will you be quiet and let him talk?'

The captain's mouth fell open. Beverage took no notice of the exchange. He said, 'You forget there is a difference between the air of Earth and the air of Iros.'

The captain's mouth stayed open. 'Ozone,' he said.

Beverage nodded. 'Yes, ozone. When we heat a silica-covered sheet of steel here, and air-quench it, most of it burns away. What's left is a mixture of metallic silicates and oxides that I haven't been able to identify. The rate of heat loss on cooling is important too. I haven't been able to duplicate it in a chamber; only an open-air quench will do it. They *might* be able to duplicate the process on Earth, but I don't know how at the moment.'

'Then,' said Sanchez loudly, 'we're in business again.'

IV

The dome broke into noisy turmoil. Loud and piercing over the noise came the rebel yell, and Beverage revelled in it. Things were back to normal. Only the captain stood silent and morose in the midst of the racket, biting his lower lip.

Gradually his sombreness spread, and soon they were quiet again, looking at him.

As soon as it was quiet enough to speak he said, 'Look, I hate to throw cold water on this, but I don't see how it's going to work.'

'Why not?' said Sanchez. 'The Doc says he can do it, and if he says so he can.'

The captain shook his head. 'It's not that. It's the weight problem. This may be the hottest alloy ever seen, but it isn't a matter of life and death the way the drug was. These ships can only carry about eleven tons of payload. The cost will be so high it won't be worth it, even for an alloy like this.'

Beverage started to say something, but Sanchez said, 'Aw, come on, Harry. They won't pay for a thing like this?'

Ursula said, 'Will you two shut up and let Nathaniel speak?'

This time Nathaniel fully realized that she had interceded for him. To his surprise he liked it. Right in front of everybody he said to her, 'Thank you, Suly.' She reached out and patted his hand, and he squeezed it. Then he turned to the captain and said, 'Your ship is sheathed with half-inch nickel steel. If we take off the sheathing and treat it by this process and then put it back, you'll have one-sixth inch plates that are far stronger than your half inch plates now; that'll save a lot of weight. Also, you did not mention earlier that the density of this alloy is about 4 grammes per cubic centimetre, just about half that of your present sheathing. The weight saving per ship is about 294 tons. The old sheathing weighed 353 tons while the new weighs only 59 tons. So you can take back to Earth 59 tons of the alloy *as the sheathing*. We ought to be able to find places aboard the ship to store the other 294 tons, plus the eleven tons payload you had in the first place. It all comes down to the fact that you can carry 364 tons of the alloy back with you; that's over 30 times your original payload. Think that might be economical?'

The captain had followed Beverage's figures, and he replied by sticking out his hand and seizing Beverage's; he shook the hand and nodded his head at the same time. He stepped back, threw his arms up in the air and said, 'That's it, man, that's

it. That's the answer to all your problems. I'll put a call in to Earth to have the other ships come on here for the treatment. Can you handle them?'

'Yes,' said Beverage, 'if everybody in the colony is willing to work long hours, we can do it.'

There was a great deal of loud noise from the assembled men and women in the dome.

The captain said, 'Why stop with the sheathing? Why can't you treat the entire framework – right through the whole ship?'

Beverage said, 'We can, but the ship's design ought to be changed; there's no sense continuing a design meant for heavy sheathing and unyielding frames. I've got a design for a new kind of space ship that is lighter, stronger, and faster than any we have now. I don't see why we can't build them here. There's plenty of iron and nickel here, although it is deep underground. I think we can get into the business of building better space ships.'

'Well,' said Sanchez. 'That's what we've been ... Very good, Doc. Let's plan on that.'

Beverage nodded and began to form some words, but Sanchez turned to the captain and opened his mouth to speak.

Ursula said, 'Just a minute. Nathaniel hasn't finished speaking yet.'

Sanchez turned back with a guilty look, and said, 'Oh, I'm sorry Doc. Shoot.'

'It is possible,' said Beverage, 'that they will be able to duplicate this process on Earth in a few years. If that happens we will find ourselves in the same posture we were in this morning. So I have some suggestions to make for our future activities.' He stopped to clear his throat, and there were no interruptions. He noted that Ursula was listening intently, and he felt very much at ease. 'I've been able to make a heterocyclic compound of carbon and indium. The free valences of the indium atom enter readily into polymerization reactions. The resulting plastics and elastomers can be used to make vehicular tires that won't wear out in a lifetime – the

old lifetime, that is. They also make the best potting materials for transistors I've ever seen – high heat dissipation and excellent mechanical ruggedness. The high molecular weight polymers are rigid and very light, and might even make better space-ship sheathing than the new alloy; we'd have to look into that. The reactions are carried out in liquid ozone, so Earth might have trouble duplicating them. Another thing. It turns out that helium subjected to hot liquid ozone under pressure becomes activated. I've been able to make a reaction product of helium and silicon dioxide. It looks just like glass but it's stronger – quite a bit stronger, I might say. Also it absorbs a broad band of heat radiation and re-emits it as electrical energy at the edges. I suspect that a sheet of the material is a single crystal, so it doubtless has some other interesting properties. It might make a good self-powered dome to live in on planets like this; there's always thermal radiation around. If we make fibres out of it and weave it into cloth we might have a better kind of clothing, too.' He stopped and frowned at the table top. 'There's another thing. I've been able to introduce amine groups into cellulose molecules with one of the high-pressure ozone methods. I made a draw-down of the material and the resulting film seems to survive on living flesh. I don't know, though.' He pulled up the right sleeve of his coverall, held up his right arm, and critically inspected the forearm in the light, turning it this way and that. 'I tried it on myself and it seems to be working out. It's been on about two months now. It's a little shiny and there's no hair growing on it, but we may be able to take care of that. It might do for skin grafts.'

He dropped his arm and sat quietly, pursing his lips, wondering which project to mention next. The silence was thunderous. Sanchez finally shook his head and looked appealingly at Ursula. She took no notice, since she, like everyone else, was staring open-mouthed at Beverage. Sanchez shook his head again and said, 'Well, yes, Doc. That is . . . That ought to tide us over for a while.'

Beverage looked up as if about to speak but he did not.

'Well,' said the captain. 'We've got a lot of work to do. I

guess we better get at it. I'll get my crew ready.' He left.

Beverage stood up and said, 'Yes, I have a lot to do, too.' He turned to Ursula. 'Would you come out with me, Ursula? I would like to talk to you.'

She nodded and got up and followed him to the door; the others all stepped back to let them pass. Beverage stepped through the inner door, held it momentarily for Ursula, and then stepped into the outer chamber ahead of her. He raised his mask to put it on, but a strap caught under his nose. He pushed the mask straight out in front of his face, and there reflected in the facepiece he saw a tableau taking place behind him.

Ursula had paused in the inner doorway, air streaming around her. Her left hand was raised toward the group in the dome, and the point of her forefinger met the point of her thumb, forming a circle. The other three fingers of her hand stuck straight up, and her wrist was bent back. In the brief flash in which he saw the scene Beverage saw every person in the dome respond by making the same sign to Ursula, some of them wagging their hands. Then she stepped through the door and let it slam. Beverage briefly wondered what it was all about, but immediately forgot it in the press of thinking of what he wanted to say to Ursula.

Outside, he said to her, 'Suly, I'd like to ask you something. But I'd like to ask you from the crest of the hill. Will you go up there with me?'

'Yes, Nathaniel. Yes.' And she slipped an arm through his and hugged it. Quietly they walked toward the crest of the hill together.

'Nathaniel,' she said as they approached the top. 'Were you going to say something else back in there?'

'Yes, I was, Suly. But it can wait. The fourth planet of this system – you know, Sulphos – has an atmosphere of almost pure carbon disulphide. We might be able to do some interesting things there. I was going to ask if some of our people here would go there with me sometime, but I was afraid they'd say no. Do you think they would?'

'Yes,' she said, 'I think they would.'

A BAD DAY FOR VERMIN

By Keith Laumer

JUDGE CARTER GATES of the Third Circuit Court finished his chicken salad on whole wheat, thoughtfully crumpled the waxed paper bag and turned to drop it in the waste basket behind his chair – and sat transfixed.

Through his second-floor office window, he saw a forty-foot flower-petal shape of pale turquoise settling gently between the well-tended petunia beds on the court-house lawn. On the upper, or stem end of the vessel, a translucent pink panel popped up and a slender, graceful form not unlike a large violet caterpillar undulated into view.

Judge Gates whirled to the telephone. Half an hour later, he put it to the officials gathered with him in a tight group on the lawn.

'Boys, this thing is intelligent; any fool can see that. It's putting together what my boy assures me is some kind of talking machine, and any minute now it's going to start communicating. It's been twenty minutes since I notified Washington on this thing. It won't be long before somebody back there decides this is top secret and slaps a freeze on us here that will make the Manhattan Project look like a publicity campaign. Now, I say this is the biggest thing that ever happened to Plum County – but if we don't aim to be put right out of the picture, we'd better move fast.'

'What you got in mind, Jedge?'

'I propose we hold an open hearing right here in the court-house, the minute that thing gets its gear to working. We'll put it on the air – Tom Clembers from the radio station's already stringing wires, I see. Too bad we've got no TV equip-

ment, but Jody Hurd has a movie camera. We'll put Willow Grove on the map bigger'n Cape Canaveral ever was.'

'We're with you on that, Carter!'

Ten minutes after the melodious voice of the Fianna's translator had requested escort to the village headman, the visitor was looking over the crowded courtroom with an expression reminiscent of a St Bernard puppy hoping for a romp. The rustle of feet and throat-clearing subsided and the speaker began:

'People of the Green World, happy the cycle—'

Heads turned at the clump of feet coming down the side aisle; a heavy-torsoed man of middle age, bald, wearing a khaki shirt and trousers and rimless glasses and with a dark leather holster slapping his hip at each step, cleared the end of the front row of seats, planted himself, feet apart, yanked a heavy nickel-plated .44 revolver from the holster, took aim and fired five shots into the body of the Fianna at a range of ten feet.

The violet form whipped convulsively, writhed from the bench to the floor with a sound like a wet fire hose being dropped, uttered a gasping twitter, and lay still. The gunman turned, dropped the pistol, threw up his hands, and called:

'Sheriff Hoskins, I'm puttin' myself in yer pertective custody.'

There was a moment of stunned silence; then a rush of spectators for the alien. The sheriff's three-hundred-and-nine-pound bulk bellied through the shouting mob to take up a stand before the khaki-clad man.

'I always knew you was a mean one, Cecil Stump,' he said, unlimbering handcuffs, 'ever since I seen you makin' up them ground-glass baits for Joe Potter's dog. But I never thought I'd see you turn to cold-blooded murder.' He waved at the bystanders. 'Clear a path through here; I'm takin' my prisoner over to the jail.'

'Jest a dad-blamed minute, Sheriff.' Stump's face was pale, his glasses were gone and one khaki shoulder strap dangled –

but what was almost a grin twisted one meaty cheek. He hid his hands behind his back, leaned away from the cuffs. 'I don't like that word "prisoner". I ast you fer pertection. And better look out who you go throwin' that word "murder" off at, too. I ain't murdered nobody.'

The sheriff blinked, turned to roar, 'How's the victim, Doc?'

A small grey head rose from bending over the limp form of the Fianna. 'Deader'n a mackerel, Sheriff.'

'I guess that's it. Let's go, Cecil.'

'What's the charge?'

'First degree murder.'

'Who'd I murder?'

'Why, you killed this here . . . this stranger.'

'That ain't no stranger. That's a varmint. Murder's got to do with killin' humerns, way I understand it. You goin' to tell me that thing's humern?'

Ten people shouted at once :

'– human as I am !'

'– intelligent being !'

'– tell me you can simply kill—'

'– must be some kind of law—'

The sheriff raised his hands, his jowls drawn down in a scowl. 'What about it, Judge Gates? Any law against Cecil Stump killing the . . . uh . . . ?'

The judge thrust out his lower lip. 'Well, let's see,' he began. 'Technically—'

'Good Lord !' someone blurted. 'You mean the laws on murder don't define what constitutes – I mean, what—'

'What a humern is?' Stump snorted. 'Whatever it says, it sure-bob don't include no purple worms. That's a varmint, pure and simple. Ain't no different killin' it than any other critter.'

'Then, by God, we'll get him for malicious damage,' a man called. 'Or hunting without a licence – out of season !'

'– carrying concealed weapons !'

Stump went for his hip pocket, fumbled out a fat, shape-

less wallet, extracted a thumbed rectangle of folded paper, offered it.

'I'm a licensed exterminator. Got a permit to carry the gun, too. I ain't broken no law.' He grinned openly now. 'Jest doin' my job, Sheriff. And at no charge to the county.'

A smaller man with bristly red hair flaired his nostrils at Stump. 'You blood-thirsty idiot!' He raised a fist and shook it. 'We'll be a national disgrace – worse than Little Rock! Lynching's too good for you!'

'Hold on there, Weinstein,' the sheriff cut in. 'Let's not go gettin' no lynch talk started.'

'Lynch, is it!' Cecil Stump bellowed, his face suddenly red. 'Why, I done a favour for every man here! Now you listen to me! What is that thing over there?' He jerked a blunt thumb toward the judicial bench. 'It's some kind of critter from Mars or someplace – you know that as well as me! And what's it here for? It ain't for the good of the likes of you and me, I can tell you that. It's them or us. And this time, by God, we got in the first lick!'

'Why you . . . you . . . hatemonger!'

'Now, hold on right there. I'm as liberal-minded as the next feller. Hell, I like a nigger – and I can't hardly tell a Jew from a white man. But when it comes to takin' in a damned purple worm and callin' it humern – that's where I draw the line.'

Sheriff Hoskins pushed between Stump and the surging front rank of the crowd. 'Stay back there! I want you to disperse, peaceably, and let the law handle this.'

'I reckon I'll push off now, Sheriff,' Stump hitched up his belt. 'I figgered you might have to calm 'em down right at first, but now they've had a chance to think it over and see I ain't broken no law, ain't none of these law-abiding folks going to do anything illegal – like tryin' to get rough with a licensed exterminator just doin' his job.' He stooped, retrieved his gun.

'Here, I'll take that,' Sheriff Hoskins said. 'You can consider

your gun licence cancelled – and your exterminatin' licence, too.'

Stump grinned again, handed the revolver over.

'Sure. I'm co-operative, Sheriff. Anything you say. Send it around to my place when you're done with it.' He pushed his way through the crowd to the corridor door.

'The rest of you stay put!' a portly man with a head of bushy white hair pushed his way through to the bench. 'I'm calling an emergency Town Meeting to order here and now!'

He banged the gavel on the scarred bench top, glanced down at the body of the dead alien, now covered by a flag.

'Gentlemen, we've got to take fast action. If the wire services get hold of this before we've gone on record, Willow Grove'll be a blighted area.'

'Look here, Willard,' Judge Gates called, rising. 'This – this mob isn't competent to take legal action.'

'Never mind what's legal, Judge. Sure, this calls for Federal legislation – maybe a Constitutional amendment – but in the meantime, we're going to redefine what constitutes a person within the incorporated limits of Willow Grove!'

'That's the least we can do,' a thin-faced woman snapped, glaring at Judge Gates. 'Do you think we're going to set here and condone this outrage?'

'Nonsense!' Gates shouted. 'I don't like what happened any better than you do – but a person – well, a person's got two arms and two legs and—'

'Shape's got nothing to do with it,' the chairman cut in. 'Bears walk on two legs! Dave Zawocky lost his in the war. Monkeys have hands.'

'Any intelligent creature—' the woman started.

'Nope, that won't do, either; my unfortunate cousin's boy Melvin was born an imbecile, poor lad. Now, folks, there's no time to waste. We'll find it very difficult to formulate a satisfactory definition based on considerations such as these. However, I think we can resolve the question in terms that will form a basis for future legislation on the question. It's going to make some big changes in things. Hunters aren't going to

like it – and the meat industry will be affected. But if, as it appears, we're entering into an era of contact with . . . ah . . . creatures from the other worlds, we've got to get our house in order.'

'You tell 'em, Senator!' someone yelled.

'We better leave this for Congress to figger out!' another voice insisted.

'We got to do something . . .'

The senator held up his hands. 'Quiet, everybody. There'll be reporters here in a matter of minutes. Maybe our ordinance won't hold water. But it'll start 'em thinking – and it'll make a lots better copy for Willow Grove than the killing.'

'What you got in mind, Senator?'

'Just this:' the Senator said solemnly. 'A person is . . . *any harmless creature* . . .'

Feet shuffled. Someone coughed.

'What about a man who commits a violent act, then?' Judge Gates demanded. 'What's he, eh?'

'That's obvious, gentlemen,' the senator said flatly. 'He's vermin.'

On the court-house steps Cecil Stump stood, hands in hip pockets, talking to a reporter from the big-town paper in Mattoon, surrounded by a crowd of late-comers who had missed the excitement inside. He described the accuracy of his five shots, the sound they had made hitting the big blue snake, and the ludicrous spectacle the latter had presented in its death agony. He winked at a foxy man in overalls picking his nose at the edge of the crowd.

'Guess it'll be a while 'fore any more damned reptiles move in here like they owned the place,' he concluded.

The court-house doors banged wide; excited citizens poured forth, veering aside from Cecil Stump. The crowd around him thinned, broke up as its members collared those emerging with the hot news. The reporter picked a target.

'Perhaps you'd care to give me a few details of the action taken by the . . . ah . . . Special Committee, sir?'

Senator Custis pursed his lips. 'A session of the Town

Council was called,' he said. 'We've defined what a person is in this town—'

Stump, standing ten feet away, snorted. 'Can't touch me with no *ex post factory* law.'

'– and also what can be classified as vermin,' Custis went on.

Stump closed his mouth with a snap.

'Here, that s'posed to be some kind of slam at me, Custis? By God, come election time . . .'

Above, the door opened again. A tall man in a leather jacket stepped out, stood looking down. The crowd pressed back. Senator Custis and the reporter moved aside. The newcomer came down the steps slowly. He carried Cecil Stump's nickel-plated .44 in his hand.

Standing alone now, Stump watched him.

'Here,' he said. His voice carried a sudden note of strain. 'Who're you?'

The man reached the foot of the steps, raised the revolver and cocked it with a thumb.

'I'm the new exterminator,' he said.

DAWNINGSBURGH

By Wallace West

A LEAN wind wails through the age-old avenues of Dawningsburgh. Mornings, it brings sand from surrounding hills and scrubs at fresh paint, neon signs endlessly proclaiming the city's synthetic name and street markers in seven languages. At sunrise it prepares the dunes for footprints of scurrying guided tourists. When icy night clamps down and the intruders scamper to their hotels, the wind howls as it flings after them a day's collection of paper cups, bottle caps and other picnic offal.

'Liars! Cheats!' whimpered Betsy O'Reilly as she tossed on the lumpy bed of her third class room and recalled the sky poster that had hypnotized her.

Now, Betsy was disappointed and bored. Slim, pretty, freckled and pert, but ten years older than she wished, she had mortgaged her secretarial salary to engage once more in The Eternal Quest. And, as always, the quest was proving futile. Eligible bachelors shunned Dawningsburgh as they did other expensive tourist traps. The 'new friends' she had made were either loudmouthed, hairy miners en route to or from the orichalcum diggings, or middle-aged couples on tragic second honeymoons, or self-styled emigré artists and novelists intent on cadging free meals and any other favours that lonely females might grant.

But maybe, Betsy tried to console herself, there was something real here; something glamorous that she could find and cling to during the long months back in New York when she would have to subsist on soups and salads in order to pay her

debt to Trans-Plan. Mars had been great, the guides insisted. Once, they said, it had even colonized Atlantis. Perhaps, under the sham and away from those awful conducted tours, something was still left that could make her feel a trifle less forlorn.

Betsy jumped out of bed and rummaged in a closet. There it was! A heated emergency garment equipped with plastic helmet, air pack and a searchlight. Required by law but seldom used, since tourists were told to stay off the 60° below zero streets at night.

Wriggling into the clumsy thing, she tested valves and switches as she had been instructed. Then she tiptoed out of her cubbyhole, down a corridor and into the hotel lobby.

The room clerk did not greet her with its usual trill. A robot, built on Earth as a 'stand-in' for one of the vanished Martians, it had turned itself off when the last tourists left the dining room for their beds. But how lifelike it still looked, balancing on a perch behind the ornate plastic desk. And how human too, despite the obviously avian ancestry of the race it mimicked. What was it the guides had said about the way in which all intelligent lifeforms so far discovered closely resembled one another? Why, even artificial Martians made the average human look drab and clumsy.

Betsy circled the overdecorated room like a shadow and pushed against the street door. Escaping air whistled through the crack.

'Miss!' squawked the clerk, triggered alive by the noise. 'Don't . . .'

She was outside by then and running through the crazy half-light thrown by Mars's nearer and farther moons. Wind howled and tugged at her. Cold turned the breath from her helmet vent into snow.

When no pursuit developed she stopped, gasping, before one of the open-air shops she had toured that afternoon. Five 'Martians' bent stiffly over lathes and other machines, just where they had stopped after the last visitor departed. Hoarfrost mottled their leather harness, their downy red skins and

the scars on their shoulders where atrophied wings had supposedly been amputated. No breath came from their nostrils. How cold and small they looked!

On impulse, she approached briskly.

'Yes, Miss?' The robot proprietor unkinked as its automatic relays turned it on. It came forward with a grimace meant to represent a smile. 'You're out very late. What may I show you?' Its voice was like a rusted bird song.

'Tell me,' said she, 'what the Martians really made here.'

'Why, we design jewellery, Miss. I have some nice . . .'

'No, no!' she interrupted. 'What did the real Martians make here? Surely not junk jewellery for tasteless tourists. Something beautiful, it must have been. Wind bells? Dreams? Snowflakes? Please tell me.'

The robot twittered and flinched like a badly made toy.

'I d-do not understand,' it ventured at last. 'I am not programmed to answer such questions. Perhaps the guides can do so. Now may I show you . . .'

'Thank you, no.' She touched the thing's cold, six-fingered hand with quick compassion. 'But I'll ask the guides. Goodnight.'

Back in the street, she began to retrace her tour of the afternoon. Here was what the guide had called a 'typical home'. This time she did not disturb the mother, father and one furry child with budding wings who clustered about what experts thought must have been a telepathic amplifier. It did not work any longer – none but the coarsest Martian machines did – yet the frost-rimmed robots sat stiffly enchanted before it, as they would do until the sun rose and tourists resumed their endless tramp. (The day's last, she noted, had left an empty pop bottle in the mother's lap.)

Farther on she met a 'policeman', resplendent in metal harness, leaning forlornly against an anachronistic lamppost. Some late-prowling jokester had stuck a cigarette between its still lips.

Surely not policemen here? She looked up at the fairy towers that laced the stars. Surely not in this grave place. It

must be one of those human touches introduced by Trans-Planetary to make tourists smile and feel superior. Nevertheless, she removed the cigarette and ground it under her heel.

After walking half a mile through the sand-whipped night, Betsy paused before a structure of translucent spires and flying buttresses where a library had once been housed. No robots were on duty there and no serious attempt had been made at restoration. No Champollion had appeared in the early days of exploration to decipher some Martian Rosetta stone, and by now the historical record had been hopelessly scrambled by souvenir hunters.

But that didn't matter really, they said. Outside of the tourist trade the only really valuable things on the dying planet were extensive deposits of orichalcum, an ore rich in pure radium. Thanks to the impartial mining monopoly established by Trans-Planetary twenty years ago, orichalcum supplied the nations of Earth with sinews of war which they had not yet dared use, and fuel for ships that were questing greedily farther and farther out into the darkness of space.

So metal-paged books had long vanished from the library's stacks and its sand-strewn halls were littered with broken rolls of tape. How long would it be, she wondered as she passed on with a sigh, before the guides realized that even those mute tapes could be sold as souvenirs?

Phobos had set by now. She turned on the searchlight, checked her air tank – the gauge showed enough reserve for another hour – and defiantly opened the face plate of her helmet. The atmosphere was cold; cold as a naked blade. It had a heady tang and she stood taking in great gulps of it until a warning dizziness forced her to close the plate. The guides were wrong again! A human could learn to breathe this air!

Leaving the gutted library, Betsy breasted the wind as she ploughed through shifting dunes toward a structure shimmering on the other side of the plaza. This, the guides pattered, was a cathedral. When the place now called Dawningsburgh had been alive, they said, its inhabitants gathered at the shrine each evening to sip one ceremonial drink of

precious water, shed two ceremonial tears for the days when Mars had been young and worship a flock of atavistic winged princesses who performed ceremonial flights under a pressurized, transparent dome in the rays of the setting sun.

This showplace had, of course, been restored right down to its last perch, and had been equipped with a full complement of 'worshippers'. At the climax of each day's final guided tour, visitors jammed themselves into the nave, sipped cocktails, 'ohed', 'ahed' and even shed tears along with the robots as they gawked at mannequins flying above them on invisible wires in the best Peter Pan tradition.

Ducking under the electric eye that would have started a performance, Betsy tiptoed into the structure. It was quieter than any grave. Several hundred robots huddled there on their perches, drinks in hand, ready to go into their act. At the far end of the transept a soaring mural, gleaming phosphorescently, hinted at the lakes, seas and forests of Mars's prehistory. Under the dome a single flyer dangled, its plumes trailing.

For long minutes Betsy stood in the dimness, seeking to capture the mystery and wonder of this place. In ruins, it would have swept her with ecstasy, as had her moonlit view of the Parthenon. Restored and 'repopulated', it made her sick and ashamed of her race . . . no, not of her race, exactly, but of the few hucksters who debased its thirst for knowledge and beauty.

Then a bird started to sing!

A bird? On Mars? This must be a tape, triggered on somehow despite her care in avoiding the electric eye. Any moment now, the robots would begin their mindless worship.

She shuddered and turned to escape. But something held her. She crept instead, step by soundless step, toward the source of that exquisite music.

An almost naked male robot had materialized before the mural. It was singing, far better than any nightingale, its strange hands outstretched to the radiance.

Such notes could not . . . should not . . . spring from the throat of a machine. Heart in mouth, Betsy advanced with

infinite care. By the mural's light she saw that the newcomer had no hoarfrost coating. And the moisture of its breath condensed and fell to the floor like a blessing. She reached out a small hand to touch its scarred shoulder, then jerked back.

The shoulder was warm!

'Greetings, girl,' Betsy's brain whispered to her. 'You're out late. Just let me finish this thing and we'll have a chat.'

The music soared, uninterrupted, to a climax sparkling with grace notes and glittering with chromatic trills.

'Now,' fluted the creature, turning and fixing her with golden, freewheeling eyes, 'what brings a tourist' (the word was a curse) 'here at this hour?'

'L-love,' she gulped, hardly knowing what she said. 'I-I mean, I wanted to find out if anything real was left. And, well, I ran away from the hotel. They'll be coming after me, I suppose.'

'Don't fret. Martians can play tricks with time. I'll return you to your room well before they get here.'

'You – you're not just another, fancier, robot?'

'I'm alive enough.' He bowed with a sweep that seemed to invest him with wings. 'Pitaret Mura, at your service. A princeling of sorts. An iconoclast. And an atavist like you.'

'There are others here?' Her eyes grew round.

'Most of the others have finished with this outgrown eyrie and are away on larger affairs. Only I return with a few friends once each year to sing of past glories and weep over present desecrations.'

'Two ceremonial tears?' she asked with a return of bitterness. There was something in his attitude that she found disquieting.

'Many more than two. But ...' he shrugged angrily, 'I grow tired of weeping. On this visit I plan to wipe out you little humans who foul the nest of my ancestors.'

'How?' She gripped his arm, fear racing through her.

'Tomorrow all this junk—' he nodded his handsome head at the robots – 'will have been replaced by real Martians ...

youngsters out for a lark with me. We'll tend shop, make jewellery and all that until I give a signal. Perhaps this shrine would be the best place. When it's crowded, just at sunset. Then we pounce!'

Mura ruffled himself up and sprang at her so convincingly that she shrieked.

'How juvenile!' she managed to laugh shakily.

'What did you say, human?' The Pitaret was taken aback by this unexpected thrust.

'I said your plan is childish!' She stamped her foot. 'So you cut the throats of a few stupid people. Then Earth sends up cobalt bombs and blows this cradle of Martian civilization to smithereens. The others won't like that, even if they are occupied with larger affairs. You would be in real trouble.'

'Hmmm!' He looked at her with new respect and a faint tinge of uncertainty. 'But some punishment is justified. Even you can see that.'

'Yes,' she admitted, wrinkling her nose at him, now that the worst was over. 'This place is a horror. And we tourists are horrors too, for having let ourselves be taken in by it. But death isn't punishment, just an ending.'

'I hadn't thought of it that way.' Mura slipped an arm around her shoulders and looked down at her impishly. '*You* suggest a fitting punishment then.'

Here was the final test. If she could keep the hold that she had somehow gained over this immature superman, horrible things might be averted. Her thoughts raced in circles.

'Martians can play tricks with time?' she asked at last.

'Oh, yes. Time is like this mural. Let me show you: Aim your light at the left-hand corner of the picture. See the sun and its planets forming out of cosmic dust? Now move the beam toward the right. Slowly ... Slowly! Notice how Martian oceans form and living things crawl out of them.

'Now continue. There you see the winged Martians with their cities that long have crumbled to dust. Next, water grows scarce and canals are built. Here all but a few of us have lost our wings.

'Here we colonize Earth ... to our eternal regret. Finally, you see us abandon Mars rather than risk another test of strength with you pushing troglodytes.'

'I-I don't understand,' she whispered, strangely moved.

'That searchlight beam represents the living present. Where it shines, life pulses briefly on a vast mural that is painted across time, from its beginning to its end. Martians manipulate the light of the present as we please, living when we please, so long as we please.'

'How dreadful ... Wonderful, I mean.' She gazed at him worshipfully. 'And you can do this for humans too?'

'For short periods, yes. But stop fluttering your lovely eyelashes at me. Punished you are going to be. If you can suggest nothing better than my plan, I'll go back to it and take the consequences. Otherwise I'll be the laughing stock of my friends.'

'And you couldn't stand that, could you, poor boy?' She patted his hand before he snatched it away. 'How is this, then, for an alternative? Tonight, when I couldn't sleep, I got to thinking that there could be no more fitting punishment for tourists than to be forced to live, for years and years, in a plush hotel at Atlantic City, Las Vegas ... or Dawningsburgh. Think how miserable they would become if they had to take the same tours over and over with the same guides; stuff themselves on the same meals; dance to the same orchestras with the same new friends. Can you hold your time spotlight still here for, say, ten years?'

'Of course,' Mura crowed as he swept her into his downy arms and danced her about among the robot perches. 'A wonderful idea. You're a genius. Even the others may come back, now, to watch humans squirm, yawn – and perhaps learn to respect their elders. How can I repay you?'

'Let me go back to New York,' she said, feeling like a traitor.

'That wouldn't be fair. You're a tourist. You came here to prove to yourself that, as your Bible puts it, "a living dog is better than a dead lion." You must learn your lessons along with others.'

'I suppose you're right.' She felt cleaner now, even though the prospect of a decade at Dawningsburgh, with The Quest unfinished, appalled her. To be forty-one and still single when she returned to Earth! Two tears trickled down her freckled nose.

'That's better,' the Pitaret sang happily. 'You're already beginning to understand the meaning of our ancient ceremonial. Give me ten years and I'll make a real Martian of you!'

Outside, the lean wind echoed his glee as it tossed a hatful of Good Humour sticks and sand-coated lollipops against the cathedral wall.

AND ALL THE EARTH A GRAVE

By C. C. MacApp

IT all began when the new bookkeeping machine of a large Midwestern coffin manufacturer slipped a cog, or blew a transistor, or something. It was fantastic that the error – one of two decimal places – should enjoy a straight run of okays, human and mechanical, clear down the line; but when the figures clacked out at the last clacking-out station, there it was. The figures were now sacred; immutable; and it is doubtful whether the President of the concern or the Chairman of the Board would have dared question them – even if either of those two gentlemen had been in town.

As for the Advertising Manager, the last thing he wanted to do was question them. He carried them (they were the budget for the coming fiscal year) into his office, staggering a little on the way, and dropped dazedly into his chair. They showed the budget for his own department as exactly one hundred times what he'd been expecting. That is to say, fifty times what he'd put in for.

When the initial shock began to wear off, his face assumed an expression of intense thought. In about five minutes he leaped from his chair, dashed out of the office with a shouted syllable or two for his secretary, and got his car out of the parking lot. At home, he tossed clothes into a travelling bag and barged toward the door, giving his wife a quick kiss and an equally quick explanation. He didn't bother to call the airport. He meant to be on the next plane east, and no nonsense about it . . .

With one thing and another, the economy hadn't been exactly

in overdrive that year, and predictions for the Christmas season were gloomy. Early retail figures bore them out. Gift buying dribbled along feebly until Thanksgiving, despite brave speeches by the Administration. The holiday passed more in self-pity than in thankfulness among owners of gift-oriented businesses.

Then, on Friday following Thanksgiving, the coffin ads struck.

Struck may be too mild a word. People on the streets saw feverishly-working crews (at holiday rates!) slapping up posters on billboards. The first poster was a dilly. A toothy and toothsome young woman leaned over a coffin she'd been unwrapping. She smiled as if she'd just received overtures of matrimony from an eighty-year-old billionaire. There was a Christmas tree in the background, and the coffin was appropriately wrapped. So was she. She looked as if she had just gotten out of bed, or were ready to get into it. For amorous young men, and some not so young, the message was plain. The motto, *'The Gift That Will Last More Than a Lifetime'*, seemed hardly to the point.

Those at home were assailed on TV with a variety of bright and clever skits of the same import. Some of them hinted that, if the young lady's gratitude were really precipitous, and the bedroom too far away, the coffin might be comfy.

Of course the more settled elements of the population were not neglected. For the older married man, there was a blow directly between the eyes: *'Do You Want Your Widow to Be Half-Safe?'* And, for the spinster without immediate hopes, *'I Dreamt I Was Caught Dead Without My Virginform Casket!'*

Newspapers, magazines and every other medium added to the assault, never letting it cool. It was the most horrendous campaign, for sheer concentration, that had ever battered at the public mind. The public reeled, blinked, shook its head to clear it, gawked, and rushed out to buy.

Christmas was not going to be a failure after all. Department store managers who had, grudgingly and under strong sales

pressure, made space for a single coffin somewhere at the rear of the store, now rushed to the telephones like touts with a direct pronouncement from a horse. Everyone who possibly could got into the act. Grocery supermarkets put in casket departments. The Association of Pharmaceutical Retailers, who felt they had some claim to priority, tried to get court injunctions to keep caskets out of service stations, but were unsuccessful because the judges were all out buying caskets. Beauty parlours showed real ingenuity in merchandising. Roads and streets clogged with delivery trucks, rented trailers, and whatever else could haul a coffin. The Stock Market went completely mad. Strikes were declared and settled within hours. Congress was called into session early. The President got authority to ration lumber and other materials suddenly in starvation-short supply. State laws were passed against cremation, under heavy lobby pressure. A new racket, called boxjacking, blossomed overnight.

The Advertising Manager who had put the thing over had been fighting with all the formidable weapons of his breed to make his plant managers build up a stockpile. They had, but it went like a toupee in a wind tunnel. Competitive coffin manufacturers were caught napping, but by Wednesday after Thanksgiving they, along with the original one, were on a twenty-four hour, seven-day basis. Still only a fraction of the demand could be met. Jet passenger planes were stripped of their seats, supplied with Yankee gold, and sent to plunder the world of its coffins.

It might be supposed that Christmas goods other than caskets would take a bad dumping. That was not so. Such was the upsurge of prosperity, and such was the shortage of coffins, that nearly everything – with a few exceptions – enjoyed the biggest season on record.

On Christmas Eve the frenzy slumped to a crawl, though on Christmas morning there were still optimists out prowling the empty stores. The nation sat down to breathe. Mostly it sat on coffins, because there wasn't space in the living rooms for any other furniture.

There was hardly an individual in the United States who

didn't have, in case of sudden sharp pains in the chest, several boxes to choose from. As for the rest of the world, it had better not die just now or it would be literally a case of dust to dust.

Of course everyone expected a doozy of a slump after Christmas. But our Advertising Manager, who by now was of course Sales Manager and First Vice President also, wasn't settling for any boom-and-bust. He'd been a frustrated victim of his choice of industries for so many years that now, with his teeth in something, he was going to give it the old bite. He gave people a short breathing spell to arrange their coffin payments and move the presents out of the front rooms. Then, late in January, his new campaign came down like a hundred-megatonner.

Within a week, everyone saw quite clearly that his Christmas models were now obsolete. The coffin became the new status symbol.

The auto industry was of course demolished. Even people who had enough money to buy a new car weren't going to trade in the old one and let the new one stand out in the rain. The garages were full of coffins. Petroleum went along with Autos. (Though there were those who whispered knowingly that the same people merely moved over into the new industry. It was noticeable that the centre of it became Detroit.) A few trucks and buses were still being built, but that was all.

Some of the new caskets were true works of art. Others – well, there was variety. Compact models appeared, in which the occupant's feet were to be doubled up alongside his ears. One manufacturer pushed a circular model, claiming that by all the laws of nature the foetal position was the only right one. At the other extreme were virtual houses, ornate and lavishly equipped. Possibly the largest of all was the *'Togetherness'* model, triangular, with graduated recesses for Father, Mother, eight children (plus two playmates), and, in the the far corner beyond the baby, the cat.

The slump was over. Still, economists swore that the new boom couldn't last either. They reckoned without the

Advertising Manager, whose eyes gleamed brighter all the time. People already had coffins, which they polished and kept on display, sometimes in the new 'Coffinports' being added to houses. The Advertising Manager's reasoning was direct and to the point. He must get people to use the coffins; and now he had all the money to work with that he could use.

The new note was woven in so gradually that it is not easy to put a finger on any one ad and say, 'It began here.' One of the first was surely the widely-printed one showing a tattooed, smiling young man with his chin thrust out manfully, lying in a coffin. He was rugged-looking and likeable (not too rugged for the spindly-limbed to identify with) and he oozed, even though obviously dead, virility at every pore. He was probably the finest-looking corpse since Richard the Lion-Hearted.

Neither must one overlook the singing commercials. Possibly the catchiest of these, a really cute little thing, was achieved by jazzing up the Funeral March.

It started gradually, and it was all so un-violent that few saw it as suicide. Teenagers began having 'Popping-off parties'. Some of their elders protested a little, but adults were taking it up too. The tired, the unappreciated, the ill and the heavy-laden lay down in growing numbers and expired. A black market in poisons operated for a little while, but soon pinched out. Such was the pressure of persuasion that few needed artificial aids. The boxes *were* very comfortable. People just closed their eyes and exited smiling.

The Beatniks, who had their own models of coffin – mouldy, scroungy, and without lids, since the Beatniks insisted on being seen – placed their boxes on the Grant Avenue in San Francisco. They died with highly intellectual expressions, and eventually were washed by the gentle rain.

Of course there were voices shouting calamity. When aren't there? But in the long run, and not a very long one at that, they availed naught.

It isn't hard to imagine the reactions of the rest of the world. So let us imagine a few.

The Communist Bloc immediately gave its Stamp of Dis-

approval, denouncing the movement as a filthy Capitalist Imperialist Pig plot. Red China, which had been squabbling with Russia for some time about a matter of method, screamed for immediate war. Russia exposed this as patent stupidity, saying that if the Capitalists wanted to die, warring upon them would only help them. China surreptitiously tried out the thing as an answer to excess population, and found it good. It also appealed to the well-known melancholy facet of Russian nature. Besides, after pondering for several days, the Red Bloc decided it could not afford to fall behind in anything, so it started its own programme, explaining with much logic how it differed.

An elderly British philosopher endorsed the movement, on the grounds that a temporary setback in Evolution was preferable to facing up to anything.

The Free Bloc, the Red Bloc, the Neutral Bloc and such scraps as had been too obtuse to find themselves a Bloc were drawn into the whirlpool in an amazingly short time, if in a variety of ways. In less than two years the world was rid of most of what had been bedevilling it.

Oddly enough, the country where the movement began was the last to succumb completely. Or perhaps it is not so odd. Coffin-maker to the world, the American casket industry had by now almost completely automated box-making and grave-digging, with some interesting assembly lines and packaging arrangements; there still remained the jobs of management and distribution. The President of General Mortuary, an ebullient fellow affectionately called Sarcophagus Sam, put it well. 'As long as I have a single prospective customer, and a single Stockholder,' he said, mangling a stogie and beetling his brows at the one reporter who'd showed up for the press conference, 'I'll try to put him in a coffin so I can pay him a dividend.'

Finally, though, a man who thought he must be the last living human, wandered contentedly about the city of Denver looking for the coffin he liked best. He settled at last upon a

rich mahogany number with platinum trimmings, an Automatic Self-Adjusting Cadaver-contour Innerspring Wearever-Plastic-Covered Mattress with a built-in bar. He climbed in, drew himself a generous slug of fine Scotch, giggled as the mattress prodded him exploringly, closed his eyes and sighed in solid comfort. Soft music played as the lid closed itself.

From a building nearby a turkey-buzzard swooped down, cawing in raucous anger because it had let its attention wander for a moment. It was too late. It clawed screaming at the solid cover, hissed in frustration and finally gave up. It flapped into the air again, still grumbling. It was tired of living on dead small rodents and coyotes. It thought it would take a swing over to Los Angeles, where the pickings were pretty good.

As it moved westward over parched hills, it espied two black dots a few miles to its left. It circled over for a closer look, then grunted and went on its way. It had seen *them* before. The old prospector and his burro had been in the mountains for so long the buzzard had concluded they didn't know *how* to die.

The prospector, whose name was Adams, trudged behind his burro toward the buildings that shimmered in the heat, humming to himself now and then or addressing some remark to the beast. When he reached the outskirts of Denver he realized something was amiss. He stood and gazed at the quiet scene. Nothing moved except some skinny packrats and a few sparrows foraging for grain among the unburied coffins.

'Tarnation!' he said to the burro. 'Martians?'

A half-buried piece of newspaper fluttered in the breeze. He walked forward slowly and picked it up. It told him enough so that he understood.

'They're gone, Evie,' he said to the burro, 'all gone.' He put his arm affectionately around her neck. 'I reckon it's up to me and you agin. We got to start all over.' He stood back and gazed at her with mild reproach. 'I shore hope they don't favour your side of the house so much this time.'

HOT PLANET

By Hal Clement

I

THE wind which had nearly turned the *Albireo*'s landing into a disaster instead of a mathematical exercise was still playing tunes about the fins and landing legs as Schlossberg made his way down to Deck Five.

The noise didn't bother him particularly, though the endless seismic tremors made him dislike the ladders. But just now he was able to ignore both. He was curious – though not hopeful.

'Is there anything at all obvious on the last sets of tapes, Joe?'

Mardikian, the geophysicist, shrugged. 'Just what you'd expect . . . on a planet which has at least one quake in each fifty-mile-square area every five minutes. You know yourself we had a nice seismic programme set up, but when we touched down we found we couldn't carry it out. We've done our best with the natural tremors – incidentally stealing most of the record tapes the other projects would have used. We have a lot of nice information for the computers back home; but it will take all of them to make any sense out of it.'

Schlossberg nodded; the words had not been necessary. His astronomical programme had been one of those sabotaged by the transfer of tapes to the seismic survey.

'I just hoped,' he said. 'We each have an idea why Mercury developed an atmosphere during the last few decades, but I guess the high school kids on Earth will know whether it's right before we do. I'm resigned to living in a chess-type universe – few and simple rules, but infinite combinations of them. But it would be nice to know an answer sometime.'

'So it would. As a matter of fact, I need to know a couple right now. From you. How close to finished are the other programmes – or what's left of them?'

'I'm all set,' replied Schlossberg. 'I have a couple of instruments still monitoring the sun just in case, but everything in the revised programme is on tape.'

'Good. Tom, any use asking you?'

The biologist grimaced. 'I've been shown two hundred and sixteen different samples of rock and dust. I have examined in detail twelve crystal growths which looked vaguely like vegetation. Nothing was alive or contained living things by any standards I could conscientiously set.'

Mardikian's gesture might have meant sympathy.

'Camille?'

'I may as well stop now as any time. I'll never be through. Tape didn't make much difference to me, but I wish I knew what weight of specimens I could take home.'

'Eileen?' Mardikian's glance at the stratigrapher took the place of the actual question.

'Cam speaks for me, except that I could have used any more tape you could have spared. What I have is gone.'

'All right, that leaves me, the tape-thief. The last spools are in the seismographs now, and will start running out in seventeen hours. The tractors will start out on their last rounds in sixteen, and should be back in roughly a week. Will, does that give you enough to figure the weights we rockhounds can have on the return trip?'

The *Albireo*'s captain nodded. 'Close enough. There really hasn't been much question since it became evident we'd find nothing for the mass tanks here. I'll have a really precise check in an hour, but I can tell right now that you have about one and a half metric tons to split up among the three of you.

'Ideal departure time is three hundred ten hours away, as you all know. We can stay here until then, or go into a parking-and-survey orbit at almost any time before then. You have all the survey you need, I should think, from the other time. But suit yourselves.'

'I'd just as soon be space-sick as seasick,' remarked Camille Burkett. 'I still hate to think that the entire planet is as shivery as the spot we picked.'

Willard Rowson smiled. 'You researchers told me where to land after ten days in orbit mapping this rockball. I set you just where you asked. If you'd found even five tons of juice we could use in the reaction tanks I could still take you to another one – if you could agree which one. I hate to say "Don't blame me," but I can't think of anything else that fits.'

'So we sit until the last of the tractors is back with the precious seismo tapes, playing battleship while our back teeth are being shaken out by earthquakes – excuse the word. What a thrill! Glorious adventure!' Zaino, the communications specialist who had been out of a job almost constantly since the landing, spoke sourly. The captain was the only one who saw fit to answer.

'If you want adventure, you made a mistake exploring space. The only space adventures I've heard of are second-hand stories built on guesswork; the people who really had them weren't around to tell about it. Unless Dr Marini discovers a set of Mercurian monsters at the last minute and they invade the ship or cut off one of the tractors, I'm afraid you'll have to do without adventures.' Zaino grimaced.

'That sounds funny coming from a spaceman, Captain. I didn't really mean adventure, though; all I want is something to do besides betting whether the next quake will come in one minute or five. I haven't even had to fix a suit-radio since we touched down. How about my going out with one of the tractors on this last trip, at least?'

'It's all right with me,' replied Rowson, 'but Dr Mardikian runs the professional part of this operation. I require that Spurr, Trackman, Hargedon and Aiello go as drivers, since without them even a minor mechanical problem would be more than an adventure. As I recall it, Dr Harmon, Dr Schlossberg, Dr Marini and Dr Mardikian are scheduled to go; but if any one of them is willing to let you take his or her place, I certainly don't mind.'

The radioman looked around hopefully. The geologists and the biologist shook their heads negatively, firmly and unanimously; but the astronomer pondered for a moment. Zaino watched tensely.

'It may be all right,' Schlossberg said at last. 'What I want to get is a set of wind, gas pressure, gas temperature and gas composition measures around the route. I didn't expect to be more meteorologist than astronomer when we left Earth, and didn't have exactly the right equipment. Hargedon and Aiello helped me improvise some, and this is the first chance to use it on Darkside. If you can learn what has to be done with it before starting time, though, you are welcome to my place.'

The communicator got to his feet fast enough to leave the deck in Mercury's feeble gravity.

'Lead me to it, Doc. I guess I can learn to read a homemade weathervane!'

'Is that merely bragging, or a challenge?' drawled a voice which had not previously joined the discussion. Zaino flushed a bit.

'Sorry, Luigi,' he said hastily. 'I didn't mean it just that way. But I still think I can run the stuff.'

'Likely enough,' Aiello replied. 'Remember though, it wasn't made just for talking into.' Schlossberg, now on his feet, cut in quickly.

'Come on, Arnie. We'll have to suit up to see the equipment; it's outside.'

He shepherded the radioman to the hatch at one side of the deck and shooed him down toward the engine and air lock levels. Both were silent for some moments; but safely out of earshot of Deck Five the younger man looked up and spoke.

'You needn't push, Doc. I wasn't going to make anything of it. Luigi was right, and I asked for it.' The astronomer slowed a bit in his descent.

'I wasn't really worried,' he replied, 'but we have several months yet before we can get away from each other, and I don't like talk that could set up grudges. Matter of fact, I'm

even a little uneasy about having the girls along, though I'm no misogynist.'

'Girls? They're not—'

'There goes your foot again. Even Harmon is about ten years older than you, I suppose. But they're girls to me. What's more important, they no doubt think of themselves as girls.'

'Even Dr Burkett? That is – I mean—'

'Even Dr Burkett. Here, get into your suit. And maybe you'd better take out the mike. It'll be enough if you can listen for the next hour or two.' Zaino made no answer, suspecting with some justice that anything he said would be wrong.

Each made final checks on the other's suit; then they descended one more level to the airlock. This occupied part of the same deck as the fusion plants, below the wings and reaction mass tanks but above the main engine. Its outer door was just barely big enough to admit a spacesuited person. Even with the low air pressure carried by spaceships, a large door area meant large total force on jamb, hinges and locks. It opened onto a small balcony from which a ladder led to the ground. The two men paused on the balcony to look over the landscape.

This hadn't changed noticeably since the last time either had been out, though there might have been some small difference in the volcanic cones a couple of miles away to the northeast. The furrows down the sides of these, which looked as though they had been cut by water but were actually bone-dry ash slides, were always undergoing alteration as gas from below kept blowing fresh scoria fragments out of the craters. The spines – steep, jagged fragments of rock which thrust upward from the plain beyond and to both sides of the cones – seemed dead as ever.

The level surface between the *Albireo* and the cones was more interesting. Mardikian and Schlossberg believed it to be a lava sheet dating from early in Mercury's history, when more volatile substances still existed in the surface rocks to cut down their viscosity when molten. They supposed that

much – perhaps most – of the surface around the 'twilight' belt had been flooded by this very liquid lava, which had cooled to a smoother surface than most Earthly lava flows.

How long it had stayed cool they didn't guess. But both men felt sure that Mercury must have periodic upheavals as heat accumulated inside it – heat coming not from radioactivity but from tidal energy. Mercury's orbit is highly eccentric. At perihelion, tidal force tries to pull it apart along the planet-to-sun line, while at aphelion the tidal force is less and the little world's own gravity tries to bring it back to a spherical shape. The real change in form is not great, but a large force working through even a small amount of distance can mean a good deal of energy.

If the energy can't leak out – and Mercury's rocks conduct heat no better than those of Earth – the temperature must rise.

Sooner or later, the men argued, deeply buried rock must fuse to magma. Its liquefaction would let the bulk of the planet give farther under tidal stress, so heat would be generated even faster. Eventually a girdle of magma would have to form far below the crust all around the twilight strip, where the tidal strain would be greatest. Sooner or later this would melt its way to the surface, giving the zone a period of intense volcanic activity and, incidentally, giving the planet a temporary atmosphere.

The idea was reasonable. It had, the astronomer admitted, been suggested long before to account for supposed vulcanism on the moon. It justified the careful examination that Schlossberg and Zaino gave the plain before they descended the ladder; for it made reasonable the occasional changes which were observed to occur in the pattern of cracks weaving over its surface.

No one was certain just how permanent the local surface was – though no one could really justify feeling safer on board the *Albireo* than outside on the lava. If anything really drastic happened, the ship would be no protection.

The sun, hanging just above the horizon slightly to the watcher's right, cast long shadows which made the cracks

stand out clearly; as far as either man could see, nothing had changed recently. They descended the ladder carefully – even the best designed spacesuits are somewhat vulnerable – and made their way to the spot where the tractors were parked.

A sheet-metal fence a dozen feet high and four times as long provided shade, which was more than a luxury this close to the sun. The tractors were parked in this shadow, and beside and between them were piles of equipment and specimens. The apparatus Schlossberg had devised was beside the tractor at the north end of the line, just inside the shaded area.

It was still just inside the shade when they finished, four hours later. Hargedon had joined them during the final hour and helped pack the equipment in the tractor he was to drive. Zaino had had no trouble in learning to make the observations Schlossberg wanted, and the youngster was almost unbearably cocky. Schlossberg hoped, as they returned to the *Albireo*, that no one would murder the communications expert in the next twelve hours. There would be nothing to worry about after the trip started; Hargedon was quite able to keep anyone in his place without being nasty about it. If Zaino had been going with Aiello or Harmon – but he wasn't, and it was pointless to dream up trouble.

And no trouble developed all by itself.

II

Zaino was not only still alive but still reasonably popular when the first of the tractors set out, carrying Eileen Harmon and Eric Trackman, the *Albireo's* nuclear engineer.

It started more than an hour before the others, since the stratigrapher's drilling programme, 'done' or not, took extra time. The tractor hummed off to the south, since both Darkside routes required a long detour to pass the chasm to the west. Routes had been worked out from the stereophotos taken during the orbital survey. Even Darkside had been covered fairly well with Uniquantum film under Venus light.

The Harmon-Trackman vehicle was well out of sight when Mardikian and Aiello started out on one of the Brightside routes, and a few minutes later Marini set out on the other

with the spacesuit technician, Mary Spurr, driving.

Both vehicles disappeared quickly into a valley to the northeast, between the ash cones and a thousand-foot spine which rose just south of them. All the tractors were in good radio contact; Zaino made sure of that before he abandoned the radio watch to Rowson, suited up and joined Hargedon at the remaining one. They climbed in, and Hargedon set it in motion.

At about the same time, the first tractor came into view again, now travelling north on the farther side of the chasm. Hargedon took this as evidence that the route thus far was unchanged, and kicked in highest speed.

The cabin was pretty cramped, even though some of the equipment had been attached outside. The men could not expect much comfort for the next week.

Hargedon was used to the trips, however. He disapproved on principle of people who complained about minor inconveniences such as having to sleep in spacesuits; fortunately, Zaino's interest and excitement overrode any thought he might have had about discomfort.

This lasted through the time they spent doubling the vast crack in Mercury's crust, driving on a little to the north of the ship on the other side and then turning west toward the dark hemisphere. The route was identical to that of Harmon's machine for some time, though no trace of its passage showed on the hard surface. Then Hargedon angled off toward the southwest. He had driven this run often enough to know it well even without the markers which had been set out with the seismographs. The photographic maps were also aboard. With them, even Zaino had no trouble keeping track of their progress while they remained in sunlight.

However, the sun sank as they travelled west. In two hours its lower rim would have been on the horizon, had they been able to see the horizon; as it was, more of the 'sea level' lava plain was in shadow than not even near the ship, and their route now lay in semi-darkness.

The light came from peaks projecting into the sunlight, from scattered sky-light which was growing rapidly fainter

and from the brighter celestial objects such as Earth. Even with the tractor's lights it was getting harder to spot crevasses and seismometer markers. Zaino quickly found the fun wearing off . . . though his pride made him cover this fact as best he could.

If Hargedon saw this, he said nothing. He set Zaino to picking up every other instrument, as any partner would have, making no allowance for the work the youngster was doing for Schlossberg. This might, of course, have had the purpose of keeping the radioman too busy to think about discomfort. Or it might merely have been Hargedon's idea of normal procedure.

Whatever the cause, Zaino got little chance to use the radio once they had driven into the darkness. He managed only one or two brief talks with those left at the ship.

The talks might have helped his morale, since they certainly must have given the impression that nothing was going on in the ship while at least he had something to do in the tractor. However, this state of affairs did not last. Before the vehicle was four hours out of sight of the *Albireo,* a broadcast by Camille Burkett reached them.

The mineralogist's voice contained at least as much professional enthusiasm as alarm, but everyone listening must have thought promptly of the dubious stability of Mercury's crust. The call was intended for her fellow geologists Mardikian and Harmon. But it interested Zaino at least as much.

'Joe! Eileen! There's a column of what looks like black smoke rising over Northeast Spur. It can't be a real fire, of course; I can't see its point of origin, but if it's the convection current it seems to be the source must be pretty hot. It's the closest thing to a genuine volcano I've seen since we arrived; it's certainly not another of those ash mounds. I should think you'd still be close enough to make it out, Joe. Can you see anything?'

The reply from Mardikian's tractor was inaudible to Zaino and Hargedon, but Burkett's answer made its general tenor plain.

'I hadn't thought of that. Yes, I'd say it was pretty close to the Brightside route. It wouldn't be practical for you to stop your run now to come back to see. You couldn't do much about it anyway. I could go out to have a look and then report to you. If the way back is blocked there'll be plenty of time to work out another.' Hargedon and Zaino passed questioning glances at each other during the shorter pause that followed.

'I know there aren't,' the voice then went on, responding to the words they could not hear, 'but it's only two or three miles, I'd say. Two to the spur and not much farther to where I could see the other side. Enough of the way is in shade so I could make it in a suit easily enough. I can't see calling back either of the Darkside tractors. Their work is just as important as the rest – anyway, Eileen is probably out of range. She hasn't answered yet.'

Another pause.

'That's true. Still, it would mean sacrificing that set of seismic records – no, wait. We could go out later for those. And Mel could take his own weather measures on the later trip. There's plenty of time!'

Pause, longer this time.

'You're right, of course. I just wanted to get an early look at this volcano, if it is one. We'll let the others finish their runs, and when you get back you can check the thing from the other side yourself. If it is blocking your way there's time to find an alternate route. We could be doing that from the maps in the meantime, just in case.'

Zaino looked again at his companion.

'Isn't that just my luck!' he exclaimed. 'I jump at the first chance to get away from being bored to death. The minute I'm safely away, the only interesting thing of the whole operation happens – back at the ship!'

'Who asked to come on this trip?'

'Oh, I'm not blaming anyone but myself. If I'd stayed back there the volcano would have popped out here somewhere, or else waited until we were gone.'

'If it is a volcano. Dr Burkett didn't seem quite sure.'

'No, and I'll bet a nickel she's suiting up right now to go out and see. I hope she comes back with something while we're still near enough to hear about it.'

Hargedon shrugged. 'I suppose it was also just your luck that sent you on a Darkside trip? You know the radio stuff. You knew we couldn't reach as far this way with the radios. Didn't you think of that in advance?'

'I didn't think of it, any more than you would have. It was bad luck, but I'm not grousing about it. Let's get on with this job.' Hargedon nodded with approval, and possibly with some surprise, and the tractor hummed on its way.

The darkness deepened around the patches of lava shown by the driving lights; the sky darkened toward a midnight hue, with stars showing ever brighter through it; and radio reception from the *Albireo* began to get spotty. Gas density at the ion layer was high enough so that recombination of molecules with their radiation-freed electrons was rapid. Only occasional streamers of ionized gas reached far over Darkside. As these thinned out, so did radio reception. Camille Burkett's next broadcast came through very poorly.

There was enough in it, however, to seize the attention of the two men in the tractor.

She was saying: '—real all right, and dangerous. It's the . . . thing I ever saw . . . kinds of lava from what looks like . . . same vent. There's high viscosity stuff building a spatter cone to end all spatter cones, and some very thin fluid from somewhere at the bottom. The flow has already blocked the valley used by the Brightside routes and is coming along it. A new return route will have to be found for the tractors that . . . was spreading fast when I saw it. I can't tell how much will come. But unless it stops there's nothing at all to keep the flow away from the ship. It isn't coming fast, but it's coming. I'd advise all tractors to turn back. Captain Rowson reminds me that only one takeoff is possible. If we leave this site, we're committed to leaving Mercury. Arnie and Ren, do you hear me?'

Zaino responded at once. 'We got most of it, Doctor. Do you really think the ship is in danger?'

'I don't know. I can only say that *if* this flow continues the ship will have to leave, because this area will sooner or later be covered. I can't guess how likely . . . check further to get some sort of estimate. It's different from any Earthly lava source – maybe you heard – should try to get Eileen and Eric back, too. I can't raise them. I suppose they're well out from under the ion layer by now. Maybe you're close enough to them to catch them with diffracted waves. Try, anyway. Whether you can raise them or not you'd better start back yourself.'

Hargedon cut in at this point. 'What does Dr Mardikian say about that? We still have most of the seismometers on this route to visit.'

'I think Captain Rowson has the deciding word here, but if it helps your decision Dr Mardikian has already started back. He hasn't finished his route, either. So hop back here, Ren. And Arnie, put that technical skill you haven't had to use yet to work raising Eileen and Eric.'

'What I can do, I will,' replied Zaino, 'but you'd better tape a recall message and keep it going out on. Let's see – band F.'

'All right. I'll be ready to check the volcano as soon as you get back. How long?'

'Seven hours – maybe six and a half,' replied Hargedon. 'We have to be careful.'

'Very well. Stay outside when you arrive; I'll want to go right out in the tractor to get a closer look.' She cut off.

'And *that* came through clearly enough,' remarked Hargedon as he swung the tractor around. 'I've been awake for fourteen hours, driving off and on for ten of them; I'm about to drive for another six; and then I'm to stand by for more.'

'Would you like me to do some of the driving?' asked Zaino.

'I guess you'll have to, whether I like it or not,' was the rather lukewarm reply. 'I'll keep on for a while, though – until we're back in better light. You get at your radio job.'

III

Zaino tried. Hour after hour he juggled from one band to another. Once he had Hargedon stop while he went out to attach a makeshift antenna which, he hoped, would change his output from broadcast to some sort of beam; after this he kept probing the sky with the 'beam', first listening to the *Albireo*'s broadcast in an effort to find projecting wisps of ionosphere and then, whenever he thought he had one, switching on his transmitter and driving his own message at it.

Not once did he complain about lack of equipment or remark how much better he could do once he was back at the ship.

Hargedon's silence began to carry an undercurrent of approval not usual in people who spent much time with Zaino. The technician made no further reference to the suggestion of switching drivers. They came in sight of the *Albireo* and doubled the chasm with Hargedon still at the wheel, Zaino still at his radio and both of them still uncertain whether any of the calls had gotten through.

Both had to admit, even before they could see the ship, that Burkett had had a right to be impressed.

The smoke column showed starkly against the sky, blowing back over the tractor and blocking the sunlight which would otherwise have glared into the driver's eyes. Fine particles fell from it in a steady shower; looking back, the men could see tracks left by their vehicle in the deposit which had already fallen.

As they approached the ship the dark pillar grew denser and narrower, while the particles raining from it became coarser. In some places the ash was drifting into fairly deep piles, giving Hargedon some anxiety about possible concealed cracks. The last part of the trip, along the edge of the great chasm and around its end, was really dangerous; cracks running from its sides were definitely spreading. The two men reached the *Albireo* later than Hargedon had promised, and found Burkett waiting impatiently with a pile of apparatus beside her.

She didn't wait for them to get out before starting to organize.

'There isn't much here. We'll take off just enough of what you're carrying to make room for this. No – wait. I'll have to check some of your equipment; I'm going to need one of Milt Schlossberg's gadgets, I think, so leave that on. We'll take—'

'Excuse me, Doctor,' cut in Hargedon. 'Our suits need servicing, or at least mine will if you want me to drive you. Perhaps Arnie can help you load for a while, if you don't think it's too important for him to get at the radio—'

'Of course. Excuse me. I should have had someone out here to help me with this. You two go on in. Ren, please get back as soon as you can. I can do the work here; none of this stuff is very heavy.'

Zaino hesitated as he swung out of the cab. True, there wasn't too much to be moved, and it wasn't very heavy in Mercury's gravity, and he really should be at the radio; but the thirty-nine-year-old mineralogist was a middle-aged lady by his standards, and shouldn't be allowed to carry heavy packages...

'Get along, Arnie!' the middle-aged lady interrupted this train of thought. 'Eric and Eileen are getting farther away and harder to reach every second you dawdle!'

He got, though he couldn't help looking northeast as he went rather than where he was going.

The towering menace in that direction would have claimed anyone's attention. The pillar of sable ash was rising straighter, as though the wind were having less effect on it. An equally black cone had risen into sight beyond Northeast Spur – a cone that must have grown to some 2,000 feet in roughly ten hours. It had far steeper sides than the cinder mounds near it; it couldn't be made of the same loose ash. Perhaps it consisted of half-melted particles which were fusing together as they fell – that might be what Burkett had meant by 'spatter-cone'. Still, if that were the case, the material fountaining from the cone's top should be lighting

the plain with its incandescence rather than casting an inky shadow for its entire height.

Well, that was a problem for the geologists; Zaino climbed aboard and settled to his task.

The trouble was that he could do very little more here than he could in the tractor. He could have improvised longer-wave transmitting coils whose radiations would have diffracted a little more effectively beyond the horizon, but the receiver on the missing vehicle would not have detected them. He had more power at his disoposal, but could only beam it into empty space with his better antennae. He had better equipment for locating any projecting wisps of charged gas which might reflect his waves, but he was already located under a solid roof of the stuff – the *Albireo* was technically on Brightside. Bouncing his beam from this layer still didn't give him the range he needed, as he had found both by calculation and trial.

What he really needed was a relay satellite. The target was simply too far around Mercury's sharp curve by now for anything less.

Zaino's final gesture was to set his transmission beam on the lowest frequency the tractor would pick up, aim it as close to the vehicle's direction as he could calculate from map and itinerary and set the recorded return message going. He told Rowson as much.

'Can't think of anything else?' the captain asked. 'Well, neither can I, but of course it's not my field. I'd give a year's pay if I could. How long before they should be back in range?'

'About four days. A hundred hours, give or take a few. They'll be heading back anyway by that time.'

'Of course. Well, keep trying.'

'I am – or rather, the equipment is. I don't see what else I can do unless a really bright idea should suddenly sprout. Is there anywhere else I could be useful? I'm as likely to have ideas working as just sitting.'

'We can keep you busy, all right. But how about taking a transmitter up one of those mountains? That would get your wave farther.'

'Not as far as it's going already. I'm bouncing it off the ion layer, which is higher than any mountain we've seen on Mercury even if it's nowhere near as high as Earth's.'

'Hmph. All right.'

'I could help Ren and Dr Burkett. I could hang on outside the tractor—'

'They've already gone. You'd better call them, though, and keep a log of what they do.'

'All right.' Zaino turned back to his board and with no trouble raised the tractor carrying Hargedon and the mineralogist. The latter had been trying to call the *Albireo* and had some acid comments about radio operators who slept on the job.

'There's only one of me, and I've been trying to get the Darkside team,' he pointed out. 'Have you found anything new about this lava flood?'

'Flow, not flood,' corrected the professional automatically. 'We're not in sight of it yet. We've just rounded the corner that takes us out of your sight. It's over a mile yet, and a couple of more corners, before we get to the spot where I left it. Of course, it will be closer than that by now. It was spreading at perhaps a hundred yards an hour then. That's one figure we must refine . . . Of course, I'll try to get samples, too. I wish there were some way to get samples of the central cone. The whole thing is the queerest volcano I've ever heard of. Have you gotten Eileen started back?'

'Not as far as I can tell. As with your cone samples, there are practical difficulties,' replied Zaino. 'I haven't quit yet, though.'

'I should think not. If some of us were paid by the idea we'd be pretty poor, but the perspiration part of genius is open to all of us.'

'You mean I should charge a bonus for getting this call through?' retorted the operator.

Whatever Burkett's reply to this might have been was never learned; her attention was diverted at that point.

'We've just come in sight of the flow. It's about 500 yards

ahead. We'll get as close as seems safe, and I'll try to make sure whether it's really lava or just mud.'

'Mud? Is that possible? I thought there wasn't – couldn't be – any water on this planet!'

'It is, and there probably isn't. The liquid phase of mud doesn't have to be water, even though it usually is on Earth. Here, for example, it might conceivably be sulphur.'

'But if it's just mud, it wouldn't hurt the ship, would it?'

'Probably not.'

'Then why all this fuss about getting the tractors back in a hurry?'

The voice which answered reminded him of another lady in his past, who had kept him after school for drawing pictures in math class.

'Because in my judgement the flow is far more likely to be lava than mud, and if I must be wrong I'd rather my error were one that left us alive. I have no time at the moment to explain the basis of my judgement. I will be reporting our activities quite steadily from now on, and would prefer that you not interrupt unless a serious emergency demands it, or you get a call from Eileen.

'We are about 300 yards away now. The front is moving about as fast as before, which suggests that the flow is coming only along this valley. It's only three or four feet high, so viscosity is very low or density very high. Probably the former, considering where we are. It's as black as the smoke column.'

'Not glowing?' cut in Zaino thoughtlessly.

'*Black*, I said. Temperature will be easier to measure when we get closer. The front is nearly straight across the valley, with just a few lobes projecting ten or twelve yards and one notch where a small spine is being surrounded. By the way, I trust you're taping all this?' Again Zaino was reminded of the afternoon after school.

'Yes, Ma'am,' he replied. 'On my one and only monitor tape.'

'Very well. We're stopping near the middle of the valley 100 yards from the front. I am getting out, and will walk

as close as I can with a sampler and a radiometer. I assume that the radio equipment will continue to relay my suit broadcast back to you.' Zaino cringed a little, certain as he was that the tractor's electronic apparatus was in perfect order.

It struck him that Dr Burkett was being more snappish than usual. It never crossed his mind that the woman might be afraid.

'Ren, don't get any closer with the tractor unless I call. I'll get a set of temperature readings as soon as I'm close enough. Then I'll try to get a sample. Then I'll come back with that to the tractor, leave it and the radiometer and get the markers to set out.'

'Couldn't I be putting out the markers while you get the sample, Doctor?'

'You could, but I'd rather you stayed at the wheel.' Hargedon made no answer, and Burkett resumed her description for the record.

'I'm walking toward the front, a good deal faster than it's flowing toward me. I am now about twenty yards away, and am going to take a set of radiation-temperature measures.' A brief pause. 'Readings coming. Nine sixty. Nine eighty. Nine ninety – that's from the bottom edge near the spine that's being surrounded. Nine eighty-five—' The voice droned on until about two dozen readings had been taped. Then, 'I'm going closer now. The sampler is just a ladle on a twelve-foot handle we improvised, so I'll have to get that close. The stuff is moving slowly; there should be no trouble. I'm in reach now. The lava is very liquid; there's no trouble getting the sampler in – or out again – it's not very dense, either. I'm heading back toward the tractor now. No, Ren, don't come to meet me.'

There was a minute of silence, while Zaino pictured the space-suited figure with its awkwardly long burden, walking away from the creeping menace to the relative safety of the tractor. 'It's frozen solid already; we needn't worry about spilling. The temperature is about – five eighty. Give me the markers, please.'

Another pause, shorter this time. Zaino wondered how

much of that could be laid to a faster walk without the ladle and how much to the lessening distance between flow and tractor. 'I'm tossing the first marker close to the edge – it's landed less than a foot from the lava. They're all on a light cord at ten-foot intervals; I'm paying out the cord as I go back to the tractor. Now we'll stand by and time the arrival at each marker as well as we can.'

'How close are you to the main cone?' asked Zaino.

'Not close enough to see its base, I'm afraid. Or to get a sample of it, which is worse. We – goodness, what was that?'

Zaino had just time to ask, 'What was what?' when he found out.

IV

For a moment, he thought that the *Albireo* had been flung bodily into the air. Then he decided that the great metal pillar had merely fallen over. Finally he realized that the ship was still erect, but the ground under it had just tried to leave.

Everyone in the group had become so used to the almost perpetual ground tremors that they had ceased to notice them; but this one demanded attention. Rowson, using language which suggested that his career might not have been completely free of adventure after all, flashed through the communication level on his way down to the power section. Schlossberg and Babineau followed, the medic pausing to ask Zaino if he were all right. The radioman merely nodded affirmatively; his attention was already back at his job. Burkett was speaking a good deal faster than before.

'Never mind if the sample isn't lashed tight yet – if it falls off there'll be plenty more. There isn't time! Arnie, get in touch with Dr Mardikian and Dr Marini. Tell them that this volcano is explosive, that all estimates of what the flow may do are off until we can make more measures, and in any case the whole situation is unpredictable. Everyone should get back as soon as possible. Remember, we decided that those big craters Eileen checked were not meteor pits. I don't know whether this thing will let go in the next hour, the next year, or at all. Maybe what's happening now will act as a safety

valve – but let's get out. Ren, that flow is speeding up and getting higher, and the ash rain is getting a lot worse. Can you see to drive?'

She fell silent. Zaino, in spite of her orders, left his set long enough to leap to the nearest port for a look at the volcano.

He never regretted it.

Across the riven plain, whose cracks were now nearly hidden under the new ash, the black cone towered above the nearer elevations. It was visibly taller than it had been only a few hours before. The fountain from its top was thicker, now jetting straight up as though wind no longer meant a thing to the fiercely driven column of gas and dust. The darkness was not so complete; patches of red and yellow incandescence showed briefly in the pillar, and glowing sparks rather than black cinders rained back on the steep slopes. Far above, a ring of smoke rolled and spread about the column, forming an ever-broadening blanket of opaque cloud above a landscape which had never before been shaded from the sun. Streamers of lightning leaped between cloud and pillar, pillar and mountain, even cloud and ground. Any thunder there might have been was drowned in the howl of the escaping gas, a roar which seemed to combine every possible note from the shrillest possible whistle to a bass felt by the chest rather than heard by the ears. Rowson's language had become inaudible almost before he had disappeared down the hatch.

For long moments the radioman watched the spreading cloud, and wondered whether the *Albireo* could escape being struck by the flickering, ceaseless lightning. Far above the widening ring of cloud the smoke fountain drove, spreading slowly in the thinning atmosphere and beyond it. Zaino had had enough space experience to tell at a glance whether a smoke or dust cloud was in air or not. This wasn't, at least at the upper extremity . . .

And then, quite calmly, he turned back to his desk, aimed the antenna straight up, and called Eileen Harmon. She answered promptly.

The stratigrapher listened without interruption to his report

and the order to return. She conferred briefly with her companion, replied, 'We'll be back in twelve hours,' and signed off. And that was that.

Zaino settled back with a sigh, and wondered whether it would be tactful to remind Rowson of his offer of a year's pay.

All four vehicles were now homeward bound; all one had to worry about was whether any of them would make it. Hargedon and Burkett were fighting their way through an ever-increasing ash rain a scant two miles away – ash which not only cut visibility but threatened to block the way with drifts too deep to negotiate. The wind, now blowing fiercely toward the volcano, blasted the gritty stuff against their front window as though it would erode through; and the lava flow, moving far faster than the gentle ooze they had never quite measured, surged – and glowed – grimly behind.

A hundred miles or more to the east, the tractors containing Mardikian, Marini and their drivers headed southwest along the alternate route their maps had suggested; but Mardikian, some three hours in the lead, reported that he could see four other smoke columns in that general direction.

Mercury seemed to be entering a new phase. The maps might well be out of date.

Harmon and Trackman were having no trouble at the moment, but they would have to pass the great chasm. This had been shooting out daughter cracks when Zaino and Hargedon passed it hours before. No one could say what it might be like now, and no one was going out to make sure.

'We can see you!' Burkett's voice came through suddenly. 'Half a mile to go, and we're way ahead of the flow.'

'But it's coming?' Rowson asked tensely. He had returned from the power level at Zaino's phoned report of success.

'It's coming.'

'How fast? When will it get here? Do you know whether the ship can stand contact with it?'

'I don't know the speed exactly. There may be two hours, maybe five or six. The ship can't take it. Even the temperature measures I got were above the softening point of the alloys,

and it's hotter and much deeper now. Anyway, if the others aren't back before the flow reaches the ships they won't get through. The tractor wheels would char away, and I doubt that the bodies would float. You certainly can't wade through the stuff in a spacesuit, either.'

'And you think there can't be more than five or six hours before the flow arrives?'

'I'd say that was a very optimistic guess. I'll stop and get a better speed estimate if you want, but won't swear to it.'

Rowson thought for a moment.

'No,' he said finally, 'don't bother. Get back here as soon as you can. We need the tractor and human muscles more than we need even expert guesses.' He turned to the operator.

'Zaino, tell all the tractors there'll be no answer from the ship for a while, because no one will be aboard. Then suit up and come outside.' He was gone.

Ten minutes later, six human beings and a tractor were assembled in the flame-lit near-darkness outside the ship. The cloud had spread to the horizon, and the sun was gone. Burkett and Hargedon had arrived, but Rowson wasted no time on congratulations.

'We have work to do. It will be easy enough to keep the lava from the ship, since there seems to be a foot or more of ash on the ground and a touch of main drive would push it into a ringwall around us; but that's not the main problem. We have to keep it from reaching the chasm anywhere south of us, since that's the way the others will be coming. If they're cut off, they're dead. It will be brute work. We'll use the tractor any way we can think of. Unfortunately it has no plough attachment, and I can't think of anything aboard which could be turned into one. You have shovels, such as they are. The ash is light, especially here, but there's a mile and a half of dam to be built. I don't see how it can possibly be done . . . but it's going to be.'

'Come on, Arnie! You're young and strong,' came the voice of the mineralogist. 'You should be able to lift as much of this stuff as I can. I understand you were lucky enough to

get hold of Eileen – have you asked for the bonus yet? – but your work isn't done.'

'It wasn't luck,' Zaino retorted. Burkett, in spite of her voice, seemed much less of a schoolmistress when encased in a spacesuit and carrying a shovel, so he was able to talk back to her. 'I was simply alert enough to make use of existing conditions, which I had to observe for myself in spite of all the scientists around. I'm charging the achievement to my regular salary. I saw—'

He stopped suddenly, both with tongue and shovel. Then, 'Captain!'

'What is it?'

'The only reason we're starting this wall here is to keep well ahead of the flow so we can work as long as possible, isn't it?'

'Yes, I suppose so. I never thought of trying anywhere else. The valley would mean a much shorter dam, but if the flow isn't through it by now it would be before we could get there – oh! Wait a minute!'

'Yes, sir. You can put the main switch anywhere in a D.C. circuit. Where are the seismology stores we never had to use?'

Four minutes later the tractor set out from the *Albireo*, carrying Rowson and Zaino. Six minutes after that it stopped at the base of the ash cone which formed the north side of the valley from which the lava was coming. They parked a quarter of the way around the cone's base from the emerging flood and started to climb on foot, both carrying burdens.

Forty-seven minutes later they returned empty-handed to the vehicle, to find that it had been engulfed by the spreading liquid.

With noticeable haste they floundered through the loose ash a few yards above the base until they had outdistanced the glowing menace, descended and started back across the plain to where they knew the ship to be, though she was invisible through the falling detritus. Once they had to detour around a crack. Once they encountered one which widened toward the chasm on their right, and they knew a detour would be impossible. Leaping it seemed impossible, too, but they did

it. Thirty seconds after this, forty minutes after finding the tractor destroyed, the landscape was bathed in a magnesium-white glare as the two one-and-a-half kiloton charges planted just inside the crater rim let go.

'Should we go back and see if it worked?' asked Zaino.

'What's the use? The only other charges we had were in the tractor. Thank goodness they were nuclear instead of H.E. If it didn't work we'd have more trouble to get back than we're having now.'

'If it didn't work, is there any point in going back?'

'Stop quibbling and keep walking. Dr Burkett, are you listening?'

'Yes, Captain.'

'We're fresh out of tractors, but if you want to try it on foot you might start a set of flow measures on the lava. Arnie wants to know whether our landslide slid properly.'

However, the two were able to tell for themselves before getting back to the *Albireo*.

The flow didn't stop all at once, of course; but with the valley feeding it blocked off by a pile of volcanic ash 400 feet high on one side, nearly fifty on the other and more than a quarter of a mile long, its enthusiasm quickly subsided. It was thin, fluid stuff, as Burkett had noted; but as it spread it cooled, and as it cooled it thickened.

Six hours after the blast it had stopped with its nearest lobe almost a mile from the ship, less than two feet thick at the edge.

When Mardikian's tractor arrived, Burkett was happily trying to analyse samples of the flow, and less happily speculating on how long it would be before the entire area would be blown off the planet. When Marini's and Harmon's vehicles arrived, almost together, the specimens had been loaded and everything stowed for acceleration. Sixty seconds after the last person was aboard, the *Albireo* left Mercury's surface at two gravities.

The haste, it turned out, wasn't really necessary. She had been in parking orbit nearly forty-five hours before the first

of the giant volcanoes reached its climax, and the one beside their former site was not the first. It was the fourth.

'And that seems to be that,' said Camille Burkett rather tritely as they drifted a hundred miles above the little world's surface. 'Just a belt of white-hot calderas all round the planet. Pretty, if you like symmetry.'

'I like being able to see it from this distance,' replied Zaino, floating weightless beside her. 'By the way, how much bonus should I ask for getting that idea of putting the seismic charges to use after all?'

'I wouldn't mention it. Any one of us might have thought of that. We all knew about them.'

'Anyone *might* have. Let's speculate on how long it would have been before anyone *did*.'

'It's still not like the other idea, which involved your own specialty. I still don't see what made you suppose that the gas pillar from the volcano would be heavily charged enough to reflect your radio beam. How did that idea strike you?'

Zaino thought back, and smiled a little as the picture of lightning blazing around pillar, cloud and mountain rose before his eyes.

'You're not quite right,' he said. 'I was worried about it for a while, but it didn't actually strike me.'

It fell rather flat; Camille Burkett, Ph.D., had to have it explained to her.

FINAL ENCOUNTER

By Harry Harrison

I

HAUTAMAKI had landed the ship on a rubble-covered pan of rock, a scored and ancient laval flow on the wrong side of the glacier. Tjond had thought, but only to herself, that they could have landed nearer; but Hautamaki was ship-master and made all the decisions. Then again, she could have stayed with the ship. No one had forced her to join in this hideous scramble across the fissured ice. But of course staying behind was out of the question.

There was a radio beacon of some kind over there – in this uninhabited planet – sending out squeals and cracklings on a dozen frequencies. She *had* to be there when they found it.

Gulyas helped her over a difficult place and she rewarded him with a quick kiss on his windburned cheek.

It was too much to hope that it could be anything other than a human beacon, though their ship was supposed to be covering an unexplored area. Yet there was the slimmest chance that some *others* might have built the beacon. The thought of not being there at the time of a discovery like that was unbearable. How long had mankind been looking now? For how many time-dimmed centuries?

She had to rest, she was not used to this kind of physical effort. She was roped between the two men and when she stopped they all stopped. Hautamaki halted and looked when he felt her hesitant tug on the rope, staring down at her and saying nothing. His body said it for him, arrogant, tall, heavily muscled, bronzed and nude under the transparent atmosphere suit. He was breathing lightly and normally, and his face never changed expression as he looked at her desper-

ately heaving breast. Hautamaki! What kind of a man are you, Hautamaki, to ignore a woman with such a deadly glance?

For Hautamaki it had been the hardest thing he had ever done. When the two strangers had walked up the extended tongue of the ship's boarding ramp he had felt violated.

This was his ship, his and Kiiskinen's. But Kiiskinen was dead and the child that they had wanted to have was dead. Dead before birth, before conception. Dead because Kiiskinen was gone and Hautamaki would never want a child again. Yet there was still the job to be done; they had completed barely half of their survey swing when the accident had occurred. To return to survey base would have been prodigiously wasteful of fuel and time, so he had called for instructions – and this had been the result. A new survey team, unfledged and raw.

They had been awaiting first assignment – which meant they at least had the training if not the experience. Physically they would do the work that needed to be done. There would be no worry about that. But they were a team, and he was only half a team; and loneliness can be a terrible thing.

He would have welcomed them if Kiiskinen had been there. Now he loathed them.

The man came first, extending his hand. 'I'm Gulyas, as you know, and my wife Tjond.' He nodded over his shoulder and smiled, the hand still out.

'Welcome aboard my ship,' Hautamaki said and clasped his own hands behind his back. If this fool didn't know about the social customs of Men, he was not going to teach him.

'Sorry. I forgot you don't shake hands or touch strangers.' Still smiling, Gulyas moved aside to make room for his wife to enter the ship.

'How do you do, shipmaster?' Tjond said. Then her eyes widened and she flushed, as she saw for the first time that he was completely nude.

'I'll show you your quarters,' Hautamaki said, turning and walking away, knowing they would follow. A woman! He

had seen them before on various planets, even talked with them, but never had he believed that there would some day be one one his ship. How ugly they were, with their swollen bodies! It was no wonder that on the other worlds everyone wore clothes. They needed to conceal the blubbery excess fat.

'Why – he wasn't even wearing *shoes*!' Tjond said indignantly as she closed the door. Gulyas laughed.

'Since when has nudity bothered you? You didn't seem to mind it during our holiday on Hie. And you knew about the Men's customs.'

'That was different. Everyone was dressed – or undressed – the same. But this, it's almost indecent!'

'One man's indecency is another's decency.'

'I bet you can't say that three times fast.'

'Nevertheless it's true. When you come down to it he probably thinks that we're just as socially wrong as you seem to think he is.'

'I don't think – I *know*!' she said, reaching up on tiptoes to nip his ear with her tiny teeth, as white and perfectly shaped as rice grains. 'How long have we been married?'

'Six days, nineteen hours standard, and some odd minutes.'

'Only odd because you haven't kissed me in such a terribly long time.'

He smiled down at her tiny, lovely figure, ran his hand over the warm firmness of her hairless skull and down her spare, straight body.

'You're beautiful,' he said, then kissed her.

11

Once they were across the glacier the going was easier on the hard-packed snow. Within an hour they had reached the base of the rocky spire. It stretched above them against the green-tinted sky, black and fissured. Tjond let her eyes travel up its length and wanted to cry.

'It's too tall! *Impossible* to climb. With the gravsled we could ride up.'

'We have discussed this before,' Hautamaki said, looking at Gulyas as he always did when he talked to her. 'I will bring

no radiation sources near the device up there until we determine what it is. Nothing can be learned from our aerial photograph except that it appears to be an untended machine of some kind. I will climb first. You may follow. It is not difficult on this type of rock.'

It was not difficult – it was downright impossible. She scrambled and fell and couldn't get a body's-length up the spire. In the end she untied her rope. As soon as the two men had climbed above her she sobbed hopelessly into her hands. Gulyas must have heard her, or he knew how she felt being left out, because he called back down to her.

'I'll drop you a rope as soon as we get to the top, with a loop on the end. Slip your arms through it and I'll pull you up.'

She was sure that he wouldn't be able to do it, but still she had to try. The beacon – it might *not* be human made!

The rope cut into her body, and surprisingly enough he could pull her up. She did her best to keep from banging into the cliff and twisting about: then Gulyas was reaching down to help her. Hautamaki was holding the rope ... and she knew that it was the strength of those corded arms, not her husband's that had brought her so quickly up.

'Hautamaki, thank you for—'

'We will examine the device now,' he said, interrupting her and looking at Gulyas while he spoke. 'You will both stay here with my pack. Do not approach unless you are ordered to.'

He turned on his heel, and with purposeful stride went to the outcropping where the machine stood. No more than a pace away from it he dropped to one knee, his body hiding most of it from sight, staying during long minutes in this cramped position.

'What is he doing?' Tjond whispered, hugging tight to Gulyas' arm. 'What is it? What does he see?'

'Come over here!' Hautamaki said, standing. There was a ring of emotion in his voice that they had never heard before. They ran, skidding on the ice-glazed rock, stopping only at the barrier of his outstretched arm.

'What do you make of it?' Hautamaki asked, never taking his eyes from the squat machine fixed to the rock before them.

There was a central structure, a half sphere of yellowish metal that clamped tight to the rock, its bottom edge conforming to the irregularities beneath it. From this projected stubby arms of the same material, arranged around the circumference close to the base. On each arm was a shorter length of metal. Each one was shaped differently, but all were pointing skywards like questing fingers. An arm-thick cable emerged from the side of the hemisphere and crawled over to a higher shelf of rock. There it suddenly straightened and stood straight up, rearing into the air above their heads. Gulyas pointed to this.

'I have no idea what the other parts do, but I'll wager that is the antenna that has been sending out the signals we picked up when we entered this system.'

'It might be,' Hautamaki admitted. 'But what about the rest?'

'One of those things that's pointing up towards the sky looks like a little telescope,' Tjond said. 'I really believe it is.'

Hautamaki gave an angry cry and reached for her as she knelt on the ground, but he was too late. She pressed one eye to the bottom of the tube, squinted the other shut and tried to see.

'Why – yes, it is a telescope!' She opened the other eye and examined the sky. 'I can see the edge of the clouds up there very clearly.'

Gulyas pulled her away, but there was no danger. It was a telescope, as she had said, nothing more. They took turns looking through it. It was Hautamaki who noticed that it was slowly moving.

'In that case – all of the others must be turning too, since they are parallel,' Gulyas said, pointing to the metal devices that tipped each arm. One of them had an eyepiece not unlike the telescope's, but when he looked into it there was only darkness. 'I can't see a thing through it,' he said.

'Perhaps *you* weren't intended to,' Hautamaki said, rub-

bing his jaw while he stared at the strange machine, then turned away to rummage in his pack. He took a multi-radiation tester from its padded carrying case and held it before the eyepiece that Gulyas had been trying to look through. 'Infra-red radiation only. Everything else is screened out.'

Another of the tube-like things appeared to focus ultra-violet rays, while an open latticework of metal plates concentrated radio waves. It was Tjond who voiced the thought they all had.

'If I looked through a telescope – perhaps all these other things are telescopes too! Only made for alien eyes, as if the creatures who built the thing didn't know who, or what, would be coming here and provided all kinds of telescopes working on all kinds of wavelengths. The search is over! We ... mankind ... we're not alone in the universe after all!'

'We mustn't leap to conclusions,' Hautamaki said, but the tone of his voice belied his words.

'Why not?' Gulyas shouted, hugging his wife to him in a spasm of emotion. 'Why shouldn't we be the ones to find the aliens? If they exist at all we know we would come across them some time! The galaxy is immense – but finite. *Look and you shall find.* Isn't that what it says over the entrance to the academy?'

'We have no real evidence yet,' Hautamaki said, trying not to let his own growing enthusiasm show. He was the leader, he must be the devil's advocate. 'This device could have been human made.'

'Point one,' Gulyas said, ticking off on his fingers. 'It resembles nothing that any of us have ever seen before. Secondly, it is made of a tough unknown alloy. And thirdly it is in a section of space that, as far as we know, has never been visited before. We are light-centuries from the nearest inhabited system, and ships that can make this sort of trip and return are only a relatively recent development . . .'

'And here is *real* evidence – without any guesswork!' Tjond shouted, and they ran over to her.

She had followed the heavy cable that transformed itself

into the aerial. At the base, where it was thickened and fastened to the rock, were a series of incised characters. There must have been hundreds of them, rising from ground level to above their heads, each one clear and distinct.

'Those aren't human,' Tjond said triumphantly. 'They do not bear the slightest resemblance to any written characters of any language known to man. They are *new*!'

'How can you be sure?' Hautamaki said, forgetting himself enough to address her directly.

'I know, shipmaster, because this is my specialty. I trained in comparative philology and specialized in abbicciology – the study of the history of alphabets. We are probably the only science that is in touch with earth—'

'Impossible!'

'No, just very slow. Earth must be halfway around the galaxy from where we are now. If I remember correctly, it takes about 400 years for a round-trip communication. Abbicciology is a study that can only grow at the outer fringes; we deal with a hard core of unalterable fact. The old Earth alphabets are part of history and cannot be changed. I have studied them all, every character and every detail, and I have observed their mutations through the millennia. It can be observed that no matter how alphabets are modified and changed they will retain elements of their progenitors. That is the letter "L" as it has been adapted for computer input.' She scratched it into the rock with the tip of her knife, then incised a wavy character next to it. 'And this is the Hebrew *lamedh*, in which you can see the same basic shape. Hebrew is a proto-alphabet, so ancient as to be almost unbelievable. Yet there is the same right-angle bend. But these characters – there is *nothing* there that I have ever seen before.'

The silence stretched on while Hautamaki looked at her, studied her as if the truth or falsity of her words might be written somehow on her face. Then he smiled.

'I'll take your word for it. I'm sure you know your field very well.' He walked back to his pack and began taking out more test instruments.

'Did you see that,' Tjond whispered in her husband's ear, 'he *smiled* at me.'

'Nonsense. It is probably the first rictus of advanced frostbite.'

Hautamaki had hung a weight from the barrel of the telescope and was timing its motion over the ground. 'Gulyas,' he asked, 'do you remember this planet's period of rotation?'

'Roughly eighteen standard hours. The computation wasn't exact. Why?'

'That's close enough. We are at about 85 degrees north latitude here, which conforms to the angle of those rigid arms, while the motion of these scopes . . .'

'Counteracts the planet's rotation, moving at the same speed in the opposite direction. Of course! I should have seen it.'

'What are you two talking about?' Tjond asked.

'They point to the same spot in the sky all the time,' Gulyas said. 'To a star.'

'It could be another planet in this system,' Hautamaki said, then shook his head. 'No, there is no reason for that. It is something outside. We will tell after dark.'

They were comfortable in their atmosphere suits and had enough food and water. The machine was photographed and studied from every angle and they theorized on its possible power source. In spite of this the hours dragged by until dusk. There were some clouds, but they cleared away before sunset. When the first star appeared in the darkening sky Hautamaki bent to the ocular of the telescope.

'Just sky. Too light yet. But there is some sort of glowing grid appearing in the field, five thin lines radiating in from the circumference. Instead of crossing they fade as they come to the centre.'

'But they'll point out whatever star is in the centre of the field – without obscuring it?'

'Yes. The stars are appearing now.'

It was a seventh-magnitude star, isolated near the galactic rim. It appeared commonplace in every way except for its location, with no nearby neighbours even in stellar terms.

They took turns looking at it, marking it so they could not possibly mistake it for any other.

'Are we going there?' Tjond asked, though it was more of a statement than a question that sought an answer.

'Of course,' Hautamaki said.

III

As soon as their ship had cleared atmosphere, Hautamaki sent a message to the nearest relay station. While they waited for an answer they analysed the material they had.

With each result their enthusiasm grew. The metal was no harder than some of the resistant alloys they used, but its composition was completely different and some unknown process of fabrication had been used that had compacted the surface molecules to a greater density. The characters bore no resemblance to any human alphabet. And the star towards which the instruments had been pointed was far beyond the limits of galactic exploration.

When the message arrived, *signal recorded*, they jumped the ship at once on the carefully computed and waiting course. Their standing instructions were to investigate anything, report everything, and this they were doing. With their planned movements recorded they were free. They, *they*, were going to make a first contact with an alien race – had already made contact with one of its artifacts. No matter what happened now, the honour was irrevocably theirs. The next meal turned naturally into a celebration, and Hautamaki unbent enough to allow other intoxicants as well as wine. The results were almost disastrous.

'A toast!' Tjond shouted, standing and wobbling just a bit.

'To Earth and mankind – no longer alone!'

No longer alone, they repeated, and Hautamaki's face lost some of the party gaiety that it had reluctantly gained.

'I ask you to join me in a toast,' he said, 'to someone you never knew, who should have been here to share this with us.'

'To Kiiskinen,' Gulyas said. He had read the records and knew about the tragedy that was still fresh in Hautamaki's thoughts.

'Thank you. To Kiiskinen.' They drank.

'I wish we could have met him,' Tjond said, a tendril of feminine curiosity tickling at her.

'A fine man,' Hautamaki said, seeming anxious to talk now that the subject had been broached for the first time since the accident. 'One of the very finest. We were twelve years on this ship.'

'Did you have . . . children?' Tjond asked.

'Your curiosity is not fitting,' Gulyas snapped at his wife. 'I think it would be better if we dropped . . .'

Hautamaki held up his hand. 'Please. I understand your natural interest. We Men have settled only a dozen or so planets and I imagine our customs are curious to you; we are only in a minority as yet. But if there is any embarrassment it is all your own. Are you embarrassed about being bisexual? Would you kiss your wife in public?'

'A pleasure,' Gulyas said, and did.

'Then you understand what I mean. We feel the same way and at times act the same way, though our society is monosexual. It was a natural result of ectogenesis.'

'Not natural,' Tjond said, a touch of colour in her cheeks. 'Ectogenesis needs a fertile ovum. Ova come from females; an ectogenetic society should logically be a female society. An all-male one is unnatural.'

'Everything we do is unnatural,' Hautamaki told her without apparent anger. 'Man is an environment-changing animal. Every person living away from Earth is living in an "unnatural" environment. Ectogenesis on these terms is no more unnatural than living, as we are now, in a metal hull in an unreal manifestation of space-time. That this ectogenesis should combine the germ plasm from two male cells rather than from an egg and a sperm is of no more relevancy than your vestigial breasts.'

'You are being insulting,' she said, blushing.

'Not in the least. They have lost their function, therefore they are degenerative. You bisexuals are just as natural –

or unnatural – as we Men. Neither is viable without the "unnatural" environment that we have created.'

The excitement of their recent discovery still possessed them, and perhaps the stimulants and the anger had lowered Tjond's control. 'Why – how dare you call me unnatural – you—'

'You forget yourself, woman!' Hautamaki boomed, drowning out the word, leaping to his feet. 'You expected to pry into the intimate details of my life and are insulted when I mention some of your own taboos. The Men are better off without your kind!' He drew a deep, shuddering breath, turned on his heel and left the room.

Tjond stayed in their quarters for almost a standard week after that evening. She worked on her analysis of the alien characters and Gulyas brought her meals. Hautamaki did not mention the events, and cut Gulyas off when he tried to apologize for his wife. But he made no protest when she appeared again in the control section, though he reverted to his earlier custom of speaking only to Gulyas, never addressing her directly.

'Did he actually want me to come too?' Tjond asked, closing her tweezers on a single tiny hair that marred the ivory sweep of her smooth forehead and skull. She pulled it out and touched her brow. 'Have you noticed that he really has eyebrows? Right *here*, great shabby things like an atavism. Even hair around the base of his skull. Disgusting. I'll bet you that the Men sort their genes for hirsuteness, it couldn't be accident. You never answered – did he ask for me to be there?'

'You never gave me a chance to answer,' Gulyas told her, a smile softening his words. 'He didn't ask for you by name. That would be expecting too much. But he did say that there would be a full crew meeting at nineteen hours.'

She put a touch of pink makeup on the lobes of her ears and the bottoms of her nostrils, then snapped her cosmetic case shut. 'I'm ready whenever you are. Shall we go see what the shipmaster wants?'

'In twenty hours we'll be breaking out of jump-space,'

Hautamaki told them when they had met in the control section. 'There is a very good chance that we will encounter the people – the aliens – who constructed the beacon. Until we discover differently we will assume that they are peacefully inclined. Yes, Gulyas?'

'Shipmaster, there has been a good deal of controversy on the intentions of any hypothetical race that might be encountered. There has been no real agreement . . .'

'It does not matter. I am shipmaster. The evidence so far indicates a race looking for contact, not conquest. I see it this way. We have a rich and very old culture, so while we have been searching for another intelligent life form we have also been exploring and recording with ships like mine. A poorer culture might be limited in the number of ships that they could apply to this kind of occupation. Therefore the beacons. Many of them could be easily planted by a single ship over a large area of space. There are undoubtedly others. All of them serve to draw attention to a single star, a rendezvous point of some type.'

'This doesn't prove peaceful intentions. It could be a trap.'

'I doubt it. There are far better ways to satisfy warlike tendencies than to set elaborate traps like this. I *think* their intentions are peaceful, and that is the only factor that matters. Until we actually encounter them any action will have to be based on a guess. Therefore I have already jettisoned the ship's armament—'

'You *what*?'

'– and I'll ask you to surrender any personal weapons that you might have in your possession.'

'You're risking our lives – without even consulting us,' Tjond said angrily.

'Not at all,' he answered, not looking at her. 'You risked your own life when you entered the service and took the oath. You will obey my instructions. All weapons here within the hour; I want the ship clean before we break through. We will meet the strangers armed only with our humanity ... You may think the Men go naked for some perverse reason, but

that is wrong. We have discarded clothes as detrimental to total involvement in our environment, a both practical and symbolic action.'

'You aren't suggesting that *we* remove our clothes as well, are you?' Tjond asked, still angry.

'Not at all. Do as you please. I am just attempting to explain my reasons so we will have some unanimity of action when we encounter the intelligent creatures who built the beacon. Survey knows now where we are. If we do not return, a later contact team will be protected by mankind's complete armoury of death. So we will now give our aliens every opportunity to kill us – if that is what they are planning. Retribution will follow. If they do not have warlike intentions we will make peaceful contact. That, in itself, is reason enough to risk one's life a hundred times over. I don't have to explain to you the monumental importance of such a contact.'

The tension grew as the time for break-through approached. The box of handguns, explosive charges, poisons from the laboratory – even the large knives from the kitchen – had long since been jettisoned. They were all in the control area when the bell pinged softly and they broke through, back into normal space. Here, at the galactic rim, most of the stars were massed to one side. Ahead lay a pit of blackness with a single star glowing.

'That's it,' Gulyas said, swinging back the spectral analyser, 'but we're not close enough for clear observation. Are we going to take another jump now?'

'No,' Hautamaki said, 'I want a clevs observation first.'

The sensitive clevs screen began to glow as soon as the pressure dropped, darkening slowly. There were occasional bursts of light from their surface as random molecules of air struck them, then this died away. The forward screen deepened to the blackness of outer space and in its centre appeared the image of the star.

'It's impossible!' Tjond gasped from the observer's seat behind them.

'Not impossible,' Hautamaki said. 'Just impossible of natural

origin. Its existence proves that what we see can – and has – been constructed. We will proceed.'

The star image burned with unreality. The star itself at the core was normal enough – but how to explain the three interlocking rings that circled it? They had the dimensions of a planetary orbit. Even if they were as tenuous as a comet's tail their construction was an incredible achievement. And what could be the significance of the coloured lights on the rings, apparently orbiting the primary like insane electrons?

The screen sparkled and the image faded.

'It could only be a beacon,' Hautamaki said, removing his helmet. 'It is there to draw attention, as was the radio beacon that drew us to the last planet. What race with the curiosity to build spaceships could possibly resist the attraction of a thing like that?'

Gulyas was feeding the course corrections into the computer. 'It is still baffling,' he said. 'With the physical ability to construct that why haven't they built an exploring fleet to go out and make contact – instead of trying to draw them in?'

'I hope that we will discover that answer soon. Though it probably lies in whatever composes their alien psychology. To their way of thinking this might be the obvious manner. And you will have to admit that it has worked.'

IV

This time when they made the transition from jump-space the glowing rings of light filled the front ports. Their radio receivers were on, automatically searching the wavelengths.

They burst into sound on a number of bands simultaneously. Gulyas lowered the volume.

'This is the same kind of broadcast we had from the beacon,' he said. 'Very directional. All of the transmissions are coming from that golden planetoid, or whatever it is. It's big, but doesn't seem to have a planetary diameter.'

'We're on our way,' Hautamaki told him. 'I'll take the controls, see if you can get any image on the video circuits.'

'Just interference. But I'm sending out a signal, a view of

this cabin. If they have the right equipment there they should be able to analyse our signal and match it . . . Look, the screen is changing! They're working fast.'

The viewscreen was rippling with colour. Then a picture appeared, blurred, then steadied. Tjond focused and it snapped into clear life. The two men looked, stared. Behind them Tjond gasped.

'At least no snakes or insects, praise fortune for that!'

The being on the screen was staring at them with the same intensity. There was no way to estimate its relative size, but it was surely humanoid. Three long fingers, heavily webbed, with an opposed thumb. Only the upper part of its figure was visible, and this was clothed so that no physical details could be seen. But the being's face stood out clearly on the screen, golden in colour, hairless, with large, almost circular eyes. Its nose, had it been a human one, would be said to be broken, spread over its face, nostrils flaring. This, and the cleft upper lip, gave it a grim appearance to human eyes.

But this yardstick could not be applied. By alien standards it might be beautiful.

'S'bb'thik,' the creature said. The radio beacons carried the matching audio now. The voice was high pitched and squeaky.

'I greet you as well,' Hautamaki said. 'We both have spoken languages and we will learn to understand each other. But we come in peace.'

'Maybe we do, but I can't say the same thing for these aliens,' Gulyas interrupted. 'Look at screen three.'

This held an enlarged view taken from one of the forward pickups, locked onto the planetoid they were approaching. A group of dark buildings stood out from the golden surface, crowned with a forest of aerials and antennas. Ringed about the buildings were circular structures mounted with squat tubular devices that resembled heavy-bore weapons. The similarity was increased by the fact that the numerous emplacements had rotated. The open orifices were tracking the approaching ship.

'I'm killing our approach velocity,' Hautamaki said, stabbing the control buttons in rapid sequence. 'Set up a repeater

plate here and switch on a magnified view of those weapons. We'll find out their intentions right now.'

Once their motion relative to the golden planetoid had been stopped, Hautamaki turned and pointed to the repeater screen, slowly tapping the image of the weapons. Then he tapped himself on the chest and raised his hands before him, fingers spread wide, empty. The alien had watched this dumb show with glistening, golden eyes. It rocked its head from side to side and repeated Hautamaki's gesture, tapping itself on the chest with its long central finger, then pointed into the screen.

'He understood at once,' Gulyas said. 'Those weapons – they're turning away, sinking out of sight.'

'We'll continue our approach. Are you recording this?'

'Sight, sound, full readings from every instrument. We've been recording since we first saw the star, with the tapes being fed into the armoured vault as you ordered. I wonder what the next step is?'

'They've already taken it – look.'

The image of the alien reached off the screen and brought back what appeared to be a metal sphere that it held lightly in one hand. From the sphere projected a pipe-like extrusion of metal with a lever half way up its length. When the alien pressed the lever they heard a hissing.

'A tank of gas,' Gulyas said. 'I wonder what it is supposed to signify? No – it's not gas. It must be a vacuum. See, the pipe is sucking up those grains sprinkled on the table.' The alien kept the lever depressed until the hissing stopped.

'Ingenious,' Hautamaki said. 'Now we know there is a sample of their atmosphere inside that tank.'

There was no mechanical propulsion visible, but the sphere came swooping up towards their ship where it swung in orbit above the golden planetoid. The sphere stopped, just outside the ship and clearly visible from the viewports, bobbing in a small arc.

'Some sort of force beam,' Hautamaki said, 'though nothing registers on the hull instruments. That's one thing I

hope to find out how to do. I'm going to open the outer door on the main hatch.'

As soon as the door opened the sphere swooped and vanished from sight and they saw, through the pickup inside the air lock, that it fell gently to the deck inside. Hautamaki closed the door and pointed to Gulyas.

'Take a pair of insulated gloves and carry that tank to the lab. Run the contents through the usual air examination procedures that we use for testing planetary atmosphere. As soon as you have taken the sample evacuate the flask and fill it with our own air, then throw it out through the lock.'

The analysers worked on the sample of alien air, and presumably the aliens were doing the same with their tank of ship's atmosphere. The analysis was routine and fast, the report appearing in coded form on the panel in control.

'Unbreathable,' Gulyas said, 'at least for us. There seems to be enough oxygen, more than enough, but any of those sulphurated compounds would eat holes through our lungs. They must have rugged metabolisms to inhale stuff like that. One thing for certain, we'll never be in competition for the same worlds ...'

'Look! The picture is changing,' Tjond said, drawing their attention back to the viewing screen.

The alien had vanished and the viewpoint appeared to be in space above the planetoid's surface. A transparent bulge on its surface filled the screen and while they watched the alien entered it from below. The scene shifted again, then they were looking at the alien from inside the clear-walled chamber. The alien came towards the pickup, but before reaching it the alien stopped and leaned against what appeared to be thin air.

'There's a transparent wall that divides the dome in half,' Gulyas said. 'I'm beginning to get the idea.'

The pickup panned away from the alien, swept around to the opposite direction where there was an entrance cut into the clear fabric of the wall. The door was open into space.

'That's obvious enough,' Hautamaki said, rising to his feet.

'That central wall must be airtight, so it can be used for a conference chamber. I'll go. Keep a record of everything.'

'It looks like a trap,' Tjond said, fidgeting with her fingers while she looked at the invitingly open door on the screen. 'It will be a risk . . .'

Hautamaki laughed, the first time they had ever heard him do it, as he climbed into his pressure suit. 'A trap! Do you believe they have gone to all this to set a trap for me? Such ego is preposterous. And if it were a trap – do you think it possible to stay out of it?'

He pushed himself free of the ship. His suited figure floated away, getting smaller and smaller.

Silently, moving closer together without realizing they did so, they watched the meeting on the screen. They saw Hautamaki drawn gently in through the open doorway until his feet touched the floor. He turned to look as the door closed, while from the radio they heard a hissing, very dimly at first, then louder and louder.

'It sounds like they are pressurizing the room,' Gulyas said.

Hautamaki nodded. 'Yes, I can hear it now, and there is a reading on the external pressure gauge. As soon as it reaches atmospheric normal I'm taking my helmet off.'

Tjond started to protest, but stopped when her husband raised his hand in warning. This was Hautamaki's decision to make.

'Smells perfectly breathable,' Hautamaki said, 'though it has a metallic odour.'

He laid his helmet aside and stripped his suit off. The alien was standing at the partition and Hautamaki walked over until they stood face to face, almost the same height. The alien placed his palm flat against the transparent wall and the human put his hand over the same spot. They met, as close as they could, separated only by a centimetre of substance. Their eyes joined and they stared for a long time, trying to read intent, trying to communicate. The alien turned away first, walking over to a table littered with a variety of objects.

It picked up the nearest one and held it for Hautamaki to see. *'Kilt,'* the alien said. It looked like a piece of stone.

Hautamaki for the first time took notice of the table on his side of the partition. It appeared to hold the identical objects as the other table, and the first of these was a lump of ordinary stone. He picked it up.

'Stone,' he said, then turned to the television pickup and the unseen viewers in the ship. 'It appears that a language lesson is first. This is obvious. See that this is recorded separately. Then we can programme the computer for machine translation in case the aliens aren't doing it themselves.'

The language lesson progressed slowly once the stock of simple nouns with physical referents had been exhausted. Films were shown, obviously prepared long before, showing simple actions, and bit by bit verbs and tenses were exchanged. The alien made no attempt to learn their language, he just worked to insure accuracy of identity in the words. They were recording too. As the language lesson progressed Gulyas's frown deepened, and he started to make notes, then a list that he checked off. Finally he interrupted the lesson.

'Hautamaki – this is important. Find out if they are just accumulating a vocabulary or if they are feeding a MT with this material.'

The answer came from the alien itself. It turned its head sideways, as if listening to a distant voice, then spoke into a cup-like device at the end of a wire. A moment later Hautamaki's voice spoke out, toneless since each word had been recorded separately.

'I talk through a machine . . . I talk my talk . . . a machine talk your talk to you . . . I am Liem . . . we need have more words in machine before we talk well.'

'This can't wait,' Gulyas said. 'Tell them that we want a sample of some of their body cells, any cells at all. It is complex, but try to get it across.'

The aliens were agreeable. They did not insist on a specimen in return, but accepted one. A sealed container brought a frozen sliver of what looked like muscle tissue over to the ship. Gulyas started towards the lab.

'Take care of the recordings,' he told his wife. 'I don't think this will take too long.'

V

It didn't. Within the hour he had returned, coming up so silently that Tjond, intent on listening to the language lesson, did not notice him until he stood near to her.

'Your face,' she said. 'What is wrong? What did you discover?'

He smiled wryly at her. 'Nothing terrible, I assure you. But things are very different from what we supposed.'

'What is it?' Hautamaki asked from the screen. He had heard their voices and turned towards the pickup.

'How has the language progressed?' Gulyas asked. 'Can you understand me, Liem?'

'Yes,' the alien said, 'almost all of the words are clear now. But the machine has only a working force of a few thousand words so you must keep your speech simple.'

'I understand. The things I want to say are very simple. First a question. Your people, do they come from a planet orbiting about a star near here?'

'No. We have travelled a long way to this star, searching. My home world is there, among those stars there.'

'Do all your people live on that world?'

'No, we live on many worlds, but we are all children of children of children of people who lived on one world very long ago.'

'Our people have also settled many worlds, but we all come from one world,' Gulyas told him, then looked down at the paper in his hands. He smiled at the alien in the screen before him, but there was something terribly sad about this smile. 'We came originally from a planet named Earth. That is where your people came from too. We are brothers, Liem.'

'What madness is this?' Hautamaki shouted at him, his face swollen and angry. 'Liem is humanoid, not human! It cannot breathe our air!'

'*He* cannot breathe our air, or perhaps she,' Gulyas answered quietly. 'We do not use gene manipulation, but we

know that it is possible. I'm sure we will eventually discover just how Liem's people were altered to live under the physical conditions they do now. It might have been natural selection and normal mutation, but it seems too drastic a change to be explained that way. But that is not important. *This is.*' He held up the sheets of notes and photographs. 'You can see for yourself. This is the DNR chain from the nucleus of one of my own cells. This is Liem's. They are identical. His people are as human as we are.'

'They can't be!' Tjond shook her head in bewilderment. 'Just look at him, he is so different, and their alphabet – what about that? I cannot be wrong about that.'

'There is one possibility you did not allow for, a totally independent alphabet. You yourself told me that there is not the slightest similarity between the Chinese ideographs and western letters. If Liem's people suffered a cultural disaster that forced them to completely reinvent writing you would have your alien alphabet. As to the way they look – just consider the thousands of centuries that have passed since mankind left Earth and you will see that his physical differences are minor. Some are natural and some may have been artificially achieved, but germ plasm cannot lie. We are all the sons of man.'

'It is possible,' Liem said, speaking for the first time. 'I am informed that our biologists agree with you. Our points of difference are minor when compared to the points of similarity. Where is this Earth you come from?'

Hautamaki pointed at the sky above them, at the star-filled sweep of the Milky Way, burning with massed stars. 'There, far out there on the other side of the core, roughly half way around the lens of the galaxy.'

'The core explains partially what must have happened,' Gulyas said. 'It is thousands of light-years in diameter and over 10,000 degrees in temperature. We have explored its fringes. No ship could penetrate it or even approach too closely because of the dust clouds that surround it. So we have expanded outwards, slowly circling the rim of the

galaxy, moving away from Earth. If we stopped to think about it we should have realized that mankind was moving the other way too, in the opposite direction around the wheel.'

'And sometime we would have to meet,' Liem said. 'Now I greet you, brothers. And I am sad, because I know what this means.'

'We are alone,' Hautamaki said, looking at the massed trillions of stars. 'We have closed the circle and found only ourselves. The galaxy is ours, but we are alone.' He turned about, not realizing that Liem, the golden alien – the man – had turned at the same time in the same manner.

They faced outwards, looking at the infinite depth and infinite blackness of intergalactic space, empty of stars. Dimly, distantly, there were spots of light, microscopic blurs against the darkness, not stars but island universes, like the one at whose perimeter they stood.

These two beings were different in many ways: in the air they breathed, the colour of their skins, their languages, mannerisms, cultures. They were as different as the day is from the night: the flexible fabric of mankind had been warped by the countless centuries until they could no longer recognize each other. But time, distance and mutation could not change one thing; they were still men, still human.

'It is certain then,' Hautamaki said, 'we are alone in the galaxy.'

'Alone in *this* galaxy.'

They looked at each other, then glanced away. At that moment they measured their humanness against the same rule and were equal.

For they had turned at the same instant and looked outward into intergalactic space, towards the infinitely remote light that was another island galaxy.

'It will be difficult to get there,' someone said.

They had lost a battle. There was no defeat.

IF THERE WERE NO BENNY CEMOLI

By Philip K. Dick

SCAMPERING across the unploughed field the three boys shouted as they saw the ship; it had landed, all right, just where they expected, and they were the first to reach it.

'Hey, that's the biggest I ever saw!' Panting, the first boy halted. 'That's not from Mars; that's from farther. It's from all the way out, I know it is.' He became silent and afraid as he saw the size of it. And then looking up into the sky he realized that an armada had arrived, exactly as everyone had expected. 'We beter go tell,' he said to his companions.

Back on the ridge, John LeConte stood by his steam-powered chauffeur-driven limousine, impatiently waiting for the boiler to warm. Kids got there first, he said to himself with anger. Whereas I'm supposed to. And the children were ragged; they were merely farm boys.

'Is the phone working today?' LeConte asked his secretary.

Glancing at his clipboard, Mr Fall said, 'Yes, sir. Shall I put through a mesage to Oklahoma City?' He was the skinniest employee ever assigned to LeConte's office. The man evidently took nothing for himself, was positively uninterested in food. And he was efficient.

LeConte murmured, 'The immigration people ought to hear about this outrage.'

He sighed. It had all gone wrong. The armada from Proxima Centauri had after ten years arrived and none of the

early-warning devices had detected it in advance of its landing. Now Oklahoma City would have to deal with the outsiders here on home ground – a psychological disadvantage which Le Conte felt keenly.

Look at the equipment they've got, he thought as he watched the commercial ships of the flotilla begin to lower their cargoes. Why, hell, they make us look like provincials. He wished that his official car did not need twenty minutes to warm up; he wished—

Actually, he wished that CURB did not exist.

Centaurus Urban Renewal Bureau, a do-gooding body unfortunately vested with enormous inter-system authority. It had been informed of the Misadventure back in 2170 and had started into space like a phototropic organism, sensitive to the mere physical light created by the hydrogen-bomb explosions. But LeConte knew better than that. Actually the governing organizations in the Centaurian system knew many details of the tragedy because they had been in radio contact with other planets of the Sol system. Little of the native forms on Earth had survived. He himself was from Mars; he had headed a relief mission seven years ago, had decided to stay because there were so many opportunities here on Earth, conditions being what they were . . .

This is all very difficult, he said to himself as he stood waiting for his steam-powered car to warm. *We* got here first, but CURB does outrank us; we must face that awkward fact. In my opinion, we've done a good job of rebuilding. Of course, it isn't like it was before . . . but ten years is not long. Give us another twenty and we'll have the trains running again. And our recent road-building bonds sold quite successfully, in fact were oversubscribed.

'Call for you, sir, from Oklahoma City,' Mr Fall said, holding out the receiver of the portable field-phone.

'Ultimate Representative in the Field John LeConte, here,' LeConte said into it loudly. 'Go ahead; I say go ahead.'

'This is Party Headquarters,' the dry official voice at the other end came faintly, mixed with static, in his ear. 'We've

received reports from dozens of alert citizens in Western Oklahoma and Texas of an immense—'

'It's here,' LeConte said. 'I can see it. I'm just about ready to go out and confer with its ranking members, and I'll file a full report at the usual time. So it wasn't necessary for you to check up on me.' He felt irritable.

'Is the armada heavily armed?'

'Naw,' LeConte said. 'It appears to comprise bureaucrats and trade officials and commercial carriers. In other words, vultures.'

The Party desk-man said, 'Well, go and make certain they understand that their presence here is resented by the native population as well as the Relief of War-torn Areas Administrating Council. Tell them that the legislature will be called to pass a special bill expressing indignation at this intrusion into domestic matters by an inter-system body.'

'I know, I know,' LeConte said. 'It's been all decided; I know.'

His chauffeur called to him, 'Sir, your car is ready now.'

The Party desk-man concluded, 'Make certain they understand that you can't negotiate with them; you have no power to admit them to Earth. Only the Council can do that and of course it's adamantly against that.'

LeConte hung up the phone and hurried to his car.

Despite the opposition of the local authorities, Peter Hood of CURB decided to locate his headquarters in the ruins of the old Terran capital, New York City. This would lend prestige to the CURBmen as they gradually widened the circle of the organization's influence. At last, of course, the circle would embrace the planet. But that would take decades.

As he walked through the ruins of what had once been a major train yard, Peter Hood thought to himself that when the task was done he himself would have long been retired. Not much remained of the pre-tragedy culture here. The local authorities – the political nonentities who had flocked in from Mars and Venus, as the neighbouring planets were called – had done little. And yet he admired their efforts.

To the members of his staff walking directly behind him he said, 'You know, they have done the hard part for us. We ought to be grateful. It is not easy to come into a totally destroyed area, as they've done.'

His man Fletcher observed, 'They got back a good return.'

Hood said, 'Motive is not important. They have achieved results.' He was thinking of the official who had met them in his steam car; it had been solemn and formal, carrying complicated trappings. When these locals had first arrived on the scene years ago they had not been greeted, except perhaps by radiation-seared, blackened survivors who had stumbled out of cellars and gaped sightlessly. He shivered.

Coming up to him, a CURBman of minor rank saluted and said, 'I think we've managed to locate an undamaged structure in which your staff could be housed for the time being. It's underground.' He looked embarrassed. 'Not what we had hoped for. We'd have to displace the locals to get anything attractive.'

'I don't object,' Hood said. 'A basement will do.'

'The structure,' the minor CURBman said, 'was once a great homeostatic newspaper, the New York *Times*. It printed itself directly below us. At least, according to the maps. We haven't located the newspaper yet; it was customary for the homeopapes to be buried a mile or so down. As yet we don't know how much of this one survived.'

'But it would be valuable,' Hood agreed.

'Yes,' the CURBman said. 'Its outlets are scattered all over the planet; it must have had a thousand different editions which it put out daily. How many outlets function—' He broke off. 'It's hard to believe that the local politicos made no efforts to repair any of the ten or eleven world-wide homeopapes, but that seems to be the case.'

'Odd,' Hood said. Surely it would have eased their task. The post-tragedy job of reuniting people into a common culture depended on newspapers, ionization in the atmosphere making radio and TV reception difficult if not impossible. 'This makes me instantly suspicious,' he said, turning to his

staff. 'Are they perhaps not trying to rebuild after all? Is their work merely a pretence?'

It was his own wife Joan who spoke up. 'They may simply have lacked the ability to place the homeopapes on an operational basis.'

Give them the benefit of the doubt, Hood thought. You're right.

'So the last edition of the *Times*,' Fletcher said, 'was put on the lines the day the Misadventure occurred. And the entire network of newspaper communication and news-creation has been idle since. I can't respect these politicos; it shows they're ignorant of the basics of a culture. By reviving the homeopapes we can do more to re-establish the pre-tragedy culture than they've done in ten thousand pitiful projects.' His tone was scornful.

Hood said, 'You may misunderstand, but let it go. Let's hope that the cephalon of the pape is undamaged. We couldn't possibly replace it.' Ahead he saw the yawning entrance which the CURBmen crews had cleared. This was to be his first move, here on the ruined planet, restoring this immense self-contained entity to its former authority. Once it had resumed its activity he would be freed for other tasks; the homeopape would take some of the burden from him.

A workman, still clearing debris away, muttered, 'Jeez, I never saw so many layers of junk. You'd think they deliberately bottled it up down here.' In his hands, the suction furnace which he operated glowed and pounded as it absorbed material, converting it to energy, leaving an increasingly enlarged opening.

'I'd like a report as soon as possible as to its condition,' Hood said to the team of engineers who stood waiting to descend into the opening. 'How long it will take to revive it, how much—' He broke off.

Two men in black uniforms had arrived. Police, from the Security ship. One, he saw, was Otto Dietrich, the ranking investigator accompanying the armada from Centaurus, and he felt tense automatically; it was a reflex for all of them – he

saw the engineers and the workmen cease momentarily and then, more slowly, resume their work.

'Yes,' he said to Dietrich. 'Glad to see you. Let's go off to this side room and talk there.' He knew beyond a doubt what the investigator wanted; he had been expecting him.

Dietrich said, 'I won't take up too much of your time, Hood. I know you're quite busy. What is this, here?' He glanced about curiously, his scrubbed, round, alert face eager.

In a small side room, converted to a temporary office, Hood faced the two policemen. 'I am opposed to prosecution,' he said quietly. 'It's been too long. Let them go.'

Dietrich tugging thoughtfully at his ear, said, 'But war crimes are war crimes, even foul decades later. Anyhow, what argument can there be? We're required by law to prosecute. *Somebody* started the war. They may well hold positions of responsibility now, but that hardly matters.'

'How many police troops have you landed?' Hood asked.

'Two hundred.'

'Then you're ready to go to work.'

'We're ready to make inquiries. Sequester pertinent documents and initiate litigation in the local courts. We're prepared to enforce co-operation, if that's what you mean. Various experienced personnel have been distributed to key points.' Dietrich eyed him. 'All this is necessary; I don't see the problem. Did you intend to protect the guilty parties – make use of their so-called abilities on your staff?'

'No,' Hood said evenly.

Dietrich said, 'Nearly eighty million people died in the Misfortune. Can you forget that? Or is it that since they were merely local people, not known to us personally—'

'It's not that,' Hood said. He knew it was hopeless; he could not communicate with the police mentality. 'I've already stated my objections. I feel it serves no purpose at this late date to have trials and hangings. Don't request use of my staff in this; I'll refuse on the grounds that I can spare no one, not even a janitor. Do I make myself clear?'

'You idealists,' Dietrich sighed. 'This is strictly a noble

task confronting us . . . to rebuild, correct? What you don't or won't see is that these people will start it all over again, one day, unless we take steps now. We owe it to future generations. To be harsh now is the most humane method, in the long run. Tell me, Hood. What is this site? What are you resurrecting here with such vigour?'

'The New York *Times*,' Hood said.

'It has, I assume, a morgue? We can consult its backlog of information? That would prove valuable in building up our cases.'

Hood said, 'I can't deny you access to material we uncover.'

Smiling, Dietrich said, 'A day by day account of the political events leading up to the war would prove quite interesting. Who, for instance, held supreme power in the United States at the time of the Misfortune? No one we've talked to so far seems to remember.' His smile increased.

Early the next morning the report from the corps of engineers reached Hood in his temporary office. The power supply of the newspaper had been totally destroyed. But the cephalon, the governing brain-structure which guided and oriented the homeostatic system, appeared to be intact. If a ship were brought close by, perhaps its power supply could be integrated into the newspaper's lines. Thereupon much more would be known.

'In other words,' Fletcher said to Hood, as they sat with Joan eating breakfast, 'it may come on and it may not. Very pragmatic. You hook it up and if it works you've done your job. What if it doesn't? Do the engineers intend to give up at that point?'

Examining his cup, Hood said, 'This tastes like authentic coffee.' He pondered. 'Tell them to bring a ship in and start the homeopape up. And if it begins to print, bring me the edition at once.' He sipped his coffee.

An hour later a ship of the line had landed in the vicinity and its power source had been tapped for insertion into the homeopape. The conduits were placed, the circuits cautiously closed.

Seated in his office, Peter Hood heard far underground a low rumble, a halting, uncertain stirring. They had been successful. The newspaper was returning to life.

The edition, when it was laid on his desk by a bustling CURBman, surprised him by its accuracy. Even in its dormant state, the newspaper had somehow managed not to fall behind events. Its receptors had kept going.

CURB LANDS, TRIP DECADE
LONG, PLANS CENTRAL ADMINISTRATION

Ten years after the Misfortune of a nuclear holocaust, the inter-system rehabilitation agency, CURB, has made its historic appearance on Earth's surface, landing from a veritable armada of craft – a sight which witnesses described as 'overpowering both in scope and in significance'. CURBman Peter Hood, named top co-ordinator by Centaurian authorities, immediately set up headquarters in the ruins of New York City and conferred with aides, declaring that he had come 'not to punish the guilty but to re-establish the planet-wide culture by every means available, and to restore—'

It was uncanny, Hood thought as he read the lead article. The varied news-gathering services of the homeopape had reached into his own life, had digested and then inserted into the lead article even the discussion between himself and Otto Dietrich. The newspaper was – had been – doing its job. Nothing of news-interest escaped it, even a discreet conversation carried on with no outsiders as witnesses. He would have to be careful.

Sure enough, another item, ominous in tone, dealt with the arrival of the black jacks, the police.

SECURITY AGENCY VOWS
'WAR CRIMINALS' TARGET

Captain Otto Dietrich, supreme police investigator arriving with the CURB armada from Proxima Centauri, said today that those responsible for the Misfortune of a decade

ago 'would have to pay for their crimes' before the bar of Centaurian justice. Two hundred black-uniformed police, it was learned by the *Times*, have already begun exploratory activities designed to—

The newspaper was warning Earth about Dietrich, and Hood could not help feeling grim relish. The *Times* had not been set up to serve merely the occupying hierarchy. It served everyone, including those Dietrich intended to try. Each step of the police activity would no doubt be reported in full detail. Dietrich, who liked to work in anonymity, would not enjoy this. But the authority to maintain the newspaper belonged to Hood.

And he did not intend to shut it off.

One item on the first page of the paper attracted his further notice; he read it, frowning and a little uneasy.

CEMOLI BACKERS RIOT IN UPSTATE NEW YORK

Supporters of Benny Cemoli, gathered in the familiar tent cities associated with the colourful political figure, clashed with local citizens armed with hammers, shovels, and boards, both sides claiming victory in the two-hour melee which left twenty injured and a dozen hospitalized in hastily-erected first aid stations. Cemoli, garbed as always in his toga-style red robes, visited the injured, evidently in good spirits, joking and telling his supporters that 'it won't be long now', an evident reference to the organization's boast that it would march on New York City in the near future to establish what Cemoli deems 'social justice and true equality for the first time in world history'. It should be recalled that prior to his imprisonment at San Quentin—

Flipping a switch on his intercom system, Hood said, 'Fletcher, check into activities up in the north of the county. Find out about some sort of a political mob gathering there.'

Fletcher's voice came back. 'I have a copy of the *Times*, too, sir. I see the item about this Cemoli agitator. There's a ship on the way up there right now; should have a report

within ten minutes.' Fletcher paused. 'Do you think – it'll be necessary to bring in any of Dietrich's people?'

'Let's hope not,' Hood said shortly.

Half an hour later the CURB ship, through Fletcher, made its report. Puzzled, Hood asked that it be repeated. But there was no mistake. The CURB field team had investigated thoroughly. They had found no sign whatsoever of any tent city or any group gathering. And citizens in the area whom they had interrogated had never heard of anyone named 'Cemoli'. And there was no sign of any scuffle having taken place, no first aid stations, no injured persons. Only the peaceful, semi-rural countryside.

Baffled, Hood read the item in the *Times* once more. There it was, in black and white, on the front page, along with the news about the landing of the CURB armada. What did it mean?

He did not like it at all.

Had it been a mistake to revive the great, old, damaged homeostatic newspaper?

From a sound sleep that night Hood was awakened by a clanging from far beneath the ground, an urgent racket that grew louder and louder as he sat up in bed, blinking and confused. Machinery roared. He heard the heavy rumbling movement as automatic circuits fitted into place, responding to instructions emanating from within the closed system itself.

'Sir,' Fletcher was saying from the darkness. A light came on as Fletcher located the temporary overhead fixture. 'I thought I should come in and wake you. Sorry, Mrs Hood.'

'I'm awake,' Hood muttered, rising from the bed and putting on his robe and slippers. 'What's it doing?'

Fletcher said, 'It's printing an extra.'

Sitting up, smoothing her tousled blond hair back, Joan said, 'Good lord. What about?' Wide-eyed, she looked from her husband to Fletcher.

'We'll have to bring in the local authorities,' Hood said. 'Confer with them.' He had an intuition as to the nature of the extra roaring through the presses at this moment. 'Get

that LeConte, that politico who met us on our arrival. Wake him up and fly him here immediately. We need him.'

It took almost an hour to obtain the presence of the haughty, ceremonious local potentate and his staff member. The two of them in their elaborate uniforms at last put in an appearance at Hood's office, both of them indignant. They faced Hood silently, waiting to hear what he wanted.

In his bathrobe and slippers Hood sat at his desk, a copy of the *Times'* extra before him; he was reading it once more as LeConte and his man entered.

NEW YORK POLICE REPORT
CEMOLI LEGIONS ON MOVE
TOWARD CITY,
BARRICADES ERECTED,
NATIONAL GUARD ALERTED

He turned the paper, showing the headlines to the two Earthmen. 'Who is this man?' he said.

After a moment LeConte said, 'I – don't know.'

Hood said, 'Come on, Mr LeConte.'

'Let me read the article,' LeConte said nervously. He scanned it in haste; his hands trembled as he held the newspaper. 'Interesting,' he said at last. 'But I can't tell you a thing. It's news to me. You must understand that our communications have been sparse, since the Misfortune, and it's entirely possible that a political movement could spring up without our—'

'Please,' Hood said. 'Don't make yourself absurd.'

Flushing, LeConte stammered, 'I'm doing the best I can, summoned out of my bed in the middle of the night.'

There was a stir, and through the office doorway came the rapidly-moving figure of Otto Dietrich, looking grim. 'Hood,' he said without preamble, 'there's a *Times* kiosk near my headquarters. It just posted this.' He held up a copy of the extra. 'The damn thing is running this off and distributing it throughout the world, isn't it? However, we have crack teams up in that area and they report absolutely nothing, no road

blocks, no militia-style troops on the move, no activity of any sort.'

'I know,' Hood said. He felt weary. And still, from beneath them, the deep rumble continued, the newspaper printing its extra, informing the world of the march by Benny Cemoli's supporters on New York City – a fantasy march, evidently, a product manufactured entirely within the cephalon of the newspaper itself.

'Shut it off,' Dietrich said.

Hood shook his head. 'No. I want to know more.'

'That's no reason,' Dietrich said. 'Obviously, it's defective. Very seriously damaged, not working properly. You'll have to search elsewhere for your world-wide propaganda network.' He tossed the newspaper down on Hood's desk.

To LeConte, Hood said, 'Was Benny Cemoli active before the war?'

There was silence. Both LeConte and his assistant Mr Fall were pale and tense; they faced him tight-lipped, glancing at each other.

'I am not much for police matters,' Hood said to Dietrich, 'but I think you could reasonably step in here.'

Dietrich, understanding, said, 'I agree. You two men are under arrest. Unless you feel inclined to talk a little more freely about this agitator in the red toga.' He nodded to two of his police, who stood by the office doorway; they stepped obediently forward.

As the two policemen came up to him, LeConte said, 'Come to think of it, there was such a person. But – he was very obscure.'

'Before the war?' Hood asked.

'Yes.' LeConte nodded slowly. 'He was a joke. As I recall, and it's difficult . . . a fat, ignorant clown from some backwoods area. He had a little radio station or something over which he broadcast. He peddled some sort of anti-radiation box which you installed in your house, and it made you safe from bomb-test fallout.'

Now his staff member Mr Fall said, 'I remember. He even ran for the UN senate. But he was defeated, naturally.'

'And that was the last of him?' Hood asked.

'Oh yes,' LeConte said. 'He died of Asian flu soon after. He's been dead for fifteen years.'

In a helicopter, Hood flew slowly above the terrain depicted in the *Times*' articles, seeing for himself that there was no sign of political activity. He did not feel really assured until he had seen with his own eyes that the newspaper had lost contact with actual events. The reality of the situation did not coincide with the *Times*' articles in any way; that was obvious. And yet – the homeostatic system continued on.

Joan, seated beside him, said, 'I have the third article here, if you want to read it.' She had been looking the latest edition over.

'No,' Hood said.

'It says they're in the outskirts of the city,' she said. 'They broke through the police barricades and the governor has appealed for UN assistance.'

Thoughtfully, Fletcher said, 'Here's an idea. One of us, preferably you, Hood, should write a letter to the *Times*.'

Hood glanced at him.

'I think I can tell you exactly how it should be worded,' Fletcher said. 'Make it a simple inquiry. You've followed the accounts in the paper about Cemoli's movement. Tell the editor—' Fletcher paused. 'That you feel sympathetic *and you'd like to join the movement.* Ask the paper how.'

To himself, Hood thought, In other words ask the newspaper to put me in touch with Cemoli. He had to admire Fletcher's idea. It was brilliant, in a crazy sort of way. It was as if Fletcher had been able to match the derangement of the newspaper by a deliberate shift from common sense on his own part. He would participate in the newspaper's delusion. Assuming there was a Cemoli and a march on New York, he was asking a reasonable question.

Joan said, 'I don't want to sound stupid, but how does one go about mailing a letter to a homeopape?'

'I've looked into that,' Fletcher said. 'At each kiosk set up by the paper there's a letter-slot, next to the coin-slot where

you pay for your paper. It was the law, when the homeopapes were set up originally, decades ago. All we need is your husband's signature.' Reaching into his jacket, he brought out an envelope. 'The letter's written.'

Hood took the letter, examined it. So we desire to be part of the mythical fat clown's throng, he said to himself. 'Won't there be a headline reading CURB CHIEF JOINS MARCH ON EARTH CAPITAL?' he asked Fletcher, feeling a trace of wry amusement. 'Wouldn't a good enterprizing homeopape make front page use of a letter such as this?'

Obviously Fletcher had not thought of that; he looked chagrined. 'I suppose we had better get someone else to sign it,' he admitted. 'Some minor person attached to your staff.' He added, 'I could sign it myself.'

Handing him the letter back, Hood said, 'Do so. It'll be interesting to see what response, if any, there is.' Letters to the editor, he thought. Letters to a vast, complex, electronic organism buried deep in the ground, reponsible to no one, guided solely by its own ruling circuits. How would it react to this external ratification of its delusion? Would the newspaper be snapped back to reality?

It was, he thought, as if the newspaper, during these years of its enforced silence, had been dreaming, and now, reawakened, it had allowed portions of its former dreams to materialize in its pages along with its accurate, perceptive accounts of the actual situation. A blend of figments and sheer, stark reporting. Which ultimately would triumph? Soon, evidently, the unfolding story of Benny Cemoli would have the toga-wearing spellbinder in New York; it appeared that the march would succeed. And what then? How could this be squared with the arrival of CURB, with all its enormous inter-system authority and power? Surely the homeopape, before long, would have to face the incongruity.

One of the two accounts would have to cease . . . but Hood had an uneasy intuition that a homeopape which had dreamed for a decade would not readily give up its fantasies.

Perhaps, he thought, the news of us, of CURB and its task of rebuilding Earth, will fade from the pages of the *Times*,

will be given a steadily decreasing coverage each day, farther back in the paper. And at last only the exploits of Benny Cemoli will remain.

It was not a pleasant anticipation. It disturbed him deeply. As if, he thought, we are only real so long as the *Times* writes about us; as if we were dependent for our existence on it.

Twenty-four hours later, in its regular edition, the *Times* printed Fletcher's letter. In print it struck Hood as flimsy and contrived – surely the homeopape could not be taken in by it, and yet here it was. It had managed to pass each of the steps in the pape's processing.

Dear Editor :

Your coverage of the heroic march on the decadent plutocratic stronghold of New York City has fired my enthusiasm. How does an ordinary citizen become a part of this history in the making? Please inform me at once, as I am eager to join Cemoli and endure the rigours and triumphs with the others.

Cordially,
Rudolf Fletcher

Beneath the letter, the homeopape had given an answer; Hood read it rapidly.

Cemoli's stalwarts maintain a recruiting office in downtown New York; address, 460 Bleekman St, New York 32. You might apply there, if the police haven't cracked down on these quasi-legal activities, in view of the current crisis.

Touching a button on his desk, Hood opened the direct line to police headquarters. When he had the chief investigator, he said, 'Dietrich, I'd like a team of your men; we have a trip to make and there may be difficulties.'

After a pause Dietrich said drily, 'So it's not all noble reclamation after all. Well, we've already dispatched a man to keep an eye on the Bleekman Street address. I admire your letter scheme. It may have done the trick.' He chuckled.

Shortly, Hood and four black-uniformed Centaurian

policemen flew by 'copter above the ruins of New York City, searching for the remains of what had once been Bleekman Street. By the use of a map they managed after half an hour to locate themselves.

'There,' the police captain in charge of the team said, pointing. 'That would be it, that building used as a grocery store.' The 'copter began to lower.

It was a grocery store, all right. Hood saw no signs of political activity, no persons loitering, no flags or banners. And yet – something ominous seemed to lie behind the commonplace scene below, the bins of vegetables parked out on the sidewalk, the shabby women in long cloth coats who stood picking over the winter potatoes, the elderly proprietor with his white cloth apron sweeping with his broom. It was too natural, too easy. It was *too* ordinary.

'Shall we land?' the police captain asked him.

'Yes,' Hood said. 'And be ready.'

The proprietor, seeing them land in the street before his grocery store, laid his broom carefully to one side and walked toward them. He was, Hood saw, a Greek. He had a heavy moustache and slightly wavy grey hair, and he gazed at them with innate caution, knowing at once that they did not intend him any good. Yet he had decided to greet them with civility; he was not afraid of them.

'Gentlemen,' the Greek grocery store owner said, bowing slightly. 'What can I do for you?' His eyes roved speculatively over the black Centaurian police uniforms, but he showed no expression, no reaction.

Hood said, 'We've come to arrest a political agitator. You have nothing to be alarmed about.' He started toward the grocery store; the team of police followed, their side arms drawn.

'Political agitation here?' the Greek said. 'Come on. It is impossible.' He hurried after them, panting, alarmed now. 'What have I done? Nothing at all; you can look around. Go ahead.' He held open the door of the store, ushering them inside. 'See right away for yourself.'

'That's what we intend to do,' Hood said. He moved with

agility, wasting no time on the conspicuous portions of the store; he strode directly on through.

The back room lay ahead, the warehouse with its cartons of cans, cardboard boxes stacked up on every side. A young boy was busy making a stock inventory; he glanced up, startled, as they entered. Nothing here, Hood thought. The owner's son at work, that's all. Lifting the lid of a carton Hood peered inside. Cans of peaches. And beside that a crate of lettuce. He tore off a leaf, feeling futile and – disappointed.

The police captain said to him in a low voice, 'Nothing, sir.'

'I see that,' Hood said, irritably.

A door to the right led to a closet. Opening it, he saw brooms and a mop, a galvanized pail, boxes of detergents. And—

There were drops of paint on the floor.

The closet some time recently had been repainted. When he bent down and scratched with his nail he found the paint still tacky.

'Look at this,' he said, beckoning the police captain over.

The Greek, nervously, said, 'What's the matter, gentlemen? You find something dirty and report to the board of health, is that it? Customers have complained – tell me the truth, please. Yes, it is fresh paint. We keep everything spick and span. Isn't that in the public interest?'

Running his hands across the wall of the broom closet, the police captain said quietly, 'Mr Hood, there was a doorway here. Sealed up now, very recently.' He looked expectantly toward Hood, awaiting instructions.

Hood said, 'Let's go in.'

Turning to his subordinates, the police captain gave a series of orders. From the ship, equipment was dragged, through the store, to the closet; a controlled whine arose as the police began the task of cutting into the wood and plaster.

Pale, the Greek said, 'This is outrageous. I will sue.'

'Right,' Hood agreed. 'Take us to court.' Already a portion of the wall had given way. It fell inward with a crash, and

bits of rubble spilled down onto the floor. A white cloud of dust rose, then settled.

It was not a large room which Hood saw in the glare of the police flashlights. Dusty, without windows, smelling stale and ancient . . . the room had not been inhabited for a long, long time, he realized as he warily entered. It was empty. Just an abandoned storeroom of some kind, its wooden walls scaling and dingy. Perhaps before the Misfortune the grocery store had possessed a larger inventory. More stocks had been available then, but now this room was not needed. Hood moved about, flashing his beam of light up to the ceiling and then down to the floor. Dead flies, entombed here . . . and, he saw, a few live ones which crept haltingly in the dust.

'Remember,' the police captain said, 'it was boarded up just now, within the last three days. Or at least the painting was just now done, to be absolutely accurate about it.'

'These flies,' Hood said. 'They're not even dead yet.' So it had not even been three days. Probably the boarding-up had been done yesterday.

What had this room been used for? He turned to the Greek, who had come after them, still tense and pale, his dark eyes flickering rapidly with concern. This is a smart man, Hood realized. We will get little out of him.

At the far end of the storeroom the police flashlights picked out a cabinet, empty shelves of bare, rough wood. Hood walked toward it.

'OK,' the Greek said thickly, swallowing. 'I admit it. We have kept bootleg gin stored here. We became scared. You Centaurians—' He looked around at them all with fear. 'You're not like our local bosses; we know them, they understand us. You! You can't be reached. But we have to make a living.' He spread his hands, appealing to them.

From behind the cabinet the edge of something protruded. Barely visible, it might never have been noticed. A paper which had fallen there, almost out of sight; it had slipped down farther and farther. Now Hood took hold of it and carefully drew it out. Back up the way it had come.

The Greek shuddered.

It was, Hood saw, a picture. A heavy, middle-aged man with loose jowls stained black by the grained beginnings of a beard, frowning, his lips set in defiance. A big man, wearing some kind of uniform. Once this picture had hung on the wall and people had come here and looked at it, paid respect to it. He knew who it was. This was Benny Cemoli, at the height of his political career, the leader glaring bitterly at the followers who had gathered here. So this was the man.

No wonder the *Times* showed such alarm.

To the Greek grocery store owner, Hood said, holding up the picture, 'Tell me. Is this familiar to you?'

'No, no,' the Greek said. He wiped perspiration from his face with a large red handkerchief. 'Certainly not.' But obviously, it was.

Hood said, 'You're a follower of Cemoli, aren't you?'

There was silence.

'Take him along,' Hood said to the police captain. 'And let's start back.' He walked from the room, carrying the picture with him.

As he spread the picture out on his desk, Hood thought, It isn't merely a fantasy of the *Times*. We know the truth now. The man is real and twenty-four hours ago this portrait of him hung on a wall, in plain sight. It would still be there this moment, if CURB had not put in its appearance. We frightened them. The Earth people have a lot to hide from us, and they know it. They are taking steps, rapidly and effectively, and we will be lucky if we can—

Interrupting his thoughts, Joan said, 'Then the Bleekman Street address really was a meeting place for them. The pape was correct.'

'Yes,' Hood said.

'Where is he now?'

I wish we knew, Hood thought.

'Has Dietrich seen the picture yet?'

'Not yet,' Hood said.

Joan said, 'He was responsible for the war and Dietrich is going to find it out.'

'No one man,' Hood said, 'could solely be responsible.'

'But he figured largely,' Joan said. 'That's why they've gone to so much effort to eradicate all traces of his existence.'

Hood nodded.

'Without the *Times*,' she said, 'would we ever have guessed that such a political figure as Benny Cemoli existed? We owe a lot to the pape. They overlooked it or weren't able to get to it. Probably they were working in such haste; they couldn't think of everything, even in ten years. It must be hard to obliterate *every* surviving detail of a planet-wide political movement, especially when its leader managed to seize absolute power in the final phase.'

'Impossible to obliterate,' Hood said. A closed-off storeroom in the back of a Greek grocery store . . . that was enough to tell us what we needed to know. Now Dietrich's men can do the rest. If Cemoli is alive they will eventually find him, and if he's dead – they'll be hard to convince, knowing Dietrich. They'll never stop looking now.

'One good thing about this,' Joan said, 'is that now a lot of innocent people will be off the hook. Dietrich won't go around prosecuting them. He'll be busy tracking down Cemoli.'

True, Hood thought. And that was important. The Centaurian police would be thoroughly occupied for a long time to come, and that was just as well for everyone, including CURB and its ambitious programme of reconstruction.

If there had never been a Benny Cemoli, he thought suddenly, it would almost have been necessary to invent him. An odd thought . . . he wondered how it had happened to come to him. Again he examined the picture, trying to infer as much as possible about the man from this flat likeness. How had Cemoli sounded? Had he gained power through the spoken word, like so many demagogues before him? And his writing . . . Maybe some of it would turn up. Or even tape recordings of speeches he had made, the actual *sound* of the man. And perhaps video tapes as well. Eventually it would all come to light; it was only a question of time. And then we

will be able to experience for ourselves how it was to live under the shadow of such a man, he realized.

The line from Dietrich's office buzzed. He picked up the phone.

'We have the Greek here,' Dietrich said. 'Under drug-guidance he's made a number of admissions; you may be interested.'

'Yes,' Hood said.

Dietrich said, 'He tells us he's been a follower for seventeen years, a real old-timer in the Movement. They met twice a week in the back of his grocery store, in the early days when the Movement was small and relatively powerless. That picture you have – I haven't seen it, of course but Stavros, our Greek gentleman, told me about it – that portrait is actually obsolete in the sense that several more recent ones have been in vogue among the faithful for some time now. Stavros hung onto it for sentimental reasons. It reminded him of the old days. Later on when the Movement grew in strength, Cemoli stopped showing up at the grocery store, and the Greek lost out in any personal contact with him. He continued to be a loyal dues-paying member, but it became abstract for him.'

'What about the war?' Hood asked.

'Shortly before the war Cemoli seized power in a coup here in North America, through a march on New York City, during a severe economic depression. Millions were unemployed and he drew a good deal of support from them. He tried to solve the economic problems through an aggressive foreign policy – attacked several Latin American republics which were in the sphere of influence of the Chinese. That seems to be it, but Stavros is a bit hazy about the big picture . . . we'll have to fill in more from other enthusiasts as we go along. From some of the younger ones. After all, this one is over seventy years old.'

Hood said, 'You're not going to prosecute him, I hope.'

'Oh, no. He's simply a source of information. When he's told us all he has on his mind we'll let him go back to his onions and canned apple sauce. He's harmless.'

'Did Cemoli survive the war?'

'Yes,' Dietrich said. 'But that was ten years ago. Stavros doesn't know if the man is still alive now. Personally I think he is, and we'll go on that assumption until it's proved false. We have to.'

Hood thanked him and hung up.

As he turned from the phone he heard, beneath him, the low, dull rumbling. The homeopape had once more started into life.

'It's not a regular edition,' Joan said, quickly consulting her wristwatch. 'So it must be another extra. This is exciting, having it happen like this; I can't wait to read the front page.'

What has Benny Cemoli done now? Hood wondered. According to the *Times*, in its misphased chronicling of the man's epic . . . what stage, actually taking place years ago, has now been reached? Something climactic, deserving of an extra. It will be interesting, no doubt of that. The *Times* knows what is fit to print.

He, too, could hardly wait.

In downtown Oklahoma City, John LeConte put a coin into the slot of the kiosk which the *Times* had long ago established there. The copy of the *Times*' latest extra slid out, and he picked it up and read the headline briefly, spending only a moment on it to verify the essentials. Then he crossed the sidewalk and stepped once more into the rear seat of his chauffeur-driven steam car.

Mr Fall said circumspectly, 'Sir, here is the primary material, if you wish to make a word-by-word comparison.' The secretary held out the folder, and LeConte accepted it.

The car started up. Without being told, the chauffeur drove in the direction of Party headquarters. LeConte leaned back, lit a cigar and made himself comfortable.

On his lap, the newspaper blazed up its enormous headlines.

CEMOLI ENTERS COALITION UN GOVERNMENT;
TEMPORARY CESSATION OF HOSTILITIES

To his secretary, LeConte said, 'My phone, please.'

'Yes sir.' Mr Fall handed him the portable field-phone. 'But we're almost there. And it's always possible, if you don't mind my pointing it out, that they may have tapped us somewhere along the line.'

'They're busy in New York,' LeConte said. 'Among the ruins.' In an area that hasn't mattered as long as I can remember, he said to himself. However, possibly Mr Fall's advice was good; he decided to skip the phone call. 'What do you think of this last item?' he asked his secretary, holding up the newspaper.

'Very success-deserving,' Mr Fall said, nodding.

Opening his briefcase, LeConte brought out a tattered, coverless textbook. It had been manufactured only an hour ago, and it was the next artifact to be planted for the invaders from Proxima Centaurus to discover. This was his own contribution, and he was personally quite proud of it. The book outlined in massive detail Cemoli's programme of social change; the revolution depicted in language comprehensible to schoolchildren.

'May I ask,' Mr Fall said, 'if the Party hierarchy intends for them to discover a corpse?'

'Eventually,' LeConte said. 'But that will be several months from now.' Taking a pencil from his coat pocket he wrote in the tattered textbook, crudely, as if a pupil had done it:

DOWN WITH CEMOLI

Or was that going too far? No, he decided. There would be resistance. Certainly of the spontaneous, school boy variety. He added:

WHERE ARE THE ORANGES?

Peering over his shoulder, Mr Fall said, 'What does that mean?'

'Cemoli promises oranges to the youth,' LeConte explained. 'Another empty boast which the revolution never fulfills. That

was Stavros' idea . . . he being a grocer. A nice touch.' Giving it, he thought, just that much more semblance of verisimilitude. It's the little touches that have done it.

'Yesterday,' Mr Fall said, 'when I was at Party headquarters, I heard an audio tape that had been made. Cemoli addressing the UN. It was uncanny; if you didn't know—'

'Who did they get to do it?' LeConte asked, wondering why he hadn't been in on it.

'Some nightclub entertainer here in Oklahoma City. Rather obscure, of course. I believe he specializes in all sorts of characterizations. The fellow gave it a bombastic, threatening quality . . . I must admit I enjoyed it.'

And meanwhile, LeConte thought, *there are no war-crimes trials.* We who were leaders during the war, on Earth and on Mars, we who held responsible posts – we are safe, at least for a while. And perhaps it will be forever. If our strategy continues to work. And if our tunnel to the cephalon of the homeopape, which took us five years to complete, isn't discovered. Or doesn't collapse.

The steam car parked in the reserved space before Party headquarters; the chauffeur came around to open the door, and LeConte got leisurely out, stepping forth into the light of day, with no feeling of anxiety. He tossed his cigar into the gutter and then sauntered across the sidewalk, into the familiar building.

CRITICAL MASS

By Frederik Pohl & C. M. Kornbluth

THE neutron was a plump young man named Walter Chase, though what he thought he was was a brand-new Engineering graduate, sitting mummified and content with the other 3,876 in Eastern's class of '98, waiting for his sheepskin.

The university glee club sang the ancient scholastic song *Gaudeamus Igitur* with mournful respect and creamy phrasing, for they and most of the graduates, faculty members, parents, relatives and friends present in the field house thought it was a hymn instead of the rowdy drinking song it was. It was a warm June day, conducive to reverence. Of Eastern's 3,877 graduating men and women only three had majored in classical languages. What those three would do for a living from July on was problematical. But in June they had at least the pleasure of an internal chuckle over the many bowed heads.

Walter Chase's was bowed with the rest. He was of the Civil Engineering breed, and he had learned more about concrete in the four years just ended than you would think possible. Something called The Cement Research and Development Institute, whose vague but inspirational commercials were regularly on the TV screens, had located Walter as a promising high-school graduate. He was then considering the glamorous and expensive field of nuclear physics. A plausible CRDI field man had signed him up and set him straight. It took twelve years to make a nuclear physicist. Now, wasn't that a hell of a long time to wait for the good things of life? Now, here was something he ought to consider: Four years. In four years he could walk right into a job with automatic

pay raises, protected seniority, stock participation *and* Blue Everything, paid by the company. Concrete was the big industry of tomorrow. The CRDI was deeply concerned over the lack of interest in concrete engineering, and it was prepared to do something about it: Full four-year scholarship, tuition, living costs and pocket money. Well?

Walter signed. He was a level-headed eighteen-year-old. He had been living with a pinch-penny aunt and uncle, his parents dead; the chance of the aunt and uncle financing twelve years of nuclear studies for him he estimated to lie midway between the incredible and the impossible.

Two solid hours dwindled past in addresses by the Chancellor, the Governor of the State and a couple of other politicos receiving honorary degrees. Wlter Chase allowed the words to slip past him as though they were dreams, although many of them concerned his own speciality: shelters. You knew what politician talk was. He and the 3,876 others were coldly realistic enough to know that CSB was a long way from being enacted into law, much less concrete-and-steel Civilian Shelters in fact. Otherwise why would the Institute have to keep begging for students to give scholarships to? He drowsed. Then, as if with an absent-minded start, the programme ended.

Everybody flocked away onto the campus.

In the hubbub was all the talk of the time: 'Nice weather, but, Kee-*rist!* those speeches!' 'Who d'ya like in the All-Star?' 'Nothing wrong with CSB if it's *handled* right, but you take and throw a couple thousand warheads over the Pole and—' 'My feet hurt.' Chase heard without listening. He was in a hurry.

There was no one he wanted to meet, no special friend or family. The aunt and uncle were not present at his graduation. When it had become clear from their letters that they expected him to pay back what they had spent to care for him as soon as he began earning money he telephoned them. Collect. He suggested that they sue him for the money or,

alternatively, take a flying jump for themselves. It effectively closed out a relationship he loathed.

Chase saw, approaching him across the crowded campus, another relationship it was time to close out. The relationship's name was Douglasina MacArthur Baggett, a brand-new graduate in journalism. She was pretty and she had in tow two older persons who Chase perceived to be her parents. 'Walter,' she bubbled, 'I don't believe you were even *looking* for me! Meet Daddy and Mom.'

Walter Chase allowed his hand to be shaken. Baggett *père* was something in Health, Education and Welfare that had awakened Walter's interest at one time; but as Douglasina had let it slip that Daddy had been passed over for promotion three years running, Walter's interest had run out. The old fool now began babbling about how young fellows like Walter would, through the Civilian Shelters Bill, really give the country the top-dog Summit bargaining position that would pull old Zhdetchnikov's cork for him. The mother simpered: 'So *you're* the young man! We've heard so much about you in Douglasina's letters. I tell you, why don't you come and spend the All-Star weekend with us in Chevy Chase?'

Walter asked blankly: 'Why?'

'Why?' said Mrs Baggett in a faint voice, after a perceptible pause. Walter smiled warmly.

'After all,' he said, shrugging, 'boy-girl college friendships.... She's a fine girl, Mrs Baggett. Delighted to have met you, Mr Baggett. Doug, maybe we'll run into each other again, eh?' He clapped her on the shoulder and slipped away.

Once screened from the sight of their faces, he sighed. In some ways he would miss her, he thought. Well. On to the future!

In the dormitory he snapped the locks on his luggage, already packed, carried them down to be stowed in the luggage compartment of the airport bus and then circulated gently through the halls. He had in four years at Eastern made eleven Good Contacts and thirty-six Possibles, and he had an hour or two before his plane to joke with, shake the hand of, or con-

gratulate the nine of those on the list who shared his dorm. He fooled the fools and flattered the flatterable, but in his wake a few of his classmates grimly said : 'That young son of a bitch is going to go far, unless he runs out of faces to step on.'

Having attended to his nine he charitably spread some of his remaining time among the couple dozen Outside Chances he ran into. To a sincere, but confused, servo-mech specialist he said, man-to-man, 'Well, Frankie, what's the big decision? Made up your mind about the job yet?'

The servo-mech man clutched him and told him his tale of woe. 'God no, Walt. I don't know *which* way to turn. Missile R&D's offering me a commission right away, captain inside of two years. But who wants to be a soldier all his life? And there's nothing in private industry for inertial guidance, you know. Damn it, Walt, if only they let you resign from the service after a couple of years!' Chase said something more or less comforting and moved on. He was careful not to chuckle until he was out of sight.

Poor Frankie! Got himself educated in what amounted to a military specialty – who else could afford servo-mechanisms? – and discovered he hated the Army.

Still, Chase meditated while nodding, smiling and handshaking, thirty years as an Engineering Officer might not be so bad. As it was one of the alternatives open to himself – that was what CSB was all about – he allowed his mind to drift over the prospects. It wasn't like the bad old days of fighting. A flat and rigid policy of atomic retaliation had been US military doctrine for fifty-three years, and backing it up was a large, well-trained US military establishment of career men. And the regulations said *career*. The only way out short of thirty-year retirement was with a can tied to your tail and a taint to your name. He dismissed that thirty-year dead end with light contempt, as he had before.

The air-raid warning sirens began to howl their undulating hysteria.

Chase sighed and glanced at his watch. Not too bad. He should still be able to make his plane. Everyone around him

was saying things like, 'Ah, damn it!' or 'Oh, dear,' or '*Jeez!*' But they were all dutifully following the arrows and the 'S' signs that dotted the campus.

Chase trailed along. He was kind of annoyed, but nothing could really spoil his day. The first shelter he came to was full up. The freshman raid warden stood at the door – Chase had been a raid warden himself three years before – chanting: 'Basement filled to capacity, folks. Please proceed to Chemistry building. Don't block the exit, folks. Basement here filled—'

Because of the extra crowd caused by the graduation the Chemistry building basement was filled, too, but Chase got into the Administration building and sat down to wait. Like everybody else. Women fussed about their dresses – they always had, in every air raid drill he had taken part in, say, four a week for fifty-two weeks of each year for the nearly twenty years since he had been old enough to toddle alongside his late mother and father. Men grumbled about missing appointments. *They* always had. But for the most part the battery-fed air-raid lights gleamed equably on them all, the warden fussed with the air conditioner and the younger folk smooched in the corners.

It wasn't a bad shelter, Walter Chase thought. The Law School basement was a mess – too high a pH in the mortar mix, and the aggregate showing hygroscopic tendencies because of some clown not watching his rock crusher, so the walls were cracked and damp. Chemistry's had been poured in a freeze. Well, naturally it began to sinter and flake. This was better; trust the Chancellor to make sure his own nest was downy! Of course, in a *raid* none of them would be worth a hoot; but there weren't to be any real raids. Ever.

A jet plane's ripping path sounded overhead.

Evidently this was going to be a full-dress affair, at least regional in scope. They didn't throw simulated manned-bomber attacks for a purely local do. Walter frowned. It had suddenly occurred to him that with the air-transport flight lanes screwed up by military fighters on simulated missions

everything within a thousand miles might be rerouted into stack patterns. What the devil would that do to his plane's departure time?

Then he smiled forebearingly. He was, in a way, pleased to be annoyed. It meant he was entering into the adult world of appointments and passages. They said that when a raid drill began to be a damn interruption instead of a welcome break from classes and a chance to smooch, then, brother, you were growing up. He guessed he was growing up.

'Goddam foolishness,' growled the man who sat next to Chase on the bench, as though it were a personal attack. More jets shredded sound overhead and he glanced at Chase. Walter inventoried his English shoes, seal ring and pale cigar and at once engaged him in conversation. The man was some graduate's father; they had got separated in the raid drill, and Pop was sore as a tramped bunion. The whole drill thing was damned childishness, didn't Walter see that? And *vindictive* damned childishness when they chose to throw one on graduation day of a major university. If only Crockhouse had been elected in '96 instead of Braden, with his packed ballots in Indiana and Puerto Rico!

Here Walter Chase's interest cooled, because Pop sounded like a politician, revealed himself to be a Nationalist and thus was not of power. But there was no escaping the bench. What Pop objected bitterly to was the multiple levels of expense. Here the drill was knocking men out of production, but the damn Middle-Road Congress said they had to be paid anyhow. And if the Defence Department was making it a full-scale simulated raid, did Walter know what that meant? That meant that there went thirty or forty *Nineveh Ables* at a hundred and fifty thousand dollars apiece, and was that enough? No. Then they sent up four or five *Tyres* at ninety thousand apiece to knock down the *Nineveh*s. Did that make sense? He paused to glare at Walter Chase.

Walter said, 'Well, that's the Cold War for you. Say, who d'you like in the All-Star—' He didn't get to finish the sentence.

'LA,' snapped Pop, without losing a beat. 'Get the damn monkey-business over with, that's what I say. I'm a sneak-puncher and I'm proud of it. If we'd put our man in the White House instead of that psalm-singing Braden there wouldn't *be* any Moscow or Peking or Calcutta by now and we wouldn't be sitting here on our butts!'

Somebody clawed through from the bench in front; with horror, Chase recognized old man Baggett. But Douglasina's Daddy did not recognize him. Flushed with rage and politics he had eyes only for the sneak-punch advocate. 'You're right it's monkey-business, fatmouth!' he snarled. 'No thanks to you and your Crockhouse we aren't dead in this cellar instead of safe and secure! President Braden is a hundred per cent pledged to the CSB, God bless it, and—'

The rest of his sentence and Sneak-Punch's angry reply were drowned out by a further flight of jets overhead, and then the *wham-wham-wham* of interceptor missiles blowing simulated attackers out of the sky.

Somehow, heaven knew how, Walter Chase managed to sneak away, inching through the packed rows of benches. As soon as the All Clear siren toots began he was up and out, ignoring the freshman warden's puppylike yaps that they should remain in their seats until the front benches had been emptied—

Routine. It was all strictly routine.

Out on the campus, Chase headed for the airport in earnest, and was delighted to find that his flight was still on time. How lucky he was, he thought, with more pride than gratitude. 'What are you, sir?' asked the robot baggage-checker, and he said, 'Washington,' with pleasure. He was on his way. He was headed for Washington, where Dr Hines of the Cement Research and Development Institute would assign him to his job, doubtless the first rung of a dizzying climb to wealth and fame. He was a young man on his way. Or so he thought. He did not know that he was only a neutron ambling toward events.

II

Arturo Denzer, in the same sense, was a nucleus. He knew no more about it than Walter Chase.

Denzer woke to the rays of a rising sun and the snarl of his wake-up clock. He took a vitamin capsule, an aspirin tablet, a thyroid injection; a mildly euphoric jolt of racemic amphetamine sulphate; caffeine via three cups of black coffee with sucaryl; and nicotine via a chain of non-filtering filter-tip cigarettes. He then left his apartment for the offices of *Nature's Way Magazine*, which he edited.

June's blossom was in the air, and so was the tingle of the All-Star Game Number One. The elevator operator said to him respectfully, 'Who d'ya like in the All-Star game, Mr Denzer?' Denzer turned the operator's conversation circuit off with a hand-wave. He didn't feel like talking to a robot at least until the aspirin began to work.

Absent-mindedly he waved a cab to him and climbed in. Only after it took off did he notice, to his dismay, that he had picked a Black-and-White fleet hack. They were salty and picturesque – and couldn't be turned off. The damned thing would probably call him 'Mac'.

'Who ya like inna All-Star, Mac?' the cab asked genially, and Denzer winced. Trapped, he drummed his fingers on the armrest and stared at the Jefferson Memorial in its sea of amusement rides and hot-dog stands. 'Who ya like inna All-Star, Mac?' it asked again, genially and relentlessly. It would go on asking until he answered.

'Yanks,' Denzer grunted. Next time he'd watch what he was doing and get a sleek, black Rippington Livery with a respectful BBC accent.

'Them bums?' groaned the cab derisively. 'Watcha think Craffany's up to?'

Craffany was the Yankee manager. Denzer knew that he had benched three of his star players over the last weekend – indeed, it was impossible to avoid knowing it. Denzer struck out wildly : 'Saving them for the All-Star, I guess.'

The cab grunted and said : 'Maybe. My guess, Fliederwick's

in a slump so Craffany benched him and pulled Hockins and Waller so it'd look like he was saving 'em for the All-Star. Ya notice Fliederwick was 0 for 11 in the first game with Navy?'

Denzer gritted his teeth and slumped down in the seat. After a moment the cab grunted and said: 'Maybe. My guess is Fliederwick's in a slump so Craffany benched him and pulled. . . .' It went through it twice more before Denzer and his hangover could stand no more.

'I hate baseball,' he said distinctly.

The cab said at once, 'Well, it's a free country. Say, ya see Braden's speech on the CSB last night?'

'I did.'

'He really gave it to them, right? You got to watch those traitors. Course, like Crockhouse says, where we going to get the money?'

'Print it, I imagine,' snarled Denzer.

'Figgers don't lie. We already got a gross national debt of $87,912.02 per person, you know that? Tack on the cost of the Civilian Shelters and whaddya got?'

Denzer's headache was becoming cataclysmic. He rubbed his temples feverishly.

'Figgers don't lie. We already got a gross national . . .'

Desperate situations require desperate measures. 'I hate p-politics too,' he said, stuttering a little. Normally he didn't like smutty talk.

The cab broke off and growled: 'Watch ya language, Mac. This is a respectable fleet.'

The cab corkscrewed down to a landing in North Arlington-Alex and said, 'Here y'are, Mac.' Denzer paid it and stepped from the windy terrace of the Press House onto a crowded westbound corridor. He hoped in a way that the cab wouldn't turn him into a gossip columnist. In another way he didn't care.

Around him buzzed the noise of the All-Star and the CSB. '. . . Craffany . . . $87,912.02, and at *least* $6,175.50 for Shelters . . . Foxy Framish and Little Joe Fliederwick . . . well, this *is* next year . . . nah, you sneak-punch 'em a couple thou-

sand missiles over the Pole and ... needs a year in the minors.'

'Hello, Denzer,' someone said. It was Maggie Frome, his assistant.

'Hello, Maggie,' he said, and added automatically: 'Who do you like in the All-Star game?'

In a low, ferocious voice she muttered: 'You can take the All-Star game, tie it up in a b-b-b-brassiere and dump it in a Civilian Shelter. I am sick of the subject. *Both* subjects.'

He flushed at her language and protested: 'Really, Maggie!'

'Sorry,' she grunted, sounding as though she didn't mean it. He contrasted her surly intransigence with his own reasoned remarks to the cab and tolerantly shook his head. Of course, he could have been taken the wrong way ... He began to worry.

They stepped off together at the *Nature's Way* offices. Sales & Promotion was paralised. Instead of rows of talkers at rows of desks, phoning prospects out of city directories and high-pressuring them into subscriptions, the department was curdled into little knots of people cheerfully squabbling about the CSB and the All-Stars. Denzer sighed and led the girl on into Transmission. The gang should have been tuning up the works, ready to shoot the next issue into seven million home facsimile receivers. Instead, the gang was talking All-Stars and CSB. It was the same in Typography, the same in Lay-out, the same in Editorial.

The door closed behind them, isolating their twin office from the babble. Blessed silence. 'Maggie,' he said, 'I have a headache. Will you please work on the final paste-ups and cutting for me? There isn't anything that should give you any trouble.'

'Okay, Denzer,' she said, and retreated to her half of the office with the magazine dummy. Denzer felt a momentary pang of conscience. The issue was way overset and cutting it was a stinker of a job to pass on to Maggie Frome. Still, that was what you had assistants for, wasn't it?

He studied her, covertly, as she bent over the dummy. She was a nice-looking girl, even if she was a hangover from the administration of President Danton and his Century of the Common Woman. Maggie's mother had been something of an integrationist leader in Sandusky, Ohio, and had flocked to Washington as one mote in Danton's crackpot horde, bringing her sub-teenage daughter Maggie. No doubt there had been a father, but Maggie never mentioned him. The mother had died in a car crash that looked like suicide after Danton lost all fifty-four states in his bid for re-election, but by then Maggie was a pert teenager who moved in with cousins in Arlington-Alex and she stayed on. Must just like Washington, Denzer thought. Not because of Female Integration, though. Danton's Century of the Common Woman had lasted just four years.

He winced a little as he remembered her coarseness of speech. She was round and brown-haired. You couldn't have everything.

Denzer leaned back and shut his eyes. The hubbub outside the office was just barely audible for a moment – some red-hot argument over the Gottshalk Committee's Shelter Report or Fliederwick's RBI had swelled briefly to the shrieking stage – and then died away again. Heretically he wondered what the point was in getting excited over baseball or the building or non-building of air-raid shelters capable of housing every American all the time. One was as remote from reality as the other.

'Sorry, Denzer.'

He sat up, banging his knee on his desk.

'Lousy staff work, I'm afraid. Here's the Aztec Cocawine piece and no lab verification on the test results.' She was waving red-crayoned galleys in his face.

He looked at the scrawling red question-mark over the neat columns of type with distaste. *Nature's Way* promised its seven million subscribers that it would not sell them anything that would kill them; or, at least, that if it did kill them nobody woud be able to hang it on the product directly. At sub-

stantial expense, they maintained a facility to prove this point. It was called The Nature's Way National Impartial Research Foundation. 'So call the lab,' he said.

'No good, Denzer. Front-office memo last month. Lab verifications must be *in* writing *with* notary's seal *on* hand before the issue goes to bed.'

'Cripes,' he protested, 'that means somebody's got to go clear over to Lobby House.' He did not meet her eye. Going over to Lobby House was a worthwhile break in the day's routine; the free snack-bar and free bar-bar the lobbies maintained was up to the best expense-account standards, and everyone enjoyed talking to the kooks in the lab. They were so odd.

'I'll go if you want, Denzer,' she said, startling him into looking at her.

'But the issue—'

'Did most of it last night, Denzer. The Aztec story is all that's left.'

'We'll both go,' he said, rising. She had earned it; he needed a bromo and a shot of B-1 vitagunk in the Lobby House snack-bar; and since there would be two of them in the cab he had a ruse for cutting out the cab's talk about All-Stars and the CSB.

The ruse was this: As soon as the cab took off he flung his arms around her and bore her back against the armrest.

The cab chuckled and winked at them with its rear-view lens, as it was programmed to do. They discussed proofreading, the vacation sked and the choice of lead commercials for the next issue of *Nature's Way* in soft whispers into each other's ears all the way to Lobby House, while the cab winked and chuckled at them every fifteen seconds.

The kooks on the 93rd floor were under the care of a sort of half-breed race of semi-kooks. These were science majors who had minored in journalism ... or in marrying rich ... and thus wandered into press agentry for scientific concerns. As liaison men between *Nature's Way* and the test-tube manipulators the semi-kooks occupied an uncertain middle ground.

It sometimes made them belligerent. Denzer and the girl were let in to see the Director of Bennington's Division, a Dr Bennington, and Denzer said : 'We came for the Aztec Cocawine certification.'

Dr Bennington boomed : 'Damn right ! Coming right up ! Say, who's gonna take it in the Game?' He thumped a button on his desk and in a moment a tall, stooped youth with a proudly beaked nose swept in and threw a document on his desk. 'Thanks, Valendora. Lessee here, um, yeah. Says it's harmless to the nerves, ya-ta-ta, ya-ta-ta, all signed and stamped. Anything else today, Arturo? Gland extract, fake a heroin prescription, shot of Scotch?'

The beaked youth said loftily : 'Our findings are set forth precisely, Dr Bennington. The fluid contains an alkaloid which appreciably eroded the myelin sheaths of the autonomic nerve trunks.'

Denzer blanched, but the semi-kook administrator agreed carelessly, 'Right, that's what I said. It's that word "appreciably". Anything less than "markedly", we write it down as negative.' He slipped it in an envelope that was already marked *Confidential Findings, Aztec Wine of Coca Corporation, Sponsor*, and sailed it across to Denzer. 'Well, what about CSB, boy? They gonna get us dug in before it's too late?' He made them promise to stop in at the snack-bar or bar-bar before leaving the building, then offered them a drink out of his private stock. They refused, of course. That was just his way of saying goodbye. It was the only way he knew to end a conversation.

With the certification in his pocket and the issue locked up, Denzer began to feel as though he might live, especially if he made it to the B-1 vitagunk dispenser in the snack-bar. He took Maggie Frome by the arm and was astonished to feel her shaking.

'Sorry, Denzer. I'm not crying, really. If somebody's going to sell crazy-making dope to the public, why *shouldn't* it be you and me? We're no better than anybody else, d-d-damn it !'

He said uncomfortably, 'Maybe a drink's not such a bad idea. What do you say?'

'I'd love it,' she sobbed. But then the sirens began to wail and they said, 'Damn it,' and 'Oh, dear' – respectively, she did and he did – and they took their bearings by the signs and made for the shelters. Under Lobby House was nothing like enough space, so the air-raid shelter was the interior parts of the 10th through 85th floors, away from the flying glass of the curtain walls but not too near the elevator shafts. It was not a bad shelter, actually. It was proof against any bomb that the world had ever known, up to, say, early 1943.

There was plenty of room but not enough benches. Maggie and Denzer found a place on the floor where they could put their backs against a wall, and he allowed her to lean against his shoulder. She wasn't such a bad kid, he thought sympathetically, especially as the perfume in her hair was pleasant in his nostrils. There wasn't anything really *wrong* with Female Integration. Maggie wasn't a *nut*. Take baseball. Why that was the Integrationist's major conquest, when women demanded and got equal representation on every major-league team in spite of the fact that they could not throw or run on competitive terms with men. They said that if all the teams had the same number of women it wouldn't matter. And it hadn't. And Integrationists were still crowing over the victory; and yet Maggie had refused to fall into the All-Star hysteria.

A roar like an outboard motor in the crown of your hat shook the building; AA 'carpet' cannon laying a sheet of sudden death for missiles across the sky above them. Denzer relaxed. His headache was almost gone. He inclined his head to rest his cheek against Maggie's hair. Even with a hangover, it had been pleasant in the cab with his arms around her. He had been kind of looking forward to the return trip. If Denzer were indeed a nucleus, as in a way he was, he was beginning to feel a certain tugging of binding energy toward certain other nuclear particles.

As soon as the noise stopped, he thought he would speak to her.

The noise stopped. The voices of the men beside them

bellowed into the sudden quiet: '– damned foolish idea of Therapeutic War was exploded ten years ago! And that's what we'd be if your idiot Crockhouse was in – exploded!'

And the man next to him: 'At least Crockhouse wouldn't have us sitting in these fool imitation shelters! He'd *do* something.'

'Whadya think *Braden* wants, for God's sake? Not these things. He's right on the record for CSB.'

And then Maggie Frome, breathing fire, her head no longer resting on Denzer's shoulder: 'What the hell is so great about CSB? Shelters, no shelters, can't you get it through your head that if this keeps up we're *dead*? Dear God above, deliver me from fools, baseball players and p-p-politicians!'

Denzer tried to look as though he'd never met her; he was white-faced. Round, yes, sweet-smelling, yes, warm – but how could he ever get used to her dirty *talk*?

III

If Denzer was a nucleus and Walter Chase a neutron, what can we call the President of the United States? He played a part. Without him nothing could happen. Perhaps what he did was to shape the life of the neutron before fission happened; in that sense one could call him a 'moderator'. This was an apt term for President Braden.

On this bright June morning in Washington – not Arlington-Alex or the bedroom municipalities in Maryland but the little old Federal District itself – the President of the United States held what was still called a 'press' conference. He was late. The cathode-tube 'newspapermen' grumbled a little as Secret Service men frisked them, but it was habit. They were used to being frisked, ever since that fanatic Alaskan nationalist publisher emptied a .32 at then-President Hutzmeyer in '83. And they were used to now-President Braden being late.

They rose when President Braden came in. As usual, he protested in his pleasant adopted border-South accent: 'Please, ladies, please, gentlemen, don't bother—' So they sat down and smiled, and waited while Braden arranged some papers on his desk. He always did that. He never referred to them

during the session, because he didn't have to, but every week there was the minute or two of silence in the room while the President, his rimless glasses gleaming studiously, pursed his lips over the documents in their red, blue and cream-coloured folders.

He looked up and beamed.

Unobtrusive camera-eyes mounted flush with the walls of the conference room began to record. The elephantine Giuseppe von Bortoski, NBC Washington bureau chief, incomparably senior correspondent, was privileged to lead off. He did : 'Good morning Mr President. Do you have a statement for us today?'

'Nothing prepared, Joseph. It's been a quiet week, hasn't it?'

Von Bortoski said solemnly, 'Not for Craffany,' and everybody roared. Von Bortoski waited out his laugh and said : 'But seriously, Mr President, is there any comment on the radar picket situation?'

The President paused, then looked faintly surprised. 'I didn't know there was a "situation", Joseph. Our radar picket vessels off the Atlantic and Pacific coasts have been pulled in approximately two hundred miles. They all have the new microradar; they don't have to be so far out. This gives us a gratifying economy, since the closer we can pull them in the fewer ships we need to stick out there on picket duty. Is that what you wanted to know, Joseph?'

'No, Mr President. I was referring to Representative Simpson's telecast yesterday. He alleged that the new radars haven't been adequately field-tested. Said the move was premature and, well, dangerous.'

The President paused, then looked faintly angry. 'I seem to recall that Illinois Simpson. A Democrat.' Everybody nodded. 'I am surprised that you are taking up our time, Joseph, with the wild charges that emanate with monotonous regularity from the Party of Treason.' Everyone looked at the stout NBC man with annoyance. The President turned toward a

young lady correspondent, paused, and said, 'Miss Bannerman, do you have a question?'

She did. 'What about the Civilian Shelters Bill?'

The President paused, grinned and said, 'I'm for it.' He got a small laugh.

'I mean, Mr President, what is its status now? As the leader of your Party, is it going to go through?'

The President paused longer than usual. Everyone in the room knew what he was waiting for, though it was a convention of the Press Conference to pretend he was answering off the cuff. At last the other end of the transprompter circuit got its signals cleared and the President said levelly: 'As the leader of my Party, Miss Bannerman, I can say this thing is being hammered out. Slower than some of us would wish, true. But it will be done. It is the platform of my Party; on that platform I was elected in '98; and I have not the reputation of going back on my pledges.' He inclined his head to an approving stir among the correspondents.

Von Bortoski made a mental calculation. He decided that the press conference had supplied enough matter for his upcoming newscast and to hell with the rest of them. 'Thank you, Mr President,' he said. The other reporters swore under their breaths once more at the tyranny of the senior correspondent rule, the President rose smiling and the armed guards stepped away from the doors.

CSB, CSB, the President meditated. Some day he would have to ask a question himself and find out just what this CSB was all about. No doubt the R&I desk that fed him answers or speeches via the transprompter could tell him. He promised himself he would get around to it first thing, say, Monday. Or wait, wasn't Monday the first All-Star game?

A swift conveyor belt whisked him from the Annexe to the Old White House and an escalator to the Oval Room. His personal secretary ventured to say: 'You made good time, Governor. There's thirty-five minutes clear before the first appointment. How about a nap?'

President Braden snapped: 'I see General Standish has been

talking to you again, Murray. Tell that quack when I want doctoring I'll ask for it, and get me a drink.'

The President, who liked to think he was a hard-riding, hard-drinking southern gentleman, although he had been a New Jersey accountant until he was thirty, sipped a glass of mineral water lightly tinted with whisky, decided he was refreshed and buzzed for the first appointment to start ahead of time.

The first appointment was with Senator Horton of Indiana. While he was coming in the transprompter whispered into the President's ear: 'Call him David, not Dave. No wife. Ex-professor, for God's sake. Watch him.'

The President rose, smiling, and gripped Horton's hand with warmth and the pressure of an old campaigner. 'It's a great pleasure, David. How's Indiana shaping up for next year? Lose all your best seniors?'

Senator Horton had a shock of grey hair, a mournful face and a surprisingly springy, lean body for a fifty-year-old ex-professor. He said abruptly: 'I don't follow the school's football schedule. Mr President, I want something.'

'Unto the half of my kingdom,' Braden said gaily, attempting to throw him off balance.

Horton gave him a meagre smile. 'I want you to bear down on the Civilian Shelters Bill. You are, after all, committed to it. It helped elect you. But twenty-two months have gone by and the bill is still in the Public Works Committee. I am on that committee, Mr President, and it is my impression that I am the only member interested in seeing it enacted into law.'

The President said gravely, 'That's a mighty serious charge, David. One I cannot act on without the fullest—'

'Excuse me for interrupting, Mr President, but your time is valuable and there are some things you needn't bother explaining to me.' Deeply affronted, the President stared at him. 'Believe me when I say that I've come to you as a last resort. I get only bland evasions from Harkness. The Interior Department—'

Harkness was the committee chair and he had been Braden's

personal campaign manager in the '96 run. The President rose and said, 'Excuse *me*, Senator, but I don't permit people to speak about Jim Harkness like that in my presence.'

Senator Horton distractedly ran his hands through his shock of hair. 'I didn't mean to offend you. God knows I don't mean to offend anyone. Not even the Secretary of Interior, though if he thinks— No, I won't say that. All I want is to get the CSB on the floor and get the construction work under way. Mr President, how long can all this go on?'

The President remained standing, looked at his watch and said coolly, 'All what, David?'

'We are in the fifty-third year of the Political War, Mr President. Somehow, by a succession of last-minute, hairsbreadth accidents, we have escaped nuclear bombing. It can't go on forever! If the missiles came over the Pole today they'd annihilate this nation, and I don't give one juicy damn that China and Russia would be annihilated in the next forty minutes—'

He was trembling. The President's earphone whispered tinnily: 'Hospitalized one year; nervous breakdown. The guard-ports have him covered with sleepy guns, sir.' That was a relief but what about this Horton? He was Doane's personal choice, chairman of the National Committee; had Doane put a raving maniac in the Senate? The President remembered, from those young, county-committeeman days when he remembered things clearly, that something like that had happened before. It had been during the Party of Treason's first years – a lunatic from the Northwest got elected to Congress and was mighty embarrassing until he committed suicide. The President, then a schoolboy, had chuckled with the rest of the nation over Congressman Zioncheck; but now he was not chuckling. It was *his* Administration and in the *Senate*. And a member of, God help him, *his* party.

The President did not look toward the guard-ports and the riflemen behind them. He said quietly, 'David, I want you to calm own. No pledges have been forgotten and no pledges are going to be violated. I'll speak to Jim Harkness about the Shelter Bill today. That's a promise.'

'Thank you,' Horton said gratefully, and tried to smile. 'I'll hold you to that, sir. Good day.'

The President buzzed, not for his next appointment but to talk to his secretary. 'Murray, get me Senator Harkness on the phone.' And to his chest microphone : 'Transprompter desk? Get out of circuit. I'll buzz you.' He heard the faint carrier tone in his ear die and the guard-ports click. For the first time since he stepped out of his shower that morning, the President was able to say a word that no one but himself could hear. He said it. It had only one syllable, but it improved his mood very much.

Harkness's voice was resonant and comforting. The President, sometimes nagged by a secret feeling that he was not very bright, knew damned well that he was brighter than Harkness.

He said : 'Jim, I've got to wondering about this CSB that you've got in Public Works. The day's young yet and I've had two questions about it. I know we campaigned on it – what is it, exactly?'

Harkness said comfortingly : 'It's under control, Brad. That fellow Horton is trying to unbottle it, but we can keep him quiet. He doesn't know the ropes.'

'Know that, Jim. I just had him in here, wailing and mad. What's it all about?'

'Why,' said Senator Harkness, with something less of assurance in his voice, 'it's about building shelters, Brad. Against nuclear attack.' He pronounced it 'nookyoular,' in the approved White House fashion.

'Not quite my point, Jim. I mean—' the President searched for what it was he did mean – 'I mean, I can find out the facts and so on, but what's got people so stirred up? Put it this way, Jim : What's your philosophy about the Civilian Shelters Bill?'

'Philosophy?' Harkness sounded vaguely scared. 'Well, I would not know about philosophy, Brad. It's an issue, CSB is, and we're very fortunate to have got it away from the Nationalists. CSB's very popular.' The President sighed

inaudibly and relaxed; Senator Harkness was clearly about to launch into one of his famous explanations of things that never needed to be explained. 'You see, Brad, an issue is life-blood to a party. Look over the field today. What's to argue about? Damn little. Everybody knows the Party of Treason is the Party of Treason. Everybody knows the Commies are crazy hoodlums, can't trust 'em. Everybody knows atomic retaliation is the only sound military policy. There, at one sweep, you knock domestic, foreign and military policy off the board and haven't anything left to play with except CSB.' He paused for breath, but before the President could try to get him back on the track of the question he was rushing on: 'It's a god-send, Brad! The Nationalists guessed wrong. They turned CSB down in the name of economy. My opinion, they listened too much to the Defence Department people; naturally the generals didn't want to admit they can't intercept whatever the Commies throw at us, and naturally they want the money for interception instead of shelters. Well, that's all right, too, but the people say the last word. We Middle-Roaders guessed right. We slapped CSB in our platform, and we won. What else is there to say about it? Now, we're not going to turn loose of an issue like that. Fools if we did. The strategy's to milk it along, get it on the floor just before we adjourn for campaign trips and if a Nationalist filibuster kills it, so much the better. That saves it for us for next year! You know, you never get credit in this game for what you've done. Only for what you're going to do. And, *hell*, Brad,' he crowed, suddenly exultant as a child who found a dime in the street, 'this thing is good for years! There has to be a big conference committee with the House on financing CSB, we haven't even set up liaison with Military Affairs. We've got four more years easy. How's that sound, Brad, eh? Ride right in to re-election in Twenty Oh Oh, the first President of the twenty-first century!'

'Thanks, Jim,' said the President, 'I knew I could get a straight answer out of you.' It was the only way to stop him. Otherwise he might go clear on to the CSB and its effect on

the Integrationists, the CSB and Labour, the CSB and Colorado water diversion or the CSB as viewed in the light of Craffany's benching of Little Joe Fliederwick.

And yet, pondered the President, he still didn't know even the question, much less the answer. *Why* was CSB a good issue? The missiles hadn't hit in the past 53 years, why should a voting population march to the booths and elect its leaders because of their Shelter philosophy now?

Braden changed the subject. 'What do you think of Horton, Jim?'

He could always count on Harkness being frank, at least. 'Don't like him. A boat-rocker. You want my advice, Brad? You haven't asked for it, but it's get rid of him. Get the National Committee to put a little money in his district before the primaries.'

'I see,' said the President, thanked his former campaign manager and hung up.

He took a moment before buzzing Murray for the next appointment to sip his lightly tinted soda-water and close his eyes. Well, he'd wasted most of the thirty-five minutes he'd gained, and not even a nap to show for it. Maybe General Standish was right.

Once when Braden was younger, before he was governor of New Jersey, before he was state senator, when he still lived in the old Rumford house on the beach and commuted to Jersey City every day – once he had been a member of the National Guard, what he considered his obligation as a resigned West Pointer. And they had killed two of their obligatory four-hours-a-month one month watching a documentary film on nuclear attack. The arrows marched over the Pole and the picture dissolved to a flight of missiles. The warheads exploded high in air. Then the film went to stock shots, beautifully selected and paced: the experimental houses searing and burning on Yucca Flats, the etched shadows of killed men on the walls of Hiroshima, a forest fire, a desert, empty, and the wind lifting sand-devils. The narration had told how such-and-such kind of construction would be burned within so-many miles of Ground Zero. It remarked that forest fires

would blaze on every mountain and mentioned matter-of-factly that they wouldn't go out until winter snow or spring rains, and of course then the ground would be bare and the topsoil would creep in mud down to the oceans. It estimated that then, even then, the year was no later than 1960, a full-scale attack would cost the world ninety per cent of its capacity to support life for at least a couple of centuries. Braden had never forgotten that movie.

He had never forgotten it, but he admitted that sometimes he had allowed it to slip out of his mind for a while. This latest while seemed to have lasted quite a few years. Only CSB had brought it back in his recollection.

Because that was the question, the President thought, sipping his tinted soda-water. What was the use of CSB? What was the use of any kind of shelters, be they deep as damn-all, if all you had to come out of them to was a burned-out Sahara?

IV

Now that the simulated raid was over everybody was resuming their interrupted errands at once. Denzer was crammed in any-which-way with Maggie Frome wedged under an arm and that kook from the Institute – Venezuela? – gabbling in his ear about computer studies and myelin sheaths.

The elevator jollied them all along. 'Don't forget tomorrow, folks. Be a lot of grandmothers buried tomorrow, eh?' It could not wink, but it giggled and, well, nudged them. Or at least it shook them. It was overloaded with the crowds from the shelter floors, and its compensators flagged, dropping it an inch below the sill of the lobby door, then lifting it. 'Sorry, folks,' it apologized. 'Good night, all!'

Denzer grabbed Maggie's arm. The laboratory man called after him, but he only nodded and tugged the girl away through the crowds, which were mumbling to each other: 'Foxy Framish ... slip 'em a couple thousand nookyoular ... caught off first ... *oh, hell.*' The 'oh, hells' became general as they reached the main lobby outside of the elevator bays.

Civilian Air Wardens formed chains across the exits. Like fish weirs they chuted the exiting civilians into lines and passed each line through a checkpoint.

'Denzer,' groaned Maggie, 'I'm cooked. I *never* wear my dosimeter badge with this old green dress.'

The wardens were checking every person for his compulsory air-raid equipment. Denzer swore handily, then brightened. They did have their press cards; this *was* official business. Aztec Wine of Coca was a powerful name in industry, and didn't they have a right to take care of its affairs even if they overlooked a few formalities that nobody really took very seriously anyway? He said confidently: 'Bet I get us out of it, Maggie. Watch this.' And he led her forcefully to the nearest warden. 'You, there. Important morale business; here's my card. I'm Denzer of *Nature's Way*. This's my assistant, Frome. I—'

Briskly the warden nodded. 'Yes, *sir*, Mr Denzer. Just come this way.' He led them through the purse-seine of wardens, out of the building, into – why, Denzer saw, outraged, into a *police cab*.

'You fixed us fine, Denzer,' gloomed Maggie at his side as they got in. He didn't have the spirit to listen to her.

The roundup had bagged nearly fifty hardened criminals, like Denzer and Maggie, caught flagrantly naked of dosimeters and next-of-kin tags. They were a surly lot. Even the CSB adherents among them belligerently protested their treatment; the sneak-punchers were incandescent about the whole thing. Office girls, executives, errand boys, even one hangdog ARP guard himself; they were a motley assortment. The research man, Valendora, was among them, and so was the girl from the Institute's reception room. Valendora saw Denzer and slipped through the crowd toward him, holding a manila envelope as though it contained diphtheria vaccine and he was the first man to arrive at the scene of an epidemic. 'Mr Denzer,' he said darkly, 'I ask you to assist me. Eleven months of my time and twenty-two computer hours! And this

is the only copy. *Statist. Analysis Trans.* expects this by tomorrow at the latest, and—'

Denzer hardly heard. *Statist. Analysis Trans.* was not the only periodical expecting something from one of the fish in this net. With an inner ear Denzer was listening to what his Front Office would say. He was, he saw clearly, about to miss a deadline. Seven million paid-up subscribers would be complaining to the Front Office when their copies were late, and Denzer knew all too well who Front Office would complain to about *that*. He whimpered faintly and reached for an amphetamine tablet, but an ARP cop caught his arm. 'Watch it, Mac,' said the cop, not unkindly. 'No getting rid of evidence there. You got to turn all that stuff in.'

Denzer had never been arrested before. He was in a semi-daze while they were waiting to be booked. Ahead of him in line a minor squabble arose – Valendora seemed to be clashing with a plump young fellow in a collegiate crew-cut – but Denzer was paying little attention as he numbly emptied his pockets and put all his possessions on the desk to be locked away for him.

It was not until Maggie Frome repeated his name for the fifth time that he realized she was talking to him. She indicated a lanky, homely woman talking into an autonoter, seemingly on terms of amiable mutual contempt with the police.

'Denzer,' Maggie hissed urgently, 'that girl over there. The reporter. Name's Sue-Mary Gribb, and I know her. Used to work with her on the *Herald*.'

'That's nice. Say, Maggie,' he moaned, 'what the devil are we going to do about the Aztec Wine of Coca piece? The Front Office'll have our heads.'

'What I'm trying to tell you, Denzer! Give her the lab report. She'll take it in for us.'

The sun rose in pink glory for Arturo Denzer.

Half blinded by the radiance of sudden, unexpected hope, he staggered back to the desk. Valendora and the plump youth were still at it, but he pushed past them, picked up the Nature's Way National Impartial Research Foundation envelope and clawed his way back to Maggie. 'Pencil!' he

snapped. She produced one and Denzer scribbled a note to Joe, in Production :

> Joe, we're in a jam. Fix this up for us somehow. Run it pp 34–35, push it through soonest, I've already got all okays so just jam it in. God bless you. If Front Office asks where I am I'm dead.

He thought of adding, 'Will explain later,' but he wasn't so very sure he could. He thought of kissing Sue-Mary Gribb; but she was another Female Integrationist, wearing slacks, carrying a corncob pipe; he only shook her hand briskly and watched her leave.

It was not until she was out the door that he realized why she had been there in the first place.

She was a reporter, gathering names. It was customary to run a list of ARP violators in the newspapers. It was inevitable that someone who worked for *Nature's Way* would see his and Maggie's names on that list; and it was beyond hope that that someone would fail to show it to the Front Office.

With the help of Sue-Mary Gribb he might have made his deadline, but his troubles were not over. Front Office was solid CSB.

'Maggie,' he said faintly, 'when you left the *Herald*, did you part friends? I mean, do you think they might give us a job?'

The next thing was that they had to wait for their hearing and, in the way of police courts, that took some time. Meanwhile they were all jammed together, noisy and fretful.

The bull-pen roared : 'Quiet down, you mokes! You think this is a debating society?' Denzer sighed and changed position slightly so as not to disturb Maggie Frome, again placidly dozing on his shoulder. (This could become a habit, he thought.)

Well, that was something else the Century of the Common Woman had accomplished. They had integrated the lockups, for better or for worse. Not that Maggie, asleep, was deriving

the benefit she might from the integrated, but still very loud, yammering of the inmates of the bull-pen.

They weren't all ARP violators. A sizeable knot in one corner were clearly common drunks, bellowing about the All-Star Game when they were not singing raucously. They were the chief targets of the bull-pen's repeated thunderings for quiet, as its volumetric ears registered an excessive noise level. They must wear out those tapes in a week, Denzer thought.

A diffident finger touched his arm. 'Mr Denzer?' It was the research fellow from the Institute.

Softly, to refrain from disturbing Maggie, he said: 'Hello, Venezuela. Make yourself comfortable.'

'Valendora, Mr Denzer.'

'Sorry,' said Denzer absently, inhaling Maggie's hair.

'I ask you, Mr Denzer,' Valendora said, choosing his words with as much care as though he was taping a question for his computers, 'is it proper that I should be arrested for being twenty-six feet away from where I would not be arrested?'

Denzer stared at him. 'Come again?' Maggie stirred restlessly on his shoulder.

'I was two floors below the Foundation, Mr Denzer, no more,' said the research man. 'We are not required to wear dosimeters in the Institute itself. Two floors is twenty-six feet.'

Denzer sighed. This was not a time when he had patience for nuts. The girl on his shoulder stirred and he said, 'Good morning, Maggie.' Valendora swept on:

'Naturally, Mr Denzer, it did not occur to me to go back for my dosimeter. My probable error was more than twenty-four hours minus, though zero plus, and it might have been the real attack. I was carrying a most important document and I could not endanger it.'

Maggie looked at him with faint curiosity and then twisted around to look at Denzer's face. 'The deadline, Denzer?' she muttered. He crossed his fingers and shrugged.

'Mr Denzer,' cried Valendora, 'you are a man of influence. *Statist. Analysis Trans.* is waiting for this study – and besides,'

he added wonderingly, 'I suppose if the attack is to come tomorrow someone should do something about it. Can you not secure justice for me in this matter?'

Rocked by the sudden vision of himself as a man of influence, Denzer hardly heard the rest of what the research man was saying. Maggie Frome pushed herself away from him and stared thoughtfully at Valendora.

'We're all in the same boat, friend,' she said kindly.

Valendora scowled at the floor.

'But what's this about an attack?'

With bitter sarcasm Valendora said, 'Nothing at all, Miss Frome. Merely what I have spent eleven months of my time on. *And* twenty-two computer hours.'

'I'm impressed, friend. You said something about an attack?'

Valendora said, 'You would not understand single-event prediction, Miss Frome. It is a statistical assessment of probabilities. Oh, nothing in itself that has not previously been studied, true; but it is in the establishing of quantitative values for subjective data that I have, I do know, made a contribution.' He shrugged moodily. 'And by tomorrow? The event, you see. If I have not published before the event it is only a mathematical statement. The test of a theory is the predictions that can be made from it; I have made my prediction. During the All-Star Game, you see—'

'There you are!' cried a new voice.

It was the plump youth who had been quarrelling with Valendora at the booking desk. He was still angry. 'Baseball,' he snapped, 'that's all I hear. Can't I make anyone understand that I am a special investigator on Senator Horton's *personal* staff? The senator is waiting to interview me right now! And this man has stolen my thesis!' He put a hand out and briskly pumped Denzer's. 'Walter Chase, sir. MA, CE, and all the rest of that nonsense,' he twinkled, for he had made a quick estimate of Denzer's well-cut clothes and hangdog look and pigeonholed him at once as *second-string executive, subject to flattery.*

'Denzer. *Nature's Way*,' he mumbled, trying to let go of the hand, but Chase hung on.

'I'm in cement, Mr Denzer,' he said. 'Did a bit of research – my dissertation, actually – just received another degree – and Senator Horton is most taken by it. Most taken, Mr Denzer. Unfortunately I've just the one copy, as it happens and it's, well, rather important that it not be lost. It concerns cement, as it affects our shelter programme – and, after all, what *is* a shelter but cement? Eh? Probably should've been classified at the start, but—' He shrugged with the faint amused distaste of the man of science for the bureaucrat. 'Anyway, I must have it; the senator must see it with his own eyes before he'll give me the j— before making final arrangements. And this man has stolen it.'

'Stolen!' screamed Valendora. 'Man! It is your fault, man! I was only—'

'Be careful!' commanded Chase furiously. 'Don't blame *me*! I was merely—'

Denzer felt a tug on his arm. Maggie Frome winked and led him away, near the group of singing drunks. They sat down again. 'Quieter here!' she shouted in his ear. 'Put your shoulder back, Denzer! I want to go back to sleep!'

'All right!' he yelled, and helped her settle her head against him; but in a moment she raised it again.

'Denzer!' she asked over the singing of the group, 'did you hear what your friend from the Institute was saying? Something about an attack? I had the funny idea he meant missile attack – a real one, I mean.'

'No,' he shouted back, 'it was only baseball! All-Star Game, you know.'

And he hardly heard the raucous bellowing of the drunks for the next half hour, inhaling the fragrance of her hair.

They were released at last, Denzer making bail; the bail corresponded to the amount of their fines for ARP violation, and small print at the bottom of their summons pointed out that they could forfeit it if they chose, thus paying their fines, simply by failing to appear at the magistrate's trial. They got

out just in time to get the bulldog edition of *Nature's Way* from a sidewalk scriber.

They looked at once on the spread, pages 34 and 35, expecting anything, even blank pages.

Tragically, the pages were not blank at all.

Pages 34 and 35 had nothing to do with Aztec Wine of Coca. It was a straight news story, headlined :

US MISSILE VULNERABILITY TOTAL IN ALL-STAR GAME, SAYS GOVERNMENT STATISTICS EXPERT

From there it got worse. Maggie screamed faintly over Denzer's shoulder as she read parts of it aloud : ' "The obsessive preoccupation of the American public with baseball stems from a bread-and-circuses analogy with ancient Rome. Now, as then, it may lead to our destruction." Denzer ! Does this maniac want us to get lynched ?'

'Read on,' moaned Denzer, already several laps ahead of her. Neatly boxed on the second page was a digested, sexed-up version of something Denzer recognized faintly as the study of cement in the shelter programme Chase had mentioned. What the *Nature's Way* semantic-digester had made of it was :

SHELTERS DEATH TRAPS

Study of the approved construction codes of all American shelter projects indicates that they will not withstand even large chemical explosives.

'I think,' sobbed Arturo Denzer, 'that I'll cut my throat.'

'Not here, Mac,' snapped the news-scribing machine. 'Move on, will you ? *Hey!* Late ! Whaddya read ?'

Shaking, the couple moved on. 'Denzer,' Maggie gasped, 'where do you think Joe got this stuff ?'

'Why, from us, Maggie.' Denzer tried to swallow, but his throat was dry. 'Didn't you hear Chase before ? That was the mix-up at the desk ; we must have got his papers, and I suppose

what's-his-name's, Venezuela's, and bundled them off to Joe. Nice job of rush typography, though,' he added absently, staring into space. 'Say, Maggie. What Venezuela was talking about. You think there's any truth to it?'

'To what, Denzer?'

'What it says here. Optimum time for the Other Side to strike – during the All-Star Game, it says. You think—?'

Maggie shook her head. 'I don't think, Denzer,' she said, and they walked on for a moment.

They heard their names called, turned, and were overtaken rapidly by Valendora and the cement engineer. 'You!' cried Chase. 'You have my thesis!'

'And you have my study!' cried Valendora.

'Not I but humanity,' said Denzer sadly, holding out the damp faxed edition of *Nature's Way*.

Valendora, after one white-faced oath in Spanish, took it calmly. He glanced up at the sky for a second, then shrugged. 'Someone will not like this. I should estimate,' he said thoughtfully, 'that within five minutes we will all be back in the *calabozo*.'

But he was wrong.

It was actually less than three.

V

It was the third inning, and Craffany had just benched Little Joe Fliederwick. In spite of the sudden ban on air travel the stadium was full. Every television screen in the country followed Little Joe's trudging walk to the dugout.

In the White House President Braden, shoes off, sipping a can of beer, ignored the insistent buzzing in his ear as long as he could. He wanted to watch the game. '– and the crowd is *roaring*,' roared the announcer, 'just a-*boiling*, folks! What's Craffany up to? What will he do next? Man, don't we have one going here *today*? Folks, was that the all-important turning point in today's all-im— in today's record-breaking All-Star Game, folks? Well, we'll see. In sixty seconds we'll return to the field, but meanwhile—'

The President allowed his attention to slip away from the

commercial and took another pull at his beer. Baseball, now. That was something he could get his teeth into. He'd been a fan since the age of five. All his life. Even during the Century of the Common Woman, when that madman Danton had listened to the Female Lobby and put girls on every second base in the nation. But it had never been this good. This Fliederwick, now, he was *good*.

Diverted, he glanced at the screen. The camera was on Little Joe again, standing at the steps to the dugout, looking up. So were his teammates; and the announcer was saying: 'Looks like some more of those air-to-air missile-busters, folks. A huge flight of them. *Way* up. Well, it's good to know our country's defence is being looked after and, say, speaking of defence, what do you suppose Craffany's going to do now that—'

The buzzing returned. The President sighed and spoke to his invisible microphones. 'What? Oh. Well, damn it . . . all right.'

With a resentful heart he put down the beer can and snapped off the television set. He debated putting his shoes back on. He decided against it, and pulled his chair close to the desk to hide his socks.

The door opened and Senator Horton came in.

'Mr President,' cried Horton, 'I want to thank you. There's no doubt your prompt action has saved your country, sir. I imagine you've been filled in on the, ah, incident.'

Well, he had been, the President thought, but by Senator Harkness, and maybe the time had come when Jim Harkness' view of world affairs needed a little broadening. 'Suppose you tell me about it,' he said.

Horton looked faintly perplexed, but said promptly: 'It was basically an accident. Two men, working independently, came up with reports, strictly unofficial, but important. One was a graduate student's thesis on shelter construction; happens the boy was looking for a job, the Cement Research & Development Institute recommended him to me, he was on his way to see me when the thing happened. That's how I became involved in it. The other fellow's a lab worker, at

least as far as earning a living's concerned, but he's a mathematician something-or-other and was working out a problem with his lab's computers. The problem : If the Reds are going to sneak-punch us, when will they do it? The answer : today. While we're all off base, with the All-Star Game. In the old days they'd maybe pick a presidential election to put one over, just like Hitler used to pick the long weekends. Now all they need is a couple of hours when everybody's looking the other way, you see. All-Star Game's a natural.'

The President said mildly, 'I can see that without using a computer, Senator.'

'Certainly, sir. But this boy proved it. Like to meet him, by the way? I've got the lot of them, right outside.'

In for a penny, in for a pound, thought the President, motioning them in. There were three men and a girl, rather young, rather excited. Senator Horton rattled off introductions. The President gathered the other two had been involved in the security leak that had occurred on the reports.

'But I've talked to them,' cried Senator Horton, 'and I can't believe there's a grain of malice in all of them. And what they say, Mr President, requires immediate action.'

'I was under the impression I'd taken immediate action,' said the President. 'You asked me to ground all civilian air traffic so the missile-watchers could have a clear field; I did. You asked me to put all our defence aircraft airborne; I did. You asked for a Condition Red defence posture and you got it, all but the official announcement.'

'Yes, Mr President. The immediate danger may have been averted, yes. But what about the future?'

'I see,' said the President, and paused for a second. Oddly, there was no voice from the prompter in his ear to suggest his next words. He frowned.

'I see,' he said again, louder. The tiny voice in his ear said at last :

'Well, sir, uh—' It cleared its throat. 'Sir, there seems to be some confusion here. Perhaps you could ask the Senator to continue to brief you.'

'Well—' said the President.

'David,' whispered the prompter.

'– David, let's get our thinking organized. Why don't you continue to fill me in?'

'Gladly, sir! As you know, I'm Shelters all the way. Always have been. But what this young man here says has shaken me to the core. Mr Venezuela says' – Valendora grinned sullenly at the rug – 'that at this very moment we would be in atoms if it hadn't been for his timely publication of the statistical breakdown of our vulnerability. He's even a little sore about it, Mr President.'

'Sore?'

The senator grinned. 'We spoiled his prediction,' he explained. 'Of course, we saved our own lives . . . The Other Side has computers too; they must have assessed our national preoccupation with baseball. Beyond doubt they intended to strike. Only the commotion his article caused – not only in our own country but, through their embassies, on the Other Side – plus of course your immediate reaction when I telephoned you asking for a Red Alert, kept the missiles from coming down today, sir. I'm certain of it. And this other young fellow, Mr Chase' – Walter Chase bowed his head modestly – 'brought out a lot of data in his term paper, or whatever it was. Seemed like nonsense, sir, so we checked it. Everything he said is not only fact but old stuff; it's been published hundreds of times. Not a word of new material in it.' Chase glared. 'That's why we've never built deep shelters. They simply won't stand up against massive attack – and cannot be made to stand up. It's too late for shelters. In building them we're falling into the oldest strategic trap of human warfare: We're fighting yesterday's war today.'

President Braden experienced a sinking feeling when the ear-prompter said only, and doubtfully, 'Ask him to go on, sir.'

'Go on, si— Go on, David.'

'Why,' said the senator, astonished, 'that's all there is, Mr President. The rest is up to you.'

President Braden remembered vaguely, as a youth, stories about the administration of President – who was it? Truman, or somebody around then. They said Truman had a sign on his desk that read : *The buck stops here.*

His own desk, the President noticed for the first time, was mirror-smooth. It held no such sign. Apart from the framed picture of his late wife there was nothing.

Yet the principle still held, remorselessly, no matter how long he had been able to postpone its application. He was the last man in the chain. There was no one to whom the President could pass the buck. If it was time for the nation to pick itself up, turn itself around and head off in a new direction, he was the only one who could order it to march.

He thought about the alternatives. Say these fellows were right. Say the shelters couldn't keep the nation going in the event of all-out attack. Say the present alert, so incredibly costly in money and men, could not be maintained around the clock for any length of time, which it surely could not. Say the sneak-punchers were right...

But no, thought the President sombrely, that avenue had been explored and the end was disaster. You could never get *all* the opposing missile bases, not while some were under the sea and some were touring the highways of the Siberian tundra on trucks and some were orbital and some were airborne. And it only took a handful of survivors to kill you.

So what was left?

Here and now, everybody was waiting for him to speak – even the little voice in his ear.

The President pushed his chair back and put his feet up on the desk. 'You know,' he said, wiggling his toes in their Argyle socks, 'I once went to school too. True,' he said, not apologizing, 'it was West Point. That's a good school too, you know. I remember writing a term paper in one of the sociology courses . . . or was it history? No matter. I still recall what I said in that paper. I said wasn't it astonishing that things always got worse before they got better. Take monarchy, I said. It built up and up, grew more complex, more useless, more removed from government, in any real

sense, until we come to things like England's Wars of the Roses and France's Sun King and the Czar and the Mikado – until most of the business of the government was in the person of the king, instead of the other way around. Then – bang! No more monarchy.'

'Mr President,' whispered the voice in his ear, 'you have an appointment with the Mongolian Legate.'

'Oh, shut up, you,' said the President amiably, shocking his prompter and confusing his guests. 'Sorry, not you,' he apologized. 'My, uh, secretary. Tells me that the Chinese representatives want to talk about our "unprecedented and unpeace-loving acts" – more likely, to see what they can find out.' He picked the plug out of his ear and dropped it in a desk drawer. 'They'll wait. Now, take slavery,' he went on. 'It too became more institutionalized – and ritualized – until the horse was riding the man; until the South here was existing on slaves, it was even existing *for* slaves. The biggest single item of wealth in the thirteen Confederate states was slaves. The biggest single line of business, other than agriculture, was slavery, dealing and breeding. Things get big and formal, you see, just before they pop and blow away. Well, I wrote all this up. I turned it in, real proud, expecting, I don't know, maybe an honorary LL.D. At least a compliment, certainly . . . It came back and the instructor had scrawled one word across the top of it: *Toynbee*. So I read up on Toynbee's books. After, of course, I got over being oppressed at the instructor's injustice to me. He was right. Toynbee described the whole thing long before I did.

'But, you know, I didn't know that at the time. I thought it up myself, as if Toynbee had never lived,' said the President with some pride. He beamed at them.

Senator Horton was standing with open mouth. He glanced quickly at the others in the room, but they had nothing but puzzlement to return to him. He said, 'Mr President, I don't understand. You mean—'

'Mean? I mean what's happened to us,' said the President testily. 'We've had our obsessive period. Now we move on to something else. And, Senator, Congress is going to have to

help move; and, I'm warning you, you're going to help me move *it*.'

When they left the White House it was late afternoon. The lilacs that bordered the walk were in full, fragrant bloom. Denzer inhaled deeply and squeezed the hand of Maggie Frome.

Passing the sentry box at the end of the drive, they heard a voice from a portable radio inside. It was screaming:

'It's going . . . it's *going* . . . it's GONE, folks! Craffany has pulled one out of the fire again! And that wraps it up for him, as Hockins sends one *way* out over centrefield and into the stands . . .' The guard looked out, rosily beaming, and waved them on. He would have waved them on if they had worn beards and carried ticking bombs; he was a Craffany rooter from way back, and now in an ecstasy of delight.

'Craffany did it, then,' said Walter Chase sagely. 'I *thought* when he benched Hockins and moved Little Joe Fliederwick to—'

'Oh, shut up, Chase,' said Denzer. 'Maggie, I'm buying drinks. You want to come along, Venezuela?'

'I think not, Mr Denzer,' said the research man. 'I'm late now. *Statist. Analysis Trans.* is expecting me.'

'Chase?' Politeness forced that one out of him. But Chase shook his head.

'I just remembered an old friend here in town,' said Chase. He had had time for some quick thinking. If the nation was going over to a non-shelter philosophy – if cave-dwelling was at an end and a dynamic new programme was going to start – maybe a cement degree wasn't going to be the passport to security and fame he had imagined. Walter Chase had always had a keen eye for the handwriting on the wall. 'A young lady friend,' he winked. 'Name of Douglasina Baggett. Perhaps you've heard of her father; he's quite an important man in HE&W.'

The neutron, properly paced, had struck the nucleus; and the spreading chain was propagating rapidly through their world. What was it going to be from now on? They did not

know; does a fissioned atom know what elements it will change into? It *must* change; and so it changes. 'I guess we did something, eh?' said Denzer. 'But . . . I don't know. If it hadn't been us, I expect it would have been someone else. Something had to give.' For it doesn't matter which nucleus fissions first. Once the mass is critical the chain reaction begins; it is as simple as that.

'Let's get that drink, Denzer,' said Maggie Frome.

They flagged a cab, and all the way out to Arlington-Alex it chuckled at them as they kissed. The cab spared them its canned thoughts, and that was as they wished it. But that was not why they were in each other's arms.

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