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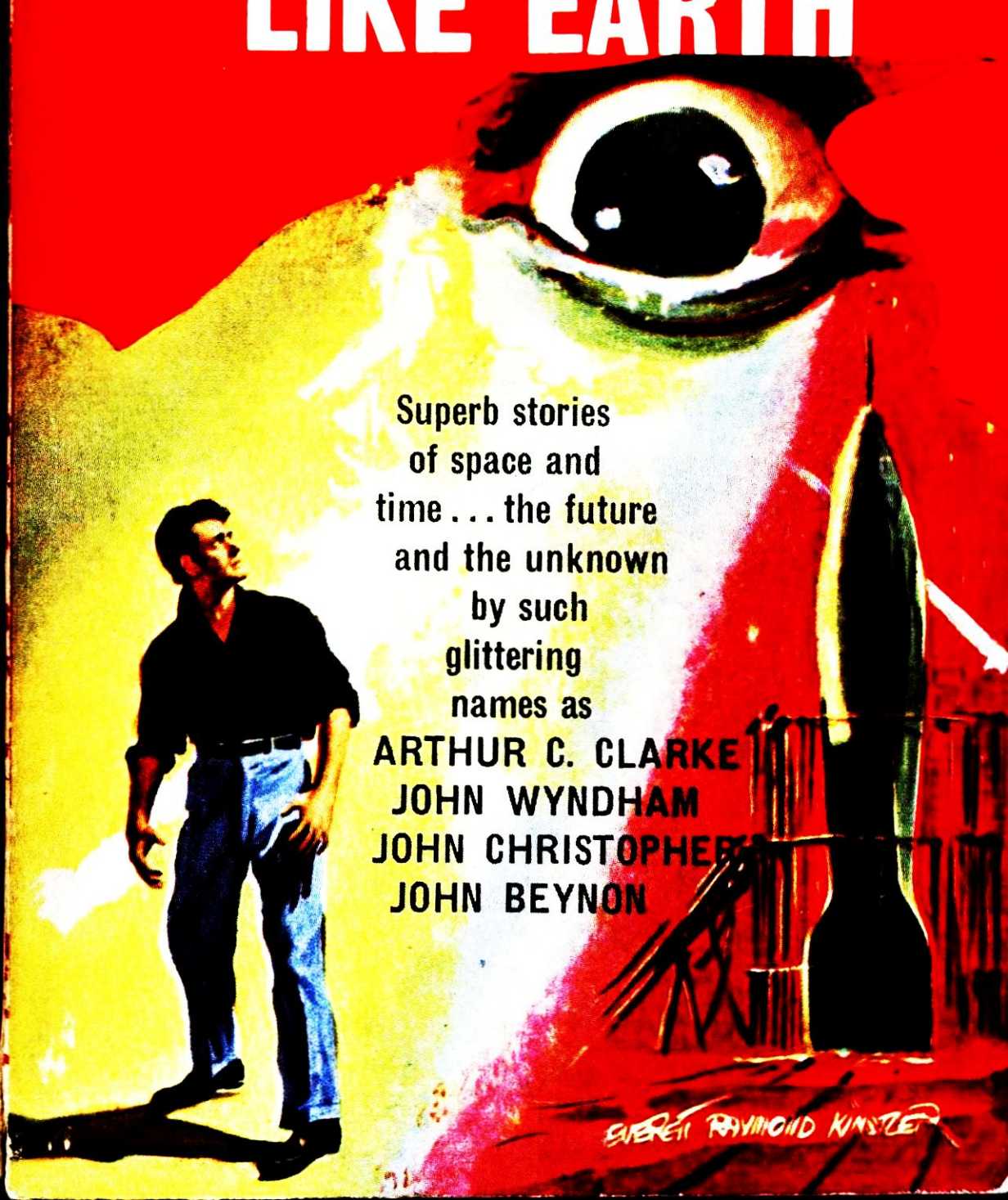
Edited by John Carnell

NO PLACE LIKE EARTH



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NO PLACE LIKE EARTH

This magnificent collection of science-fiction stories by all the top British authors is one of the finest ever published in this country. Although concerned with the thrills of futuristic adventure in space, on other planets and on Earth itself, each story nevertheless accentuates Man's endeavours rather than the mechanical possibilities of the future, and each is an understandable *human* drama.

Edited by

JOHN CARNELL

NO PLACE LIKE EARTH

A Science Fiction Anthology

A PANTHER BOOK

NO PLACE LIKE EARTH

A Panther Book

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CONTENTS

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INTRODUCTION

By Arthur C. Clarke, B.Sc., F.R.A.S.

The term "science fiction" is modern—but the type of story it designates belongs to the oldest of all literary traditions. Adventures in strange realms beyond the horizons of normal, everyday life must have been the stock-in-trade of generations of bards long before Homer launched the greatest of all works of fantasy out into the river of time. For Odysseus is the prototype of all the daring, resourceful heroes who have followed him over the seas of this planet, and, later, voyaged outwards into space to worlds of which Homer never knew. And is not the Cyclops, Polyphemus, the ancestor of all the "bug-eyed monsters" that menace scantily clad maidens on the covers of the less sophisticated science fiction magazines? It is perhaps unfair to blame Homer for Superman: but the line of descent is unmistakable.

Three thousand years ago—indeed, three hundred years ago—this world was large enough to hold all the gods and monsters and fabulous kingdoms that even the most prodigal of authors demanded. It is well for the imagination of mankind that, as science made this Earth shrink, it opened up new worlds for conquest elsewhere. Everyone today is used to the idea that other planets exist—and it comes as a shock to realise that this fact was unknown even as late as Shakespeare's time. To the Elizabethans, Mars, Jupiter and Venus were merely bright points moving among the stars: they were not other worlds out there in space.

The modern writer of science fiction has, therefore, an infinitely greater scope than his predecessors. The universe we live in is huge beyond the imagination of medieval man—and it is still expanding. Light takes a thousand million years to reach us from the present frontiers of astronomy, and beyond these there lie infinities still unglimpsed and unexplored.

But the writer of today, if he takes his work at all seriously, has to pay the price for this freedom. He is not entitled to take liberties with known facts: if he does so, his editor is likely to be bombarded with letters all beginning: "Dear Sir, Mr. Blank is apparently unaware that . . ."

The crucial phrase in the last sentence is "*known facts*". It is a known fact that space is empty—rockets have been there to prove it. But it's only a theory that nothing can travel faster than light. An author has, therefore, some shreds of excuse if he lets an interstellar ship reach the stars in a couple of weeks. He has none at all if he lets his hero breathe space and like it—

something which novelists could and did get away with at the beginning of the last century. This is a trivial example, but there are plenty of others which are not so obvious. Today, the writer of science fiction has to have a good grounding of non-fictional science.

Although—as the contents of this volume prove—the space-travel story is by no means the only theme used by writers about the future, it is certainly the most prominent. There is, of course, nothing surprising about this. Coming events always cast their shadows before them: a hundred years ago many imaginative writers were busily foretelling the advent of flight. In one respect however, things have changed. Hardly anyone took those earlier prophets seriously—but in the last few years the arrival of V.2 and atomic energy has made an extremely wide public take space-travel very seriously indeed.

It is an interesting fact that the two men who have made the greatest single contribution to astronautics have both used fiction to spread their ideas. Half-way through Professor Hermann Oberth's classic—and largely mathematical—work, *Wege Zur Raumschiffahrt* ("The Way to Space Travel") the flagging reader is regaled by a dozen pages from one of the Professor's novels. More recently, Dr. Wernher von Braun, who was technical head of the great Peenemunde research establishment and thus responsible for the development of the V.2, has published *Mars Project*, a fictional account of the first expedition to Mars. This must be one of the few novels which has had a separately published mathematical appendix!

Yet, when all is said and done, the primary object of these stories is to entertain. It is as entertainment that they must stand or fall. If they make the reader lift his eyes from his immediate surroundings and take a wider view, well and good. If, like Orwell's *1984*, they warn him of the Things that may Come if he's not careful, or if they happen to teach him some science before he realises what's going on—better still. But that isn't their job. If any of the other authors in this volume tell you that they wrote these stories to instruct, elevate or improve rather than amuse, don't you believe them.

The *locale* may have changed from the wine-dark sea to the velvet, star-pierced back cloth of space—but the purpose of the stories hasn't altered in the least. We're still playing the game that Homer left off three thousand years ago. Except, of course, that we're not quite so good at it.

NO PLACE LIKE EARTH

By John Beynon

I

The view was not much. To eyes which had seen the landscapes of Earth it was not a view at all so much as just another section of the regular Martian backdrop. In front and to the left smooth water spread like a silk sheet to the horizon. A mile or more to the right lay a low embankment with yellow-red sand showing through rush-like tufts of skimpy bushes. Far in the background rose the white crowns of purple mountains.

In the mild warmth of noon Bert let his boat carry him along. Behind him, a fan of ripples spread gently and then lapsed back into placidity. Still farther back the immense silence closed in again, and nothing remained to show that he had passed that way. The scene had scarcely changed for several days and several hundred miles of his quietly chugging progress.

His boat was a queer craft. There was nothing else like it on Mars—nor any other place. For he had built it himself—and without knowing anything about the building of boats. There had been a kind of plan—well, a rough idea—in his head, at first, but he had had to modify that so many times that most of it had grown empirically from the plates and materials he had been able to find. The result had something of sampan, punt and rain-water tank in its ancestry, but it satisfied Bert.

He sprawled in comfortable indolence at the stern of his craft. One arm in a tattered sleeve hung over the tiller, the other lay across his chest. Long legs in patchwork trousers sprawled out to end in strange boots with canvas uppers and soles contrived of woven fibres; he had made those himself, too. The reddish beard on his thin face was trimmed to a point; above it his dark eyes looked ahead with little interest from under the torn, stained brim of a felt hat.

He listened to the phut-phutting of the old engine as he might to the purr of a friendly cat; indeed, he thought of it as an old friend, bestowing upon it a kindly care to which it responded with grunts of leisurely goodwill as it bore him along. There were times when he talked to it encouragingly or told it the things he thought; it was a habit he did not approve of and which he curbed when he noticed it, but quite often he did not notice. He felt an affection for the wheezy old thing, not only for carrying him along thousands of miles of water, but because it kept the silence at bay.

Bert disliked the silence which brooded over desert and water like a symptom of mortification, but he did not fear it. It did not drive him, as it did most, to live in the settlements where there was neighbourliness, noise and the illusion of hope. His restlessness was stronger than his dislike of the empty lands; it carried him along when the adventurous, finding no adventure, had turned back or given in to despair. He wanted little but, like a gipsy, to keep moving.

Bert Tasser he had been years ago, but it was so long since he had heard the surname that he had almost forgotten it: everybody else had. He was just Bert—for all he knew he was the only Bert.

"Ought to be showing up soon," he murmured, either to the patient engine or himself, and sat up in order to see better.

A slight change was beginning to show on the bank; a wood was becoming more frequent among the scrawny bushes, a slender-stalked growth with polished, metallic-looking leaves, sensitive to the lightest breath of wind. He could see them shivering with little flashes in increasing numbers ahead, and he knew that if he were to stop the engine now he would hear not the dead envelope of silence, but the ringing clash of myriads of small, hard leaves.

"Tinkerbells," he said. "Yes, it won't be far now."

From a locker beside him he pulled a much-worn, hand-drawn map, and consulted it, from it he referred to an equally well-used notebook, and read over the list of names written on one of the pages. He was still muttering them as he returned the papers to the locker and his attention to the way ahead. Half an hour passed before a dark object became visible to break the monotonous line of the bank.

"There it is now," he said, as if to encourage the engine over the last few miles.

The building, which had appeared oddly shaped even from a distance, revealed itself as a ruin on closer approach. The base was square and decorated on the sides with formal patterns in what had once been high relief, but was now so smoothed that the finer details were lost. Once it had supported some kind of tower, though exactly what kind had to be guessed, for no more than the first twenty feet of the upper structure, remained. It, too, bore remnants of worn carving, and, like the base, was built of a dusky red rock. Standing a hundred yards or so back from the bank, it was deceptive in its isolation. The size and the degree of misadventure which time and adaptation had brought it only became appreciable as one approached more closely.

Bert held on his course until he was opposite before he turned his clumsy craft. Then he swung over and headed towards

the bank at slow speed until he grounded gently on the shelving shore. He switched off the engine, and the indigenous sounds took charge; the tinny chime of the tinkerbells, a compłaining creak from a ramshackle wheel turning slowly and unevenly a little to his left along the bank, and an intermittent thudding from the direction of the ruin.

Bert went forward to the cabin. It was snug enough to keep him warm in the cold nights, but ill lit, for glass was hard to come by. Groping in the dimness he found a bag of tools and an empty sack, and slung them over one shoulder. He waded ashore through the few inches of water, drove in a hook to hold his boat against the unlikely chance of disturbance in the placid water, and turned with a long, easy stride towards the building.

To either side of the place and beyond it clustered a few small fields where neatly lined crops stood fresh and green among narrow irrigation ditches. Against one wall of the stone cube was an enclosure and a shed roughly built of irregular fragments which might have been part of the vanished tower. Despite its inexpert appearance it was neatly kept, and from beyond it came occasionally, the grunt of small animals. In the near face of the cube was a doorway, and to either side of it unsquare holes which, though glassless, appeared to be windows. Outside the door a woman was at work, pounding grain on a shallow worn rock with a kind of stone club which she held in both hands. Her skin was a reddish-brown, her dark hair rolled high on her head, and her only garment a skirt of coarse russet cloth stencilled with a complex yellow pattern. She was middle-aged, but there was no slackening of muscles or deterioration of poise. She looked up as Bert approached, and spoke in the local patois:

"Hullo, Earthman," she said, "we were expecting you, but you've been a long time."

Bert replied in the same language.

"Late am I, Annika? I never know the date, but it seemed about time I was this way again."

He dropped the bags, and instantly a dozen little bannikuks scampered to investigate them Disappointed they clustered round his feet mewing inquisitively, and turning their little marmoset-like faces up to him. He scattered a handful of nuts from his pocket for them, and sat down on a convenient stone. Recalling the list of names in the notebook he asked after the rest of the family.

They were well, it seemed. Yanff, her eldest son, was away, but Tannack, the younger, was here, so were the girls Guika and Zaylo; Guika's husband, too, and the children, and there was a new baby since last he came. Except for the baby they were all down in the far field: they would be back soon.

He looked where she pointed, and saw the dark dots moving in the distance among the neat rows.

"Your second crops are coming along nicely," he said.

"The Great Ones remember," she said in a matter-of-fact way.

He sat watching her as she worked. Her colouring and that of the setting made him think of pictures he had seen years ago—by Gauguin, was it?—though she was not the kind of woman that Gauguin had painted. Possibly he would not have seen beauty there, as Bert himself had failed to at first. Martians, with their lighter build and delicate bones had looked so frail and skinny to him when he first saw them, but he had grown used to the difference: an Earth woman would look queer and dumpy now, he guessed—if he were ever to see one.

Aware of his gaze upon her Annika stopped pounding and turned to look at him; she did not smile but there was a kindness and understanding in her dark eyes.

"You're tired, Earthman," she said.

"I've been tired a long time," said Bert.

She nodded comprehendingly, and returned to her work.

Bert understood, and he knew that in her quiet way she understood. They were a gentle, sympathetic people, and sincere. It was a tragedy, one of a string of similar tragedies that the first Earthman to ground on Mars had seen them as a weak, effete race; the 'natives', inferiors, to be kicked about, and exploited whenever convenient. It had stopped now; either they had got to know the Martian people better, as he had, or they lived in the settlements and seldom saw them; but he still felt ashamed for his own people when he thought of it.

After some minutes she said:

"How long is it you've been going round now?"

"About seven of your years: that's nearly fourteen of ours."

"That's a long time." She shook her head. "A long time to be roaming, all by yourself. But then you Earthmen aren't like us?" She gazed at him again as though trying to see the difference beyond his eyes. "Yet not so very different," she added, and shook her head slowly again.

"I'm all right," Bert told her briefly. He pulled the conversation on to another course. "What have you got for me this time?" he asked, and sat half-listening while she told him of the pans that wanted mending, the new ones she was needing, how the wheel wasn't delivering as much water as usual; how Yanff had tried to rehang the door when it came off its hinges and what a poor job he had made of it. The other half of his attention went wandering—perhaps that was one of the things that happened when you were so much alone.

II

The 'I'm all right' had been a buffer; he knew it, and he knew she knew it. None of the Earthmen was 'all right'. Some of them put up a show, others did not, but there was the same trouble underneath. A number wandered restlessly as he did; most of them preferred to rot slowly and alchoholically in the settlements. A few, grasping at shadows while they dreamed, had taken Martian girls and tried to go native. Bert felt sorry for them. He was used to seeing their faces light up and he knew their eagerness to talk when he met them; and always of reminiscences, nostalgic rememberings.

Bert had chosen the wandering life. The stagnation had shown its effect in the settlement quite soon, and it took no great power of perception to see what was going to happen there. He had spent a whole Martian year in building his boat, equipping her, making pots and pans for trade purposes, and stocking her with tools and supplies; and once he had set out upon a tinker's life restlessness kept him moving. The settlements saw little of him save when he called in for fuel for his engine or stayed awhile in the winter working on pans and other useful trade goods, and at the end of it he was glad to leave. Each time he called the deterioration seemed more noticeable, and a few more of those he had known had sought relief by drinking themselves to death.

But recently he had felt a change in himself. The restlessness still kept him from lingering longer than necessary in the settlements, but it did not drive him as it used to, nor was there the old satisfaction in the rounds and journeys that he planned for himself. He felt no temptation to join the men in the settlements, but he had begun to understand the gregariousness which held them there, and to understand, too, why they found it necessary to drink so much. It made him uneasy at times to realise that he had changed enough to be able to sympathise with them.

Mostly it was age, he supposed. He had been barely twenty-one when he had completed his first and last rocket flight; most of the others had been ten, fifteen, twenty years older; he was catching up now with the feelings they had had years ago, aimlessness, hopelessness and a longing for things that had vanished for ever.

Exactly what had taken place on Earth, none of them knew, nor ever would know. His ship had been four days out of the Lunar Station, bound for Mars, when it happened. One of his mates, a man a little older than himself, had roused him from his bunk and dragged him to the porthole. Together they had gazed at a sight which was printed for ever on his memory: the

Earth split open, with white-hot fire pouring from the widening cracks.

Some had said that one of the atomic piles must have gone over the critical mass and touched off a chain reaction; others objected that if that were so the Earth would not have split, but have flared something like a nebula followed by non-existence. Much ill-informed argument regarding the possibility of a chain reaction limited to certain elements had followed, and occasionally recurred. The truth was that nobody knew. All that was certain was that it had broken up, disintegrating into a belt of innumerable asteroids which continued to scurry round the sun like a shower of cosmic pebbles.

Some of the men had taken a long time to believe what they had actually seen; they were the worst affected when they did understand. Some found that their minds would not grasp and hold it as a fact; for them the Earth went on, ever unattainable, yet somewhere existent. Demoralisation had spread through the ship, a few were for turning back, unreasonably convinced that they should be there, and in some way giving help: afterwards it had continually been their grudge that they had not been allowed to, even if it were useless. The skipper had decided that there was nothing to be done but hold on their course for Mars.

The navigators had looked more and more worried as their tables became increasingly inaccurate with orbits changing about them; they had watched with wonder the freed moon leave her path and sail through space guided by incalculable forces until she came eventually within the clutch of the giant Jupiter; but long before that happened the ship had, by a combination of calculation and guesswork, made her successful last drop to Mars.

Other ships, too, had come in; research vessels from the Asteroid Belt and beyond, traders from the Jovian moons diverted from the homeward course. Some that were expected never arrived, but in the end there were a couple of dozen lying idle on Mars with no home port to seek. Several hundreds of men idled with them. As well as crews, there were miners, drillers, refiners, prospectors, explorers, station maintenance men, settlement staff and the rest, all thrown together on an alien world to make the best of it.

There had also been two women, hostesses or stewardesses. Good enough girls, and amiable at first, though no great beauties. But circumstances were against them, and the pressure was great. They had gone quickly to the astonishing depths of badness good women can reach once they start. It was reckoned they had caused a score of murders each before they were found to be susceptible to the same method of disposal. Things were quieter after that, with drinking as the main amusement.

It might, Bert told himself, have been worse. It *was* worse for those who had had wives and families. He had less personal loss: his mother had died some years before, his father had been an old man, there had been a girl, a sweetly pretty girl with hair like red gold and who grew prettier in his memory as time went by: Elsa her name was, but there had not really been a lot to it; and though it was pleasant to recall that she might have married him, he had never in point of fact seriously tried to find out whether she would or would not. Then, too, there was a slender consolation that he was on Mars and at least better off than those who must have been trapped in the steamy heat of Venus, or on the cold Jovian moons. Life offered something beyond perpetual battle to survive, and though it might not be very much it had been better to go out and see what there was rather than soak away youth and strength with the rest. So he had started to build his boat.

Bert still thought that the best and wisest thing he had ever done. The work had kept him too busy to mope, and then when he had set off it had been as an explorer, a pioneer along many of the thousands of miles of canals that he travelled. There had been the business of getting to know the Martians, and of finding them quite unlike what he had been told. That had involved learning languages completely different in structure from his own, and the local variations of them, and he had kept at it until he spoke four patois better than any other Earthman he knew, and could get along comfortably in several more. He found that he usually thought in one of them nowadays. Along canals which were sometimes like calm seas sixty or eighty miles wide, and sometimes less than a single mile he chugged slowly from one cultivated site to another. The more he saw of the huge waterways and their multiplicity, the greater had grown his first amazement at them; nor after years of travelling them was he nearer an understanding of how they had been built than when he first set out. The Martians could tell him nothing when he asked: it was something which had been done by the Great Ones long, long ago. He came to accept the canals with the rest and was grateful to the Great Ones, whoever they might have been, for providing the smooth lanes all over their planet.

He grew fond of the Martian people. Their quietness, their lack of hurry and their calm, philosophic ways were a soothing antidote to his sense of drive and thrust. He found out quite soon that what his companions had called their laziness and effeteness was a misunderstanding of minds that worked differently in some ways, and certainly saw life differently; whose conception of the virtues was altogether alien, and he

found out how his abilities could help their deficiences in exchange for the foods they knew how to grow.

Thus he had wandered back and forth mending and making in exchange for his keep, never staying long anywhere. It had only been recently that he had gradually become aware that the restlessness which still possessed him was no longer to be assuaged by wandering alone—if by wandering at all.

Bert had not noticed that Annika had ceased to talk when his thoughts went astray. He had no idea how much time passed before she ceased pounding to look up and say:

"They're coming now."

The two men came first, heads down and deep in conversation. They were lightly, almost weakly built, to Earth judgment, but Bert had long ceased to apply alien standards; he saw them as well set up and capable. The women followed. Guika was carrying the smallest of three children while the others held on to the hands of her sister who laughed down at them. Guika was now, he thought, about twenty-five by Earth reckoning, her sister Zaylo about four years younger. Like their mother they wore roughly woven, bright-patterned skirts, and their hair was held in its high dressing by silver pins; like her, too, they were smoothly rhythmic in their movements. He scarcely recognised Zaylo at first; she had not been at home on his last two visits and there was change enough for him to be uncertain.

Tannack, the son, saw him and came hurrying forward. His greeting was glad and kindly. The others came up and surrounded him as they always did, looking rather as if they were reassuring their memories about the appearance of an Earthman.

Annika gathered up her flour, and disappe.red into the stone pediment of the tower which was their home. The rest of them followed chattering and laughing with Bert, plainly pleased to see him again.

During the meal Tannack told him all over again of all the things that had worn out, got broken, and gone wrong. They didn't sound very serious, nothing that the ordinarily handy man could not soon have put right, yet that was one of the directions where his value lay; a fault and its remedy which took him five minutes to perceive and could cost them as many weeks of careful cogitation and then, as likely not, they would fail in its application. The utterly unmechanical quality in them astonished him yet. It was something they had never developed beyond absolute necessity. He had wondered if it and the passiveness which was also so different a characteristic from the nature of the Earthmen might be due to their never having been the dominant race on the planet until there was little left to

dominate. The mysterious Great Ones who had built the canals, the now fallen buildings and cities, and who had in some way vanished centuries, or perhaps thousands of years ago, had been the rulers: it seemed as if under them the idea of warring and fighting had had no chance to develop, and the mechanical sense no need. If so, it was a tradition planted firmly enough never to be lost. At times he felt that there was a lingering subconscious sense of taboo about such things. They still looked for their blessings to the Great Ones who 'remembered'. Bert would have very much liked to know what those Great Ones were and even how they had looked, but no one could tell him.

After they had eaten he went outside to build himself a little fire and lay out his tools. They brought him pans, hoes and other things to mend, and then disappeared about various jobs. The three children stayed to watch, sitting on the ground playing with the scampering little bannikuks, and chattering to him as he worked. They wanted to know why he was different from Tannack and the others, why he wore a jacket and trousers, what use his beard was. Bert began to tell them about Earth; about great forests and soft green hills, of the huge clouds which floated in summer in skies that were bright blue, of great green waves with white tops, of mountain streams, of countries where there were no deserts, and flowers grew wild everywhere in the spring, of old towns and little villages. They did not understand most of what he said, and perhaps they believed less, but they went on listening and he went on talking, forgetting they were there until Annika interrupted to send them off to their mother. She sat down near him when they had gone.

The sun would soon be down, and he could feel the chill already in the thin air. She seemed not to notice it.

"It is not good to be lonely, Earthman," she said. "For a time, when one is young there is much to see, it seems so, though it is better shared. Later it is not good."

Bert grunted. He did not look up from the iron pot he was mending.

"It suits me to be on my own. I ought to know," he told her.

She sat looking far away; beyond the twinkling tinkerbells, and beyond the smooth water behind them.

"When Guika and Zaylo were children you used to tell them tales of the Earth—but they weren't the tales you were telling just now. In those days you talked about huge cities where millions of your people lived, of great ships that were like lighted castles by night, of machines travelling on the ground at unbelievable speeds and others that flew above, even faster; of voices that could speak through the air to the whole earth, and many other marvellous things. And sometimes you sang queer, jerky Earth songs to make them laugh. You did not talk of any of those things tonight."

"There are plenty of things to talk about. I don't need to go on telling of the same things each time," he said. "Why should I?"

"What you should say matters less than what you do say, but why you say it matters more than either," she murmured.

Bert blew on his glowing little fire and turned the iron in it. He made no reply.

"Yesterday was never the future. One cannot live backwards," she told him.

"Future! What future has Mars? It is senile, dying. One just waits with it for death," he said, with impatience.

"Was not Earth, too, beginning to die from the moment it started to cool?" she asked. "Yet it was worth building upon, worth raising civilisation there, wasn't it?"

"Well--was it?" he inquired bitterly. "For what?"

"If it were not, it would be better, if we had never been."

"Well?" he said again, challengingly.

She turned to look at him.

"You don't think that—not really."

"What else am I to think?" he asked.

The light was growing poor. He covered the fire with a stone and began to pack up his tools. Annika said:

"Why don't you stay here with us, Earthman? It's time for you to rest."

He looked up at her in astonishment, and started to shake his head automatically, without consideration. He had planted it in his mind that he was a wanderer, and he had no wish to examine the strength of the setting. But Annika went on:

"You could help a lot here," she said. "You find things easy that are difficult for us. You are strong—with the strength of two of our men." She looked beyond the ruin at the neat small fields. "This is a good place. With your help it could be better. There could be more fields and more stock. You like us, don't you?"

He sat looking into the twilight, so still that an inquisitive bannikuk climbed up to explore his pocket. He brushed the little creature away.

"Yes," he said, "I've always liked coming here, but——"

"But what, Earthman?"

"That's just it—'Earthman'. I don't belong here with you. I don't belong anywhere. So I just keep visiting, and moving on."

"You could belong here—if you would. If Earth were re-created now, it would be stranger to you than Mars."

That he could not believe. He shook his head again. "Anyway, what does it matter?"

"It matters this much," Annika told him, "that you are on the verge of finding out that life is not something which can be stopped just because you don't like it. You are not apart from life: you are a part of it."

"What has all that to do with it?" Bert asked.

"Just that mere existence is not enough. One exists by barter. One lives by giving—and taking."

"I see," said Bert, but doubtfully.

"I don't think you do—yet. But it would be better for you to, and better for us if you were to stay. And there is Zaylo."

"Zaylo?" Bert repeated, wonderingly.

III

Zaylo came to the bank while he was repairing the wheel the next morning. She settled down a few feet away on the slope, and sat with her chin on her knees watching. He looked up and their eyes met. Something entirely unexpected happened to Bert. Yesterday he had seen her as a child grown up, today it was different. There was a pain in his chest and a hammering, the skin on his temples felt oddly tight, his hand trembled so that he almost dropped the bar he was holding. He leant back against the wheel, staring at her but unable to speak. A long time seemed to pass before he could say anything, and the words sounded clumsy in his own ears.

What they talked about he could never afterwards remember. He could only recall the sight of her. Her expression, the depth of her dark eyes, the gentle movements of her mouth, the way the sun shone on her skin as though there were a mist over polished copper, the lovely line of her breasts, the slim feet in the sand beneath the brightly patterned skirt. There were a host of things he had never noticed before; the modelling of her ears, the way her hair grew, and the ingenuity of coils which could be firmly held on top of her head by the three silver pins, the slenderness of her hands and fingers, the pearled translucence of her teeth, and on through a catalogue of wonders hitherto incredibly unobserved.

It was a day of which Bert recalled very little else but that there seemed to be sections of him being torn slowly and painfully apart, yet still so close that sometimes he looked out from one section, and sometimes from the other. He would see himself in his boat, sliding along the endless canals in the sunlight with vastnesses of desert stretching out on either side, sitting out the sudden dust-storms in his small cabin where the throat-drying sand managed still to penetrate every ingenuity, and then going on as usual to do tinker's work at the next inhabited area. That was the life he had got used to, and life he had chosen—he could go on with it as before and forget Zaylo—yet he knew it would not be quite as before because it was not going to be easy to forget her. There were pictures which he would not be able to leave behind; Zaylo smiling as she played with her sis-

ter's babies, Zaylo walking, sitting, standing; Zaylo herself. There were dreams rising inadvertent and beneath his guard, imaginings which swam into his mind in spite of his intention to keep them out; the warmth of Zaylo lying beside him, the light weight of her on his arm, the firmness, the lovely colour of her, the relaxation there would be in having a place to lay one's heart, and a hand to cherish it. It all hurt like a hardened dressing drawing from a wound.

After the evening meal he went away from the rest, and hid himself in his boat. Looking across the table at her it had seemed to him she saw all that was going on inside him, and knew more about it than he did himself. She made no gesture, no sign, but she was aware of everything with a calmness somehow alarming. He did not know whether he hoped or feared that she might follow him to the boat—but she did not come.

The sun set while he sat, unconscious that he had begun to shiver with the chill of the Martian night. After a time he moved stiffly, and roused himself. He paddled through the few inches of water and climbed the bank. Phobos was shedding a dim light across the fields and the arid land beyond. The ruined tower was a misshapen black shadow.

Bert stood looking out into the great darkness where his home had been. Mars was a trap to hold him alive, but he would not let it pet and tame him. He was not to be wheedled by softness from the harsh grudge he owed providence. His allegiance was to Earth, the things of Earth, the memory of Earth. It would have been better to have died when the mountains and oceans of Earth were burst open; to have become one more mote among the millions memorially circling in the dark. Existence now was not life to be lived; it was a token of protest against the ways of fate.

He peered long into the sky hoping to see one of the asteroids which once was some corner of the loved material Earth: perhaps, among the myriad points that shone, he did.

A wave of desolation swept through him; a hungry abyss of loneliness opened inside him. Bert raised his clenched fists high above his head. He shook them at the uncaring stars, and cursed them while the tears ran down his cheeks.

As the far-off chugging of the engine faded slowly into silence there was only the clinking of the tinkerbells to disturb the night. Zaylo looked at her mother with misty eyes.

"He has gone," she whispered, forlornly.

Annika took her hand, pressed it comfortingly:

"He is strong, but strength comes from life—he cannot be stronger than life. He will be back soon—quite soon, I think." She put up her hand and stroked her daughter's hair. After a

pause she added: "When he comes, my Zaylo, be gentle with him. These Earthmen have big bodies, but inside them they are lost children."

On the left lay the ruins of a great city. According to the Martians it was called something like Thalkia. It was unlike any waterside city, unlike, indeed, any city that Bert had seen on Earth. There were no vestiges or signs of quays. Instead, half a dozen stone-paved roads, ramps with low walls ran from the land into the water. Looking over the side of the boat one could follow them down into the murky depths. From them Bert had deduced that the Great Ones who had built the city had employed some kind of amphibious craft, able to run from the canal into the market-places or wherever it was that the cargoes were needed. It was just another of those hints about the Great Ones that, put together, added up to practically nothing.

Several times Bert had stopped there, and made his way among the ruins. They told him little: he could not deduce even the size or nature of the Great Ones. Pale red sand had crept across much of the place. Out of it protruded pillars and walls of the darker red stone, and between them the corners of fallen blocks. Here and there great lintels, architecturally fantastic, and structurally impossible on Earth, still stood. It could be seen that the Great Ones had abhorred the straight line, delighted in the subtle curve, and had had a particular penchant for a gently swelled three-sided pillar. And, too, that there was nothing ephemeral in their building notions. Allowing for the different gravity, there was a massiveness which nothing on Earth, save possibly the Egyptian pyramids, had employed. It awed Bert quite a deal to be standing in the remains of the oldest structural work anyone had ever seen. The civilisation of Earth seemed by contrast like a quickly blown and burst bubble. He doubted whether Thalkia had looked much different at the time when man's ancestors were leaving the trees for the ground. Each time he had come away humbled by antiquity, and with the desire to dig there one day and find out more about the Great Ones.

Yet this time as his boat chugged past Thalkia he almost failed to notice the place. His arm was over the tiller, and he steered without thinking. The eyes under his battered hat's brim were not even conscious of what they saw.

He was now in the process of discovering the paradox that it takes a very strong mind to run away really efficiently, and that if the mind is that strong it probably doesn't run at all. Certainly he had been unsuccessful in his efforts to leave Zaylo behind. She stood between him and everything.

When his eyes were on the massive ruins of Thalkia, what he was seeing was Zaylo. Zaylo in a deep yellow skirt stencilled with a pattern in warm brown, with her hair held high on her head by three silver pins; the delicacy of her hands and arms, the unhidden beauty of her young breasts, the curve of her shoulder, her skin like copper woven into stain, dark eyes looking depthlessly back into his own, red lips, trembling on a smile. . . .

But he did not want to see Zaylo. Deliberately he banished her. "Those," he told himself aloud, "are the ruins of Thalkia, one of the greatest cities of Mars. That means only five or six miles now to Farga's place. Take the waterway forty-five degrees right at the junction. Let's see. Farga . ." He consulted his notebook to refresh his memory regarding Farga's family and household. Farga's son, Clinff, would be pretty well grown up now. A useful boy, more mechanically minded than . . . And then somehow he was thinking of Zaylo who was also pretty well grown up now. He was watching her moving with the grace of a young Diana on delicate feet that seemed to caress the ground, noticing the carriage of her head, the rhythm of her walk, the—

Bert shifted, and muttered. He brought a determined gaze to the water ahead. Yes, Clinff had a better mechanical sense than most of them. One might be able to teach him . . . It was queer how difficult it was for Martians to grasp the simplest mechanical principles. Take the lever. When he had tried to explain it to Zaylo there had been a delightfully earnest little furrow between her brows. . . .

Farga walked down to meet him as he ran the prow ashore on the shelving bank. The Martian was smiling and holding out his hand in welcome—it was a custom which he had picked up, and punctiliously observed with Earthmen. Bert had a first impression that he was slightly surprised by the visit, but in their greeting he forgot it. He slung a sack of belongings and tools over one shoulder. Farga laid hold of a smaller bag, but failed to lift it. Bert reached down one hand, and raised it easily. The Martian shook his head, with a smile.

"On the moons of Jupiter I, too, would be a strong man," he observed.

"If I could go back to Earth now, I guess I'd be as weak as a kitten," Bert said.

"As a what?" inquired Farga.

"As a—a bannikuk," Bert amended.

Farga grinned broadly. "You—a bannikuk!" he said.

They ascended the bank and made their way through the fringe of clinking tinkerbells which crowned it.

Bert was glad, and a little surprised, to see that Farga's house was still standing. After Farga himself had built the walls of flat, uncemented stones, Bert had selected suitable roofing

slabs from the Thalkian ruins and ferried them down. When he hoisted them into place he had doubted the strength of the walls to support them, but Farga had been satisfied, so they had left it. Even after years on Mars Bert still found his judgments of weight and strength fallacious; Farga was probably right, and the structure had no weather to contend with, only heat and cold.

The place was the ordinary pattern of Martian homestead. A few fields strung along the canal bank, a wheel to irrigate them, and the house—which was part shed and granary, and part human habitation. Meulo, Farga's wife, appeared in the doorway of the dwelling part as they approached. Other interested but much smaller faces showed at the mouths of burrows close to the house, then the bannikuks came scampering out, filled with their usual insatiable curiosity. They began to climb Bert's trousers the moment he stopped. He discouraged them gently.

The inside of the house was clean. The floor was paved with a jigsaw of flat stones. There was an immovable stone table, its top polished by use; a set of stools carved from soft rock. In one corner stood a simple loom—án object of some value for several parts of it were of wood—and in another was the bed with a mattress of dried, strawlike stalks. No one could say that Martians were sybaritic. On the table Meulo had set out a dish of what the Earthmen called potapples, for they looked like potatoes, and tasted, with the help of imagination, very slightly like apples.

Bert dropped his burdens and sat down. Four bannikuks immediately raced up the table sides to gather in an interested group immediately in front of him. Meulo shooed them off. Bert picked up a potapple, and bit into it.

"Things going well?" he inquired.

He knew what the answer would be. A farmer's living on Mars was sparse, but not hazardous. No vagaries of weather, few pests. Trouble usually arose through the few simple tools wearing out and breaking. Farga recited a brief list of minor calamities. Meulo added one or two more. Bert nodded.

"And Clinff?" he asked. "Where's he?"

Farga grinned. "You know what he is—interested in machines, almost like an Earthman. Nothing would hold him when he heard the news. He had to go off and see the ship for himself."

Bert stopped in mid-munch.

"Ship!" he repeated. "Ship on the canal?"

"No—no. The rocket-ship." Farga looked at him curiously. "Haven't you heard?"

"You mean they've got one to work again?" Bert asked.

From what he recalled of the dozen or so ships lying on the Settlement landing-ground it did not seem likely. The

engineers had early reported that all the remaining fuel if pooled would leave little margin over one take-off and one landing—so no one had bothered. Perhaps someone had succeeded in making a satisfactory fuel. If so, they must have been mighty quick about it, for there had been no talk of any such thing when he had left the Settlement half a Martian year ago. And why try, anyway? There was no Earth to get back to. Then he recalled that during the first years there had been a number of rocket rumours which turned out to have nothing in them. The Martian grapevine wasn't any more reliable than other bush-telegraphs.

"When was this supposed to be?" he asked cautiously.

"Three days ago," Farga told him. "It passed south of here, quite low. Yatan who is a friend of Clinff's came and told him about it, and they went off together."

Bert considered. All but three of the ships at the Settlement had been stripped or broken up. The three had been kept intact because—well, some day, somehow there might be a use for them that nobody really believed in.

"Which ship was it? Did he see her name or number?"

"Yes, she was low enough. Yatan said it was a long name in Earth letters—yours, not Russian—and then A4."

Bert stared at him.

"I don't believe that. He must have made a mistake."

"I don't think so. He said it was different from all the ships at the Settlement. Shorter and wider. That is why Clinff and he have gone to see it."

Bert sat quite still, looking back at Farga without seeing him. His hand began to tremble. He did his best to control his excitement. A4 would, he knew, be one of the new atomic-drive ships—at least, they had been new fifteen Earth-years ago. There had been a few in more or less experimental service then. Everybody had said that in a few more years they would replace the liquid fuel ships entirely. But there had not been one of them among those stranded on Mars. Perhaps the boy had been right. . . . What he had said about the shape would be true. Bert could remember how squat they had looked in pictures compared with the lines of normal space-ships. He got to his feet unsteadily.

"I must go to the Settlement. I must find out," he said, speaking as though to himself.

Meulo made as if to protest, but her husband stopped her with a movement of his hand. Bert did not notice either. His eyes seemed to be focused on something far away. He started towards the door as if in a dream. Farga said:

"You're leaving your tools."

Bert looked round vaguely.

"My——? Oh, yes—yes."

Still without seeming to know what he did, he picked them up.

They watched him go, with the bannikuks scampering unnoticed round his feet. He trudged on, brushing through the tinkerbells, setting a thousand little leaves clinking and chiming as he passed, and disappeared over the rim of the bank. Presently came the familiar sound of his boat's engine, then it speeded up, greatly beyond its usual phut-phut. Farga put his arm round Meulo.

"I feel I ought not to have told him. What can there be for any of these Earthmen? Their world has gone. Nothing can bring it back to them," he murmured.

"Someone else would have told him," she said.

"Yes—but then I should not have had to be the one to see such loneliness suddenly in a man's face—and such empty hope," he told her.

When the night made its sudden fall Bert switched on his light, and kept travelling. For the first time he wished that he had built his boat for more speed. On the third night he fell asleep at the tiller and grounded on the gradual bank with just enough impact to awaken himself to his need to proper sleep. On the fifth day he reached the Settlement.

In all that journey Zaylo troubled only his dreams. When he was awake his thoughts continually brought back pictures of Earth. . . . That was stupid, he knew. Wherever the rocket had come from, it certainly could not have come from the swarm of circling asteroids which now represented Earth. Yet the association of ideas was unavoidable. It was as if an old locked box in his mind had been opened, letting scenes and reminiscences spring out as the lid was raised. And he made no honest attempt to force them back.

For the last few miles he might have been upon an ocean. The body of water formed by the junction of several important canals, the curvature of Mars, and his own lowly position took him out of sight of land. But presently he was able to make out the slender spire of the useless radio mast dead ahead. An hour or so more, and he had driven the boat ashore at her usual berth. He jumped out, drove the grapple into the sand to hold her there, and strode off towards the Settlement.

The moment he set foot inside the fence he was aware that the place felt different. On previous visits its spiritlessness had closed around him like a blanket that became a little thicker each time. But now the sensation was missing. The few men he saw on his way to the central clubhouse did not drift in the old way. They looked as if they had received an injection which made them walk with a purpose.

In the clubhouse bar-room the transformation was a little less complete. A number of the *habitués* sat at their usual tables, too alcohol-logged and sunk in cynicism to change much. When he had helped himself to a drink he looked around for someone who might be coherent and informative. A group of three talking earnestly at a table by the window caught his eye. He recognised the two bearded men as out-of-Settlement men like himself. He crossed the floor to join them. The man who was doing most of the talking was pale and sallow beside the others, but he had the more decisive manner. As Bert came up he was saying:

"You put your names down now, that's my advice. I'm willing to bet you get chosen for the first batch—You, too," he added, glancing around as Bert pulled up a chair. "We want men like you. Half of them here have gone rotten. They'd never pass any physical examination—or stand the change. I'll put your names up right now, if you like—with a priority mark to 'em. Then once the doc's looked you over, you'll be all set. How about it?"

The two agreed without hesitation. The man wrote down their names, and glanced interrogatively at Bert.

"I'm only just in. What's it all about?" Bert asked with an effect of calmness. He was rather pleased with the way he was managing to control the excitement thumping in his chest. "All I've heard is that a ship is said to have come in," he added.

"It is here now," said one of the bearded men.

"From Venus," added the other.

The pale man talked. The other two listened as eagerly as if all he said was fresh to them too. There was a gleam in their eyes and a look of purpose on their faces. Bert had not seen a look like that for a very long time.

"Ever been to Venus?" asked the pale man.

Bert shook his head.

"The trip here was my first," he said.

"There's a future on Venus. There's none here," the pale man told him. "Things are going ahead there. We'd have let you know that long ago, but for that static layer over the place that cuts the radio out."

He went on to explain that it had been clear from the time of the first landings there that Venus could be given a future.

"Here on Mars," he said, "conditions were far better than anyone had expected. The atmosphere was a great deal denser and higher in oxygen content than anyone had estimated, and the temperatures more tolerable. It had been thought that only lichens or similar low forms of life could exist. Well, we were wrong about that. All the same, it is pretty nearly finished here now—well on the way out. There are the useful deposits of minerals which for some reason the Great Ones never bothered to work, but that's about all. It had gone too far to be worth a serious attempt to colonise. As for the moons of Jupiter—well,

anybody who's content to spend his whole life in a heated space-suit might live there, but no one else. But Venus was something different. . . ."

In a rather elementary manner he went on to explain why Venus was different. How the conditions on the younger planet could be considered as approximating roughly—very roughly—to those on earth some millions of years ago. How the density of the atmosphere helped to offset the increased heat of the Sun so that, though the tropics were impossible, conditions at the poles were tolerable if not comfortable. How, in fact, it was possible to consider colonisation of limited areas.

"And we were still doing that—just thinking about it, that is. We had got as far as establishing an exploring and shipping base on the island of Melos not far from the northern pole, when we found out more or less by chance that the Slavs had sent out two loads of emigrants and actually established a colony on an island near the south pole."

"I never heard of that," Bert put in.

"You weren't meant to. The Slavs kept quiet about it. They were kind of pathologically prone to secrecy, anyway. We kept quiet because we didn't want a first-class international row on our hands. We'd have had to do something about it—and we knew that if we started we'd be in for some full-scale nastiness. The best thing we could do seemed to be to start our own colony, pronto.

"Well, the Slavs had the drop on us there. They'd done a bit of criminal transportation on simple, old-fashioned lines—the way we used to do ourselves. But nowadays we had to get recruits for it. That wasn't easy. Maybe you'll remember a lot of blarney on pioneer lines. Bands, flags, receptions and all that? A lot fell for it. But there had to be other incentives, too, and as decent conditions as we could manage when they got there. . . . And in that we did score over the Slavs. They'd just sent their lot out with as much equipment as they thought strictly necessary—and it's wonderful how little that can be in a tough, well-ordered state. But then, the Slavs are a tough people.

"Still, with all the start we could give 'em our first lot weren't stuck on the place—but they'd signed for a minimum of five Earth years, and a pension at the end of it. There were twenty-five families in that first lot. Another twenty-five families were in space on their way there when whatever it was that happened at home did happen."

Bert nodded. "I remember. They were due for take-off about a week after we left."

"They made it, too. Several other ships came in, as well. But a good many just vanished. They tell me that two ships that were

on the Venus to Earth run managed to divert here. They hadn't a chance to turn back, of course. Deceleration and acceleration again would have left them with no fuel for landing. The most they could risk was expending some fuel on making the diversion.

"But that didn't apply to an atomic-drive ship. The *Rutherford* A4 had left Venus two days before, and she did have the reserve of power necessary for a stop, start and land, so she got back—with not a lot to spare. As far as we know, the other atomic ships all bought it. A1 was smashed in a crash on Jupiter, you remember. A2, 3 and 5 are thought to have been on or near Earth when it happened.

"So you see our position was a lot different from yours here. We had about the same number of space-port personnel, but we didn't have a whole flock of miners and prospectors—just a few explorers, botanists, chemists, and the like. And we had a colony containing some fifty women, and nearly a hundred children. Also we had a planet with its best years yet to come. We've got something to work with and to work for. This time the human race has got hold of a planet where it really is in on the ground floor. But what we need right now is as many men as we can get to help us. We'd be getting along a lot faster if we had more to oversee the work."

"Oversee? What, one another?" said Bert.

"No. We've got the griffas working for us."

"I thought——"

"You thought griffas were only good for making fur coats? That's what everyone thought. On account of the price the furs brought nobody bothered to get nearer to them than shooting range. But that's not so. They've got quite enough intelligence to do useful work, and they can be trained up to more tricky stuff when we've got the time. Of course, they're small, but there's any amount of them. The thing is they've got to be watched all the time. There has to be a man in charge—and there's our chief limitation."

"So what you're offering is a kind of foreman job?"

"That's about it—to begin with. But there's opportunity. It's a place that's going to grow. One day it's going to grow mighty big, and have all that Earth ever had.

"Maybe the climate's not too good, but there are decent houses to live in, and already there's getting to be something that looks like civilisation. You'll be surprised. Here on Mars there's nothing to do but rot. So how about it?"

"You took a long time finding out you needed us," Bert said.

"No, we knew that all right from the start. Trouble was the getting fuel to get here. That took time. Fuel. To fuel a rocket you've got to produce fuel on the big scale. It takes a lot of labour and time that we couldn't afford for the returns. Just building the plant was too expensive for us to think of. But

when we ran across fissile material we could spare the time refining that to get the A4 into use. We want radioactive material anyway, so it became worth doing.

"Now we can take forty-five men this trip, picking the fittest first. You'll make it, easy. You've not let yourself go to seed like most. So how about putting your name down?"

"I'll think about it," Bert said.

All the other three stared at him.

"God Almighty!" said the pale man. "A chance that's almost a miracle to get off this sandheap—and you'll *think* about it!"

"I was twenty-one when I came here," Bert said. "Now I'm thirty-four, Earth reckoning. You kind of grow into a place in that time. I'll let you know."

He walked off, conscious of their eyes following him. Without noticing where he was going, he found himself back at the canal bank. He sat down there among the tinkerbells and stared across the water.

What he was seeing again was a ruined tower beside another canal. A life that went on there placidly, harmoniously. A group of people content to live simply, to enjoy what life offered without striving restlessly for some undefined end. People who were quite satisfied to be part of a process, who did not perpetually itch to master and control all around them. It was true that Mars was close to dying. But the whole solar system, the whole universe was in the process of dying. Was there really so much more virtue in battling for thousands of years to subdue a planet than in living for a few centuries in quiet content? What was it the Earthmen imagined they sought with all their strife, drive, and noise? Not one of them could tell you that ultimate purpose. For all one knew there was none, it might be just a nervous tic. All their boasts need not be more than the rationalisations of a dominating egoism imposed upon a kind of transcendant monkey inquisitiveness. . . .

The Martians were not like that. They did not see themselves as arbiters, as men to be made gods. But simply as a part of life.

Some lines from a poem came into his mind. Whitman had been speaking of animals, but it seemed to Bert to apply very well to Martians:

They do not sweat and whine about their condition,
They do not lie awake in the dark and weep for their sins,
They do not make me sick discussing their duty to God,
Not one is dissatisfied—not one is demented with the mania of owning things. . . .

The image of Zaylo stepped into his thought's sight. About

her like an aura was a sense of peace to soothe his mind and heart.

"Time to rest, Earthman," her mother had said.

But he had fled because to rest, to settle down, to make a home there seemed like a betrayal of all that the vanished Earth had taught him. The act of surrender to Mars at last, against which the voice inside him still protested: "I *am* the Captain of my Fate."

And now there was the chance to join others who thought that way. A pitiful few, but determined to rise again above the catastrophe which had all but finished them.

A vision of Earth as it had been replaced Zaylo in Bert's mind. Cities full of life, wide farmlands rich in crops, the music of great orchestras, the voices of crowds, the liners on the seas and the liners in the air. The world made fit for man by man—the glorious dream of the composite mind of man come true. None who were living now would ever see Earth's genius on its pinnacle again. But it *could* climb there in time. The spirit still was there. One day there would be re-created on Venus everything that had seemed lost with Earth—perhaps it would be a creation even more magnificent.

What he was offered was a chance to help raise civilisation again out of disaster. That, or to stay on in puny futility on Mars. . . .

The image of Zaylo stood before him again, lovely, gentle, like balm for a bruised spirit, like heaven for a lonely soul. . . .

But there beside her shimmered the spires and towers of new cities springing into Venusian skies, great ships cleaving Venusian seas, myriads of people laughing, loving, living in a world that he had helped to build.

Bert groaned aloud.

The echo of a puritan ancestor said: "The hard way must be right: the easy way must be wrong."

The murmur of another mocked it: "The way of vanity must be wrong: the way of simplicity must be right."

No help there.

Bert sat staring into the water.

A sound came from the Settlement behind him. He did not hear it start. He was suddenly aware that men's voices were singing. Occasional drunken bawling was familiar, but men singing lustily, cheerfully, with hope in their hearts was a thing he had not heard for a very long time. He raised his head, listening:

"Oh! There's lots of gold so I've been told
On the banks of the Sacramento. . . ."

It floated across the sands like an anthem. Shades of the forty-niners, ghosts of covered wagon trains crawling, crawling

across prairies and deserts, over mountains, forging on against hardships and hunger. With not much gold at the end, perhaps—only an arid land. But a land which their sons would make to bloom like a garden there beside the Pacific. . . .

Bert stood up. Decision poured into his blood like strong drink. He felt a glow of comradeship for the men who sang. He turned, squaring his shoulders. He carried himself like a man refreshed as he strode towards the Settlement again. Throwing back his head, he let it go with the rest:

"Oh-h-h! There's lots *of gold so* I've *been told*
On the banks *of the Sacra*mento. . . ."

Bert was gazing out of the window as the narrow-gauge electric train pulled away. The perpetual clouds which allowed never a glimpse of the sun, hung greyly over the landscape. The grass-like growth on the cleared ground looked pale, insipid, and scarcely green at all. The forest beyond rose like a woven wall of much the same ghostly tint. The details of the distance were blurred, of course, for it was raining—the way it did nine-tenths of the time on Venus.

On one side the line ran close to the landing-field. Hulks of space-ships lay about there like half-flensed whales. They had been gutted of all useful instruments and parts long ago, and huge slices had been cut from the sides of many to supply the need for hard metals. Only the small *Rutherford* A4 stood intact and shipshape, ready to take off in a day or two on a second trip to Mars. Figures were still busy around her. It was reckoned that she would be able to make three trips during this conjunction, after that she would have to lay off for a while until the next.

Over on the far side of the landing-field coils of black smoke poured from the metal mills and rolled away across country, sooting the pale trees.

Whatever else you might feel about it, you had to admit that a staggering amount of work had been put into the place in thirteen years.

Through the other windows which faced the inner side of the curve the line was taking, one could see the houses of the Settlement dotted about. Here and there among them magnificent pennant-trees had been deliberately left standing. Their immensely long leaves rippled in the wind, writhing like Medusa's hair. Crowning the central rise of the Settlement stood the massive palisades of the seraglio. The upper part of the stockaded wall bristled with down-pointing stakes, and above a top fringed with sharp spines an occasional roof ridge showed.

Bert's neighbour noticed the direction of his gaze.

"Pie in the sky," he observed, shortly. "Jam tomorrow."

Bert turned his head to look at him. He saw a man of middle height, perhaps ten years older than himself. As with all the Venusian colonists his skin was pale, and had a softened, flabby look.

"Meaning?" Bert inquired.

"Just that," said the man. "The old dangling carrot. You're one of the lot from Mars, aren't you?"

Bert admitted it. The man went on:

"And you think that one day they'll say: 'Okay, you've been a good boy!' and let you into that place?"

"I've been examined," Bert told him. "They've immunised me against everything anybody ever heard of, and they've given me a certificate which says I'm healthy and fit for parenthood."

"Sure, sure," said the man. "We've all got 'em. Don't mean a thing."

"But it certifies——"

"I know. . . . And what'd you have done if it didn't certify? You'd have raised hell. Well, they don't want guys raising hell around here, so they give you one. S'easy."

"Oh," said Bert.

"Sure. And now they've given you a job so that you can show you're a good, reliable type. If they're satisfied with your work you'll be granted full citizen rights. That's fine. Only you'll find that they can't quite make up their minds about you on this job —so they'll give you another, maybe one or two more before they do. And then, if you're very, very good and respectful you'll become a citizen—if you aren't, you can still go on trying to make the grade. Take it from me, it's a nice tidy kind of racket, pal."

"But if I do become a citizen?" asked Bert.

"If you do, they'll congratulate you. Pat you on the back. Tell you you're a swell guy, worthy to become one of the fathers of the new Venusian nation. The old carrot again, pal. Unfortunately, they'll say, unfortunately there isn't a wife available for you at the moment. So you'll not be able to set up house in the seraglio for a little while. So sorry. But if you go on being a good boy——. So you do. After a while you get restive, and go to them again. They're sorry, but nothing doing just yet. In fact there's a bit of a list ahead of you. Trouble is boys took to the climate here better than girls. Very unfortunate just at present. But it'll be better later on. All you have to do is be patient—and go on being good—for a few years, and the balance will right itself. Then you'll be able to move into nice comfortable married quarters in the seraglio. . . . You'll have a sweet little wife, become the father of a famiiy, and a Founder of the State. Jam tomorrow, pal. . . . If you should get sore, and tell 'em a few things, you lose your citizenship—like me. If you get to be a real nuisance around the place—well, you sort of disappear."

"You mean that all they tell you is phoney?" asked Bert.

"Phoney, pal? It stinks. Chris Davey took this place over the day after we heard about the Earth cracking up. Since then he's let his buddies run it the way they like—so long as they produce the goods. The result is plenty of work for everyone—and no muscling in."

Bert looked out of the window again. The Settlement was behind them now. The cleared ground on either side of the line was planted with unfamiliar, almost colourless crops. Here and there parties of the little yard-high griffas toiled between the rows, with the rain dripping from their silver fur as they worked. Occasionally a man in a long waterproof coat and a shovel-shaped hat was to be seen striding from one group to another and inspecting progress. Another part of his uniform was a whip.

"Well, they've got some results to show," he said, looking back at the smudge from the metal hills, almost hidden now by rain and mist.

"Yes, they've got that," the man admitted. "That's the griffas mostly—the donkey-work, I mean. There's plenty of griffas—all you like to round up in the forests. Lucky for you and me."

"How?" asked Bert.

"On account of they need us to supervise. The griffas won't work without. So it's no good having unlimited griffas without men to look after them. That makes Chris Davey's buddies think twice before they swipe a man out. Take me. I'm what they call a subversive element—and I'd not be here now if they didn't need all of us they can get to look after the griffas. It was even worth bringing you lot from Mars?"

"And what do the griffas get out of it?" Bert asked.

"The chance to live a little longer—if they work," said the man.

Bert made no comment on that. He sat looking out at the blanched landscape through the drizzling rain. Presently the train jerked itself aside on to a loop in the single line, and settled down to wait for a bit. His neighbour offered him a roll of the curious local bread. Bert thanked him, and bit into it. For a time they champed in silence, then the man said:

"Not what you expected, eh? Well, it's not what any of us expected. Still, it's all we've got."

"Huh!" grunted Bert, non-committally.

His mind had been wandering very far away. He had been back in his old ramshackle boat idling along the canal. In his ears was the friendly chug of the engine mingled with the tinkerbell chimes. The thin, crisp air of Mars was in his lungs again. Beyond the bank, red sands rolled on to low mountains in the distance. Somewhere ahead was a water-wheel that would surely be needing attention. Beside it a ruined tower of carved red stone. When he walked towards it the bannikuks would come bounding out of

their holes, clinging and squeaking, and pestering him for nuts. In the doorway of the tower, Zaylo would be standing in a bright-coloured dress, the silver pins shining in her hair, her eyes serious, her lips slightly smiling. . . .

"No," he added. "Not what I expected." He paused, then he added. "How did it get this way?"

"Well, the Administrator here was okay with authority behind him—but without it he was nothing. Chris Davey saw that right off, and moved fast. The only serious opposition came from Don Modland who wanted a democratic set-up. But Don disappeared quite soon, and that had a kind of discouraging effect all round. So Davey and his mob took over. They built the seraglio stockade for the safety of the women and children—they said. If you're one of Davey's mob, that's where you live. If you're not, you never see the inside of the place. You only think you may—one day.

"Maybe it is true what they say about the birth rate and death rate in there. Likely it's not. There's no way of checking. The place is guarded. It'd be hard to get in—harder still to get out, alive. If you're one of Davey's mob you carry a gun—if you're not, you don't. The long and the short of it is that if the results are coming along Chris doesn't trouble how his buddies get them."

"He's made himself kind of—king of Venus?" Bert suggested.

"That's about it. This part of Venus anyway. He's sitting pretty, with everything the way he wants it. The doggone thing is that whether you like it or not, he's making a job of it. He *is* building the place up—in his way.

"One of the things his buddies put out is that it's a race between us and the Slav lot down in the south. If they get ahead, and come beating through the tropics some way, it's going to be bad for us. So it's better for us to get ahead."

"And attack them, you mean?"

"That's the way of it—sometime, when we're ready."

A train came cluttering past on the other loop. Small open trucks loaded with produce, others full of iron-ore, some travelling pens packed with silvery griffas, a couple of glass-windowed carriages on the end. Their own train started off again with a series of jolts. Bert continued to look out of the window. His companion's hand came down on his knee.

"Cheer up, son. We're still alive anyway. That's more than you can say for most."

"I was alive on Mars," said Bert.

"Then why did you come up here?" asked the other.

Bert tried to explain it. He did his best to convey his vision of

an Earth reborn. The other listened sympathetically, with a slightly wistful expression.

"I know. Like the Old Man said: '——a new nation conceived in liberty and dedicated to the proposition that all men are created equal——'."

"Something like that," Bert agreed.

"Son," said the other man, "you were very young when you left Earth."

"I was twenty-one," said Bert.

"Twenty-one's still trailing clouds of glory—for all it thinks it knows. It was a grand thing the Old Man said, but have you ever thought how many empires had to grow up and be knocked out, or how many billions of poor guys had to die in slavery before a man could get up and say that?"

"I hadn't," Bert admitted. "But it *has* been said. So why can't this be a 'nation conceived in liberty'?"

"Well, I guess perhaps the Old Man didn't have quite the right phrase, maybe. You see, after a creature is conceived, it has to go through all the stages—kind of re-capitulate its evolution before it can get born."

"That doesn't sound much like a subversive element talking," said Bert.

"You don't have to be in a hurry to be subversive. All you got to do is to say 'why?' when it ought to be 'yes'. If you keep on saying it you find yourself booked for another spell of managing griffas in the quarries, the way I am now."

"But there's no reason to go back to the primitive. What's been said and worked out is all there in the books—books that are here on Venus. What I've seen for myself and what you've told me goes against it all. The thing they've set up is something like an ancient slave-state. We all know there's a better way of life than that—so, for God's sake, what's happening? With all the knowledge from Earth behind them, and the chance to build a new Earth here, surely they aren't going to pour half history down the drain?"

The other man looked at him for some moments before he answered, then he said:

"Son, I guess you've got it kind of wrong. Building a new Earth is just what they are doing. What you're complaining about is that they've not started in building a new heaven."

Bert regarded him more closely.

"I don't get that. I can remember Earth, you know."

"Me too. The difference is, like I said, the clouds of glory. What did you do there?"

"I went to school, then to college, then to the School of Space-training."

"And me. I worked on buildings, in factories, in ships, on docks, in spaceports, on railroads. I bummed around quite a

stretch. Do you reckon I got to know what Earth was like my way —or was your way better?"

Bert sat silent awhile, then he said:

"There were fine cities, happy people, music—and fine men, too."

"Ever seen an iceberg? The part you *do* see looks mighty pretty in the sunshine."

"There was enough to show the way a world might be, and ought to be."

"Sure, sure. We all know the way things ought to be. We all got our little heavens." He paused contemplatively. Looking at Bert again, he added: "Maybe—one day. We *have* come quite a way in a few thousand years—but we've still to grow up. Takes time, son, takes time."

"But here things are *wrong*. They're going back. They seem to have forgotten all the things we've learned. We have to go, *on*, not back. Now the people on Mars——"

"Sure. Tell me about Mars, son. That's one place I never was."

Bert went on telling him about Mars. About the place itself, about the way the people, for all the simple poverty of their lives, seemed to enjoy life as a gift in itself, not as a means to something else, and were happy that way.

The little train rattled along. A dim line of hills ahead became visible through the drizzle, but Bert did not see them. His sight was all nostalgic. It showed red deserts set with placid canals, green patches about little homesteads. Somehow he found himself telling the stranger about Zaylo. . . .

The stranger said nothing. Once or twice he made as if to ask a question, but let it go unspoken. Bert talked on, oblivious of the compassion in the listener's eyes.

They were almost at the end of the line before the other broke in on Bert's mood. He pointed out of the window at the hills now quite close. In places the green-grey vegetation on the slopes was scarred with the dark marks of workings.

"There's where we'll be doing our jobs," he said.

Presently the train jerked to a stop. Bert stood up, heavily and wearily. He collected his gear, and followed the other man into the drizzling rain. He felt bowed down by his load. His feet shuffled in a clumsy trudge. He wondered how long it was going to take his muscles to adapt to Venus. At present the place bore down as heavily upon his flesh as upon his spirit. . . .

Bert stood on the lip of a small quarry, surveying the scene beneath him. Because, rather remarkably, it was not raining he had an extensive view. But because it was likely to resume raining at any moment he still wore the long waterproof coat that was practically a local uniform. Beneath it his feet showed in

large boots that were clumsy, but did not keep out the wet. At his waist was a belt supporting a machete and a sheath-knife on the left. His other instrument, a whip, with its twelve-foot lash carefully coiled, was thrust into the belt on his right-hand side.

Looking down almost between his feet he could see his party of fifty griffas at work. They were loading ironstone into small trucks which they would presently push on to the slope which led down to the terminus of the line, and later wind up again. Beyond the sheds and tangle of trucklines at the terminus itself he could see the electrified line, flanked all the way by cleared and cultivated fields, stretching like a rather uncertain swathe cut to the horizon. To either side the natural Venusian forest grew untouched. Mostly it was a monotone of the pallid and, to unaccustomed eyes, unhealthy looking grey-green. There was a little relief here and there from the pink flush of the displeasing plant they called the mock-rose—it reminded Bert more of a spiky, petalled dahlia which had been swollen to some eight feet in diameter. Even more scattered, but giving some relief, were occasional streaks of true green, and blobs of slatey-blue. Pennant-trees reared their crests magnificently above the ruck with their ribbons streaming. Still higher rose the feather-tops, swinging in the great graceful arcs even in so light a wind. With the rippling fronds of the tree-ferns they helped to give the illusion that the whole plain was in undulating motion. Bert, pensively regarding the span from the mist-hidden sea in the east to the shadowy mountains in the west, loathed each acre of it individually and intensely.

The only things in sight he didn't loathe were the griffas. For them he had a mixture of pity and fellow-feeling. They were intelligent little creatures, but the general opinion was that they were dead lazy. As Bert saw it, that just showed narrow thinking. Laziness is a relative term to be measured against work. Nobody calls a flower or a tree lazy. The point was that a wild griffa never had any conception of work. When it was caught and shown work, it didn't like it. Why should it? The captives netted by a drive in the forest came in as sad-eyed, bewildered little figures, of whom a number went promptly into a decline and allowed themselves to die. The rest had no great will to survive. Life in captivity was very little better to them than no life at all. The only thing that made them work at all was the desire to avoid pain. They were intelligent enough to be taught quite complicated duties, but what no one had been able to instil into them was the sacred idea of duty itself. They could not be brought to the idea that it was something they owed to these human invaders of their planet. It was Bert's job to keep them working by the only effective method. He loathed that, too.

There was also the uneasy feeling that his position in Venusian society was not all that different from theirs. . . .

His wandering thoughts were brought back by the sight of the foreman overseer climbing the path to the quarry. Bert descended to meet him.

The man gave him no greeting. He was dressed like Bert himself save for the sign of authority represented by the pistol on his belt. As he strode into the working it was plain that he was in a bad temper. His hard eyes looked Bert over with the full insolence of petty authority.

"Your lot's down on production. Way down. Why?" he demanded. But he did not seem to expect an answer. He glanced round, taking the place in at a sweep. "Look at 'em, by God! Your job here is to keep the little rats working, isn't it? Well, why in hell don't you do it?"

"They're working," said Bert, flatly.

"Working, hell!" said the overseer.

He drew his whip. The lash whistled. A female griffa screamed horribly, and dropped where she stood. Her two companions, linked by chains to her ankles, stood quivering, with fear and misery in their dark eyes. The rest, after a startled pause, began to work very much more actively. Bert's hand clenched. He looked down on the fallen griffa, watching the red blood well up and soak into the silver fur. He raised his eyes to find the overseer studying him.

"You don't like that," the man told him, showing his teeth.

"No," said Bert.

"You've gone soft. Building this place up is a man's job. When you've been here a bit you'll learn."

"I doubt it," said Bert.

"You'd better," the overseer said, unpleasantly.

"I didn't come here to help build a slave-state," Bert told him.

"No? You'd just like to start at the top—with none of the dirty work—wouldn't you? Well, it can't be done. You tell me one great nation or empire on Earth that didn't have this behind it at one stage?" He swung his whip with a crack like a rifle shot. "Well, tell me——?"

"It's *wrong,*" said Bert, helplessly.

"You know a better way? Love and kindness, maybe?" the man said, jeering. "You've gone soft," he repeated.

"Maybe," Bert admitted. "But I still say that if there's no better way of building than driving these creatures crazy with pain and fear until they die—then it's not worth doing at all."

"Tchah! Where's your bible, Preacher? There's just one way to get the work that's got to be done, and this it it."

His whip whistled again. Another little griffa screamed, and another.

Bert hesitated a second. Then he drew his own whip. The lash sang through the air and wrapped itself around the overseer's neck. At that moment Bert yanked on the handle with all his strength. The man lurched towards him, tripped on a chunk of ironstone, and came down on his head. Bert dropped the whip, and dived to stop him drawing his pistol.

His leap was superfluous. The overseer was not in a condition where he would be able to use a pistol—or a whip—any more.

The griffas had stopped work, and stood staring as Bert got up and fixed the holstered pistol to his own belt. He raised his eyes from the man on the ground and stared back at them. He turned and went towards the toolshed. There he took down the long-handled pincers that were customarily used to cut a dead griffa free from his fellows. Then he went back to them, and got to work.

When it was over they still stood round puzzled, with dark, sorrowful eyes blinking at him from silver-furred faces.

"Go on, you mugs! Beat it! Shoo!" said Bert.

He watched them scuttle away and disappear into the dense growth above the quarry, and then turned to reconsider the fallen man. The overseer was heavily built. It was laborious to Bert's still unaccustomed muscles to drag him out of the quarry, but he managed it. A short way down the path he paused a little to recover his breath. Then, with a great effort, he lifted the body, and heaved it into a mock-rose. The petal-like tendrils received the weight with a slow, engulfing movement like the yielding of a feather-bed. The large outer leaves began to close. Presently the thing was a hard tight ball looking like an enormous, etiolated brussels sprout.

Bert sat down on a stone for ten minutes, regaining his strength, and thinking carefully. Then he stood up, with decision. But before he left he went into the quarry to fetch his hat, for it had started to rain again.

Once the acceleration was over, Bert emerged from his hiding-place and mingled with the rest. A full hour passed before someone tapped him on the shoulder and inquired:

"Say, what the hell are you doing here?"

The Captain and the Chief Officer regarded him uncertainly as he was brought before them. The pistol he wore was almost a badge of rank in itself.

"What's the trouble?" Bert inquired, blandly.

"You're not listed. How did you get here?" the Chief Officer inquired.

Bert looked surprised.

"Not listed? Somebody must have slipped up. They only put me on this job yesterday. But they said you'd been informed already, Captain."

"Well, I hadn't. And what is 'this job'?"

"It's—er—well, kind of recruiting-sergeant. You see I can speak four Martian dialects, and get along in several more."

"Recruiting Martians, you mean?"

"That's the idea. Spin 'em the yarn, and bring 'em along. They'll be useful managing griffas if nothing else."

He looked steadily back at the Captain as he spoke, hoping that it would not occur to him that a Martian transferred to Venus would only be able to crawl about, if he weren't actually pinned flat by the gravitation. It did not. Probably the man had never even seen a Martian. He merely frowned.

"I should have been informed," he said, stiffly.

"Bad staff work, somewhere," Bert agreed. "But you could get radio confirmation," he suggested.

"Do you *know* anything of radio conditions on Venus?" inquired the Chief Officer shortly.

"No, but on Mars we——"

"Maybe, but Mars isn't Venus. Well, since you are here, you'd better make yourself useful on the trip."

"Aye, aye, sir," agreed Bert, briskly.

By the look of it no one had touched the old boat since he had moored her. Bert patted the engine, and then primed it. A pull-up or two, and she started. He laughed aloud. The old phut-phut was like music to set his feet dancing. He cast off. In the old seat, with his arm over the tiller, he chugged out on the great canal.

Beyond the junction, and on a smaller canal, he stopped. From a locker in the cabin he produced old, patched clothes and a pair of the crude shoes that he was accustomed to make for himself. Overboard went the clothes they had given him on Venus, and the heavy, laced boots with them. He hesitated over the pistol, and then threw it after them—nobody used or needed such a thing on Mars. He felt lighter as he watched them sink. The miseries of the last few weeks on Venus, the long journey back from the quarries to the Settlement when he dared to move his weary body only by night for fear of being seen, the long wait in hiding close to the landing-ground, the keeping alive on shoots and roots, the perpetual wet misery of the rain which scarcely ever let up, the anxious waiting for the return of the *Rutherford* A4, the delay while she was being made ready for her third and last trip of the conjunction, and, finally, the

nervous business of smuggling himself aboard—all these began to become a bad dream.

He hitched his trousers, and tied them with a piece of cord. He was bending over the engine to restart it when the sound of a sudden thunder came rolling across the desert.

Bert looked back.

Above the horizon a plume of black smoke rose and expanded. He nodded in a satisfied way. The *Rutherford* A4 would not be taking part in any more slaving expeditions.

He whistled gently to himself as he coaxed the engine into action again.

It was a mind's eye picture come to life—even to the squeak pitched above the tinkerbell chimes telling that the waterwheel needed attention. As he walked towards the broken tower there was the familiar thump-thump of Annika, Zaylo's mother, at her work of pounding grain. The bannikuks scampered up, pestering—only this time he had no nuts for them, and they wouldn't seem to understand that. Annika rested her stone pestle as he approached.

"Hullo, Earthman," she said. Her eyes searched his face keenly. "You have been ill?" she added.

Bert shook his head, and sat down on a stone bench.

"I've been thinking," he said. "Remember last time I was here you said that if Earth was re-created now it would be stranger to me than Mars?"

"So it would, Earthman."

"But I didn't believe you."

"Well——?"

"I think I see what you meant now." He paused. "Back home," he went on, "we used to talk about men and women we called saints—the funny thing about them was that they never seemed very real. You see, once they were dead, people agreed only to remember the good things about them. Seems to me—well, it might be there never was a place like the Earth I remembered."

Annika nodded.

"A heaven behind you is no good," she said. "A heaven ahead is better. But to make a heaven around you is best."

"You understand things, Annika. I was like a rich man who had been cheated out of all his money—the only worthwhile thing seemed to be to get it all back."

"And now——?" asked Annika.

"Now, I've stopped fooling myself. I don't want it. I've stopped crying for the moon—or the Earth. I'll be content to live and enjoy living. So this time——" He broke off.

Zaylo, coming out of the door in the tower base, had paused

there at the sight of him. She stood quite still for a moment, poised with the grace of a young goddess. The coils of her dark hair shone like lacquer, her misted copper skin glowed in the sunlight. She put her hand to her breast, her eyes sparkled with sudden pleasure, her lips parted. . . .

Zaylo was not quite as he had pictured her. She was ten times more wonderful than anything memory could contrive.

"So this time," Bert repeated. "This time I have come to stay."

BREAKING STRAIN

By Arthur C. Clarke

I

Holed in Space

Grant was writing up the *Star Queen's* log when he heard the cabin door opening behind him. He didn't bother to look round—it was hardly necessary for there was only one other man aboard the ship. But when nothing happened and when McNeil neither spoke nor came into the room the long silence finally roused Grant's curiosity and he swung the seat round in its gambits.

McNeil was just standing in the doorway, looking as if he had seen a ghost. The trite metaphore flashed into Grant's mind instantly. He did not know for a moment how near the truth it was. In a sense McNeil had seen a ghost—the most terrifying of all ghosts—his own.

"What's the matter?" said Grant angrily. "You sick or something?"

The engineer shook his head. Grant noticed the little beads of sweat that broke away from his forehead and went glittering across the room on their perfectly straight trajectories. His throat muscles moved, but for a while no sound came. It looked as if he were going to cry.

"We're done for," he whispered at last. "Oxygen reserve's gone."

Then he did cry. He looked like a flabby doll, slowly collapsing on itself. He couldn't fall for there was no gravity, so he just folded up in mid-air.

Grant said nothing. Quite unconsciously he rammed his smouldering cigarette into the ashtray, grinding it viciously until the last tiny spark had died. Already the air seemed to be thickening around him as the oldest terror of the spaceways gripped him by the throat.

He slowly loosed the elastic straps, which, while he was seated, gave some illusion of weight and with an automatic skill he launched himself towards the doorway. McNeil did not offer to follow. Even making every allowance for the shock he had undergone, Grant felt that he was behaving very badly. He gave the engineer an angry cuff as he passed and told him to snap out of it.

The hold was a large hemispherical room with a thick central column which carried the controls and cabling to the other half of the dumb-bell-shaped spaceship a hundred metres away. It was packed with crates and boxes arranged in a surrealistic three-dimensional array that made very few concessions to gravity.

But even if the cargo has suddenly vanished Grant would scarcely have noticed. He had eyes only for the big oxygen-tank, taller than himself, which was bolted against the wall near the inner door of the airlock.

It was just as he had last seen it, gleaming with aluminium paint, and the metal sides still held the faint touch of coldness that gave the only hint of their contents. All the piping seemed in perfect condition. There was no sign of anything wrong apart from one minor detail. The needle of the contents gauge lay mutely against the zero stop.

Grant gazed at that silent symbol as a man in ancient London, returning home one evening at the time of the Plague might have stared at a rough cross newly scrawled upon his door. Then he banged half a dozen times in the glass in the futile hope that the needle had stuck—though he never really doubted its message. News that is sufficiently bad somehow carries its own guarantee of truth. Only good reports need confirmation.

When Grant got back to the control-room McNeil was himself again. A glance at the opened medicine chest showed the reason for the engineer's rapid recovery. He even assayed a faint attempt at humour.

"It was a meteor," he said. "They tell us a ship this size should get hit once a century. We seemed to have jumped the gun with ninety-five years still to go."

"But what about the alarms? The air pressure's normal—how could we have been holed?"

"We weren't," McNeil replied. "You know how the oxygen circulates night-side through the refrigerating coils to keep it liquid? The meteor must have smashed them and the stuff simply boiled away."

Grant was silent, collecting his thoughts. What had happened was serious—deadly serious—but it need not be fatal. After all the voyage was more than three-quarters over.

"Surely the regenerator can keep the air breathable, even if it does get pretty thick?" he asked hopefully.

McNeil shook his head. "I've not worked it out in detail, but I know the answer. When the carbon dioxide is broken down and the free oxygen gets cycled back there's a loss of about ten per cent. That's why we have to carry a reserve."

"The spacesuits!" cried Grant in sudden excitement. "What about their tanks?"

He had spoken without thinking, and the immediate realisation of his mistake left him feeling worse than before.

"We can't keep oxygen in them—it would boil off in a few days. There's enough compressed gas there for about thirty minutes—merely long enough for you to get to the main tank in an emergency."

"There must be a way out—even if we have to jettison cargo and run for it. Let's stop guessing and work out exactly where we are."

Grant was as much angry as frightened. He was angry with McNeil for breaking down. He was angry with the designers of the ship for not having foreseen this God-knew-how-many-million-to-one chance. The deadline might be a couple of weeks away and a lot could happen before then. The thought helped for a moment to keep his fears at arm's length.

This was an emergency, beyond a doubt, but it was one of those peculiarly protracted emergencies that seem to happen only in space. There was plenty of time to think—perhaps too much time.

Grant strapped himself in the pilot's seat and pulled out a writing-pad.

"Let's get the facts right," he said with artificial calmness. "We've got the air that's still circulating in the ship and we lose ten per cent of the oxygen every time it goes through the regenerator. Chuck me over the Manual, will you? I can never remember how many cubic metres we use a day."

In saying that the *Star Queen* might expect to be hit by a meteor once every century McNeil had grossly but unavoidably over-simplified the problem. For the answer depends on so many factors that three generations of statisticians had done little but lay down rules so vague that the insurance companies still shivered with apprehension when the great meteor showers went sweeping like a gale through the orbits of the inner worlds.

Everything depends, of course, on what one means by the word meteor. Each lump of cosmic slag that reaches the surface of the Earth has a million smaller brethren who perish utterly in the no-man's-land where the atmosphere has not quite ended and space has yet to begin—that ghostly region where the weird Aurora sometimes walks by night.

These are the familiar shooting stars, seldom larger than a pin's head, and these in turn are outnumbered a millionfold again by particles too small to leave any visible trace of their dying as they drift down from the sky. All of them, the countless specks of dust, the rare boulders and even the wandering mountains that Earth encounters perhaps once every million years—all of them are meteors.

For the purposes of space-flight, a meteor is only of interest, if, on penetrating the hull of a ship, it leaves a hole large enough to be dangerous. This is a matter of relative speeds as well as size. Tables have been prepared showing approximate collision times for various parts of the Solar System—and for various sizes of meteors down to masses of a few milligrams.

That which struck the *Star Queen* was a giant, being nearly a centimetre across and weighing all of ten grams. According to the tables the waiting-time for collision with such a monster was of the order of ten to the ninth days—say three million years. The virtual certainty that such an occurrence would not happen again in the course of human history gave Grant and McNeil very little consolation.

However, things might have been worse. The *Star Queen* was 115 days on her orbit and had only 30 still to go. She was travelling, as did all freighters, on the long tangential ellipse kissing the orbits of Earth and Venus on opposite sides of the Sun. The fast liners could cut across from planet to planet at three times her speed—and ten times her fuel consumption—but she must plod along her predetermined track like a streetcar, taking 145 days, more or less, for each journey.

Anything more unlike the early-twentieth-century idea of a spaceship than the *Star Queen* would be hard to imagine. She consisted of two spheres, one fifty and the other twenty metres in diameter, joined by a cylinder about a hundred metres long. The whole structure looked like a match-stick-and-Plasticine model of a hydrogen atom. Crew, cargo and controls were in the larger sphere, while the smaller one held the atomic motors and was—to put it mildly—out of bounds to living matter.

The *Star Queen* had been built in space and could never have lifted herself from the surface of the Moon. Under full power her ion drive could produce an acceleration of a twentieth of a gravity, which in an hour would give her all the velocity she needed to change from a satellite of the Earth to one of Venus.

Hauling cargo up from the planets was the job of the powerful little chemical rockets. In a month the tugs would be climbing up from Venus to meet her, but the *Star Queen* would not be stopping for there would be no one at the controls. She would continue blindly on her orbit, speeding past Venus at miles a second—and five months later she would be back at the orbit of the Earth, though Earth itself would then be far away.

II

Funeral Oration

It is surprising how long it takes to do a simple addition when your life depends on the answer. Grant ran down the short column of figures half a dozen times before he finally gave up hope that the total would change. Then he sat doodling nervously on the white plastic of the pilot's desk.

"With all possible economies," he said, "we can last about twenty days. That means we'll be ten days out of Venus when . . ." His voice trailed off into silence.

Ten days didn't sound much—but it might just as well have been ten years. Grant thought sardonically of all the hack adventure writers who had used just this situation in their stories and radio serials. In these circumstances, according to the carbon-copy experts—few of whom had ever gone beyond the moon—there were three things that could happen.

The popular solution—which had become almost a cliché—was to turn the ship into a glorified greenhouse or a hydroponic farm and let photosynthesis do the rest. Alternatively one could perform prodigies of chemical or atomic engineering—explained in tedious technical detail—and build an oxygen manufacturing plant which would not only save your life—and of course the heroine's—but would also make you the owner of fabulously valuable patents. The third or *deus ex machina* solution was the arrival of a convenient spaceship which happened to be matching your course and velocity exactly.

But that was fiction and things were different in real life. Although the first idea was sound in theory there wasn't even a packet of grass-seed aboard the *Star Queen*. As for feats of inventive engineering, two men—however brilliant and however desperate—were not likely to improve in a few days on the work of scores of great industrial research organisations over a full century.

The spaceship that "happened to be passing" was, almost by definition, impossible. Even if other freighters had been coasting on the same elliptic path—and Grant knew there were none—then by the very laws that governed their movements they would always keep their original separations. It was not quite impossible that a liner, racing on its hyperbolic orbit, might pass within a few hundred thousand kilometres of them—but at a speed so great that it would be as inaccessible as Pluto.

"If we threw out the cargo," said McNeil at last, "would we have a chance of changing our orbit?"

Grant shook his head.

"I'd hoped so," he replied, "but it won't work. We could reach Venus in a week if we wished—but we'd have no fuel for braking and nothing from the planet could catch us as we went past."

"Not even a liner?"

"According to *Lloyd's Register* Venus has only a couple of freighters at the moment. In any case it would be a practically impossible manœuvre. Even if it could match our speed how would the rescue ship get back? It would need about fifty kilometres a second for the whole job!"

"If we can't figure a way out," said McNeil, "maybe someone on Venus can. We'd better talk to them."

"I'm going to," Grant replied, "as soon as I've decided what to say. Go and get the transmitter aligned, will you?"

He watched McNeil as he floated out of the room. The engineer was probably going to give trouble in the days that lay ahead. Until now they had got on well enough—like most stout men McNeil was good-natured and easy-going. But now Grant realised that he lacked fibre. He had become too flabby—physically and mentally—through living too long in space.

A buzzer sounded on the transmitter switchboard. The parabolic mirror out on the hull was aimed at the gleaming arc-lamp of Venus, only ten million kilometres away and moving on an almost parallel path. The three-millimetre waves from the ship's transmitter would make the trip in little more than half a minute. There was bitterness in the knowledge that they were only thirty seconds from safety.

The automatic monitor on Venus gave its impersonal *Go ahead* signal and Grant began to talk steadily, and he hoped, quite dispassionately. He gave a careful analysis of the situation and ended with a request for advice. His fears concerning McNeil he left unspoken. For one thing he knew that the engineer would be monitoring him at the transmitter.

As yet no one on Venus would have heard the message, even though the transmission time-lag was over. It would still be coiled up in the recorder spools, but in a few minutes an unsuspecting signal officer would arrive to play it over.

He would have no idea of the bomb-shell that was about to burst, triggering chains of sympathetic ripples on all the inhabited worlds as television and news-sheet took up the refrain. An accident in space has a dramatic quality that crowds all other items from the headlines.

Until now Grant had been too preoccupied with his own safety to give much thought to the cargo in his charge. A sea-captain of ancient times, whose first thought was for his ship, might have been shocked by this attitude. Grant, however, had reason on his side.

The *Star Queen* could never founder, could never run upon uncharted rocks or pass silently, as so many ships have passed, for ever from the knowledge of man. She was safe, whatever might befall her crew. If she was undisturbed she would continue to retrace her orbit with such precision that men might set their calendars by her for centuries to come.

The cargo, Grant suddenly remembered, was insured for over twenty million dollars. There were not many goods valuable enough to be shipped from world to world and most of the crates in the hold were worth more than their weight—or rather their mass—in gold. Perhaps some items might be useful in this emergency and Grant went to the safe to find the loading schedule.

He was sorting the thin, tough sheets when McNeil came back into the cabin.

"I've been reducing the air pressure," he said. "The hull shows some leaks that wouldn't have mattered in the usual way."

Grant nodded absently as he passed a bundle of sheets over to McNeil.

"Here's our loading schedule. I suggest we both run through it in case there's anything in the cargo that may help."

If it did nothing else, he might have added, it would at least give them something to occupy their minds.

As he ran down the long columns of numbered items—a complete cross-section of interplanetary commerce—Grant found himself wondering what lay behind these inanimate symbols. *Item 347—1 book—4 kilos gross.*

He whistled as he noticed that it was a starred item, insured for a hundred thousand dollars, and he suddenly remembered hearing on the radio that the Hesperian Museum had just bought a first edition *"Seven Pillars of Wisdom."*

A few sheets later was a very contrasting item, *Miscellaneous books—25 kilos—no intrinsic value.*

It had cost a small fortune to ship those books to Venus, yet they were of "no intrinsic value." Grant let his imagination loose on the problem. Perhaps someone who was leaving Earth for ever was taking with him to a new world his most cherished treasures—the dozen or so volumes that above all others had most shaped his mind.

Item 564—12 reels film.

That, of course, would be the Neronian super-epic, *While Rome Burns*, which had left Earth just one jump ahead of the censor. Venus was waiting for it with considerable impatience.

Medical supplies—50 kilos. Case of cigars—1 kilo. Precision instruments—75 kilos. So the list went on. Each item was something rare or something which the industry and science of a younger civilisation could not yet produce.

The cargo was sharply divided into two classes—blatant luxury

or sheer necessity. There was little in between. And there was nothing, nothing at all, which gave Grant the slightest hope. He did not see how it could have been otherwise, but that did not prevent him from feeling a quite unreasonable disappointment.

The reply from Venus, when it came at last, took nearly an hour to run through the recorder. It was a questionnaire so detailed that Grant wondered morosely if he'd live long enough to answer it. Most of the queries were technical ones concerning the ship. The experts on two planets were pooling their brains in the attempt to save the *Star Queen* and her cargo.

"Well, what do you think of it?" Grant asked McNeil when the other had finished running through the message. He was watching the engineer carefully for any further sign of strain.

There was a long pause before McNeil spoke. Then he shrugged his shoulders and his first words were an echo of Grant's own thoughts.

"It will certainly keep us busy. I won't be able to do all these tests in under a day. I can see what they're driving at most of the time, but some of the questions are just crazy."

Grant had suspected that, but said nothing as the other continued.

"Rate of hull leakage—that's sensible enough, but why should anyone want to know the efficiency of our radiation screening? I think they're trying to keep our morale up by pretending they have some bright ideas—or else they want to keep us too busy to worry."

Grant was relieved and yet annoyed by McNeil's calmness—relieved because he had been afraid of another scene and annoyed because McNeil was not fitting at all neatly into the mental category he had prepared for him. Was that first momentary lapse typical of the man or might it have happened to anyone?

Grant, to whom the world was very much a place for blacks and whites, felt angry at being unable to decide whether McNeil was cowardly or courageous. That he might be both was a possibility that never occurred to him.

There is a timelessness about space-flight that is unmatched by any other experience of man. Even on the Moon there are shadows that creep sluggishly from crag to crag as the sun makes his slow march across the sky. Earthside there is always the great clock of the spinning globe, marking the hours with continents for hands. But on a long voyage in a gyro-stabilised ship the same patterns of sunlight lie unmoving on wall or floor as the chronometer ticks off its meaningless hours and days.

Grant and McNeil had long since learned to regulate their lives accordingly. In deep space they moved and thought with a leisureliness that would vanish quickly enough when a voyage

was nearing its end and the time for braking manœuvres had arrived. Though they were now under sentence of death, they continued along the wellworn grooves of habit.

Every day Grant carefully wrote up the log, checked the ship's position and carried out his various routine duties. McNeil was also behaving normally as far as could be told, though Grant suspected that some of the technical maintenance was being carried out with a very light hand.

It was now three days since the meteor had struck. For the last twenty-four hours Earth and Venus had been in conference and Grant wondered when he would hear the result of their deliberations. He did not believe that even the finest technical brains in the Solar System could save them now, but it was hard to abandon hope when everything still seemed so normal and the air was still clean and fresh.

On the fourth day Venus spoke again. Shorn of its technicalities, the message was nothing more or less than a funeral oration. Grant and McNeil had been written off, but they were given elaborate instructions concerning the safety of the cargo.

Back on earth the astronomers were computing all the possible rescue orbits that might make contact with the *Star Queen* in the next few years. There was even a chance that she might be reached from Earth six or seven months later, when she was back at aphelion, but the manœuvre could only be carried out by a fast liner with no payload and would cost a fortune in fuel.

McNeil vanished soon after this message came through. At first Grant was a little relieved. If McNeil chose to look after himself that was his own affair. Besides there were various letters to write—though the last-will-and-testament business could come later.

It was McNeil's turn to prepare the "evening" meal, a duty he enjoyed for he took good care of his stomach. When the usual sounds from the galley were not forthcoming Grant went in search of his crew.

He found McNeil lying in his bunk, very much at peace with the universe. Hanging in the air beside him was a large metal crate which had been roughly forced open. Grant had no need to examine it closely to guess its contents. A glance at McNeil was enough.

"It's a dirty shame," said the engineer without a trace of embarrassment, "to suck this stuff up through a tube. Can't you put on some 'g' so that we can drink it properly?"

Grant stared at him with angry contempt, but McNeil returned his gaze unabashed.

"Oh, don't be a sourpuss! Have some yourself—what does it matter now?"

He pushed across a bottle and Grant fielded it deftly as it

floated by. It was a fabulously valuable wine—he remembered the consignment now—and the contents of that small crate must be worth thousands.

"I don't think there's any need," said Grant severely, "to behave like a pig—even in these circumstances."

McNeil wasn't drunk yet. He had only reached the brightly lit anteroom of intoxication and not lost all contact with the drab outer world.

"I am prepared," he said with great solemnity, "to listen to any good argument against my present course of action—a course which seems eminently sensible to me. But you'd better convince me quickly while I'm still amenable to reason."

He pressed the plastic bulb again and a purple jet shot into his mouth.

"Apart from the fact that you're stealing Company property which will certainly be salvaged sooner or later—you can hardly stay drunk for several weeks."

"That," said McNeil thoughtfully, "remains to be seen."

"I don't think so," retorted Grant. Bracing himself against the wall he gave the crate a vicious shove that sent it flying through the open doorway.

As he dived after it and slammed the door he heard McNeil shout, "Well, of all the dirty tricks!"

It would take the engineer some time—particularly in his present condition—to unbuckle himself and follow. Grant steered the crate back to the hold and locked the door. As there was never any need to lock the hold when the ship was in space McNeil wouldn't have a key for it himself and Grant could hide the duplicate that was kept in the control cabin.

McNeil was singing when, some time later, Grant went back past his room. He still had a couple of bottles for company and was shouting:

"We don't care *where* the oxygen goes
If it doesn't get into the wine. . . ."

Grant, whose education had been severely technical, couldn't place the quotation. As he paused to listen he suddenly found himself shaken by an emotion which, to do him justice, he did not for a moment recognise.

It passed as swiftly as it had come, leaving him sick and trembling. For the first time, he realised that his dislike of McNeil was slowly turning to hatred.

III

Tensions Building

It is a fundamental rule of space-flight that, for sound psychological reasons, the minimum crew on a long journey shall consist of not less than three men. But rules are made to be broken and the *Star Queen's* owners had obtained full authority from the Board of Space Control and the insurance companies when the freighter set off for Venus without her regular captain.

At the last moment he had been taken ill and there was no replacement. Since the planets are disinclined to wait upon man and his affairs, if she did not sail on time she would not sail at all.

Millions of dollars were involved—so she sailed. Grant and McNeil were both highly capable men and they had no objection at all to earning double their normal pay for very little extra work. Despite fundamental differences in temperament, they got on well enough in ordinary circumstances. It was nobody's fault that circumstanes were now very far from ordinary.

Three days without food, it is said, is long enough to remove most of the subtle differences between a civilised man and a savage. Grant and McNeil were still in no physical discomfort. But their imaginations had been only too active and they now had more in common with two hungry Pacific Islanders in a lost canoe than either would have cared to admit.

For there was one aspect of the situation, and that the most important of all, which had never been mentioned. When the last figures on Grant's writing-pad had been checked and rechecked, the calculation was still not quite complete. Instantly each man had made the one further step, each had arrived simultaneously at the same unspoken result.

It was terribly simple—a macabre parody of those problems in first-year arithmetic that begin, "If six men take two days to assemble five helicopters, how long . . ."

The oxygen would last *two* men for about twenty days, and Venus was thirty days away. One did not have to be a calculating prodigy to see at once that one man and one man only might yet live to walk the metal streets of Port Hesperus.

The acknowledged deadline was twenty days ahead but the unmentioned one was only ten days off. Until that time there would still be enough air for two men—and thereafter for one man only for the rest of the voyage. To a sufficiently detached observer the situation would have been very entertaining.

It was obvious that the conspiracy of silence could not last much longer. But it is not easy, even at the best of times, for

two people to decide amicably which one of them shall commit suicide. It is still more difficult when they are no longer on speaking terms.

Grant wished to be perfectly fair. Therefore the only thing to do was to wait until McNeil sobered up and then to put the question to him frankly. He could think best at his desk, so he went to the control cabin and strapped himself down in the pilot's chair.

For a while he stared thoughtfully into nothingness. It would be better, he decided, to broach the matter by correspondence, especially while diplomatic relations were in their present state. He clipped a sheet of note-paper on the writing-pad and began, *"Dear McNeil . . ."* Then he tore it out and started again, *"McNeil . . ."*

It took him the best part of three hours and even then he wasn't wholly satisfied. There were some things it was so darned difficult to put down on paper. But at last he managed to finish. He sealed the letter and locked it away in his safe. It could wait for a day or two.

Few of the waiting millions on Earth and Venus could have had any idea of the tensions that were slowly building up aboard the *Star Queen*. For days press and radio had been full of fantastic rescue schemes. On three worlds there was hardly any other topic of conversation. But only the faintest echo of the planet-wide tumult reached the two men who were its cause.

At any time the station on Venus could speak to the *Star Queen*, but there was so little that could be said. One could not with any decency give words of encouragement to men in the condemned cell, even when there was some slight uncertainty about the actual date of execution.

So Venus contented itself with a few routine messages every day and blocked the steady stream of exhortation and newspaper offers that came pouring in from Earth. As a result private radio companies on Earth made frantic attempts to contact the *Star Queen* directly. They failed, simply because it never occurred to Grant and McNeil to focus their receiver anywhere except on Venus, now so tantalisingly near at hand.

There had been an embarrassing interlude when McNeil emerged from his cabin, but though relations were not particularly cordial, life aboard the *Star Queen* continued much as before.

Grant spent most of his waking hours in the pilot's position, calculating approach manœuvres and writing interminable letters to his wife. He could have spoken to her had he wished, but the thought of all those millions of waiting ears had prevented him from doing so. Interplanetary speech circuits were supposed to be private—but too many people would be interested in this one.

In a couple of days, Grant assured himself, he would hand his letter to McNeil and they could decide what was to be done. Such a delay would also give McNeil a chance of raising the subject himself. That he might have other reasons for his hesitation was something Grant's conscious mind still refused to admit.

He often wondered how McNeil was spending his time. The engineer had a large library of microfilm books, for he read widely and his range of interests were unusual. His favourite book, Grant knew, was *Jurgen* and perhaps even now he was trying to forget his doom by losing himself in its strange magic. Others of McNeil's books were less respectable and not a few were of the class curiously described as curiosa.

The truth of the matter was that McNeil was far too subtle and complicated a personality for Grant to understand. He was a hedonist and enjoyed the pleasures of life all the more for being cut off from them for months at a time. But he was by no means the moral weakling that the unimaginative and somewhat puritanical Grant had supposed.

It was true that he had collapsed completely under the initial shock and that his behaviour over the wine was by Grant's standards—reprehensible. But McNeil had had his breakdown and had recovered. Therein lay the difference between him and the hard but brittle Grant.

Though the normal routine of duties had been resumed by tacit consent it did little to reduce the sense of strain. Grant and McNeil avoided each other as far as possible except when mealtimes brought them together. When they did meet they behaved with an exaggerated politeness as if each were striving to be perfectly normal—and inexplicably failing.

Grant had hoped that McNeil would himself broach the subject of suicide, thus sparing him a very awkward duty. When the engineer stubbornly refused to do anything of the sort it added to Grant's resentment and contempt. To make matters worse he was now suffering from nightmares and sleeping very badly.

The nightmare was always the same. When he was a child it had often happened that at bedtime he had been reading a story far too exciting to be left until morning. To avoid detection he had continued reading under the bedclothes by flashlight, curled up in a snug white-walled cocoon. Every ten mintes or so the air had become too stifling to breathe and his emergence into the delicious cool air had been a major part of the fun.

Now, thirty years later, these innocent childhood hours returned to haunt him. He was dreaming that he could not escape from the suffocating sheets while the air was steadily and remorselessly thickening around him.

He had intended to give McNeil the letter after two days, yet

somehow he put it off again. This procrastination was very unlike Grant, but he managed to persuade himself that it was a perfectly reasonable thing to do.

He was giving McNeil a chance to redeem himself—to prove that he wasn't a coward by raising the matter himself. That McNeil might be waiting for him to do exactly the same thing somehow never occurred to Grant.

The all-too-literal deadline was only five days off when, for the first time, Grant's mind brushed lightly against the thought of murder. He had been sitting after the "evening" meal trying to relax as McNeil clattered around in the galley with he considered, quite unnecessary noise.

What use, he asked himself, was the engineer to the world? He had no responsibilities and no family—no one would be any the worse off for his death. Grant, on the other hand, had a wife and three children of whom he was moderately fond, though for some obscure reason they responded with little more than dutiful affection.

Any impartial judge would have no difficulty in deciding which of them should survive. If McNeil had a spark of decency in him he would have come to the same conclusion already. Since he appeared to have done nothing of the sort he had forfeited all further claims to consideration.

Such was the elemental logic of Grant's subconscious mind, which had arrived at its answer days before but had only now succeeded in attracting the attention for which it had been clamouring. To Grant's credit he at once rejected the thought with horror.

He was an upright and honourable person with a very strict code of behaviour. Even the vagrant homicidal impulse of what is misleadingly called "normal" man had seldom ruffled his mind. But in the days—the very few days—left to him, they would come more and more often.

The air had now become noticeably fouler. Though there was still no real difficulty in breathing it was a constant reminder of what lay ahead and Grant found that it was keeping him from sleep. This was not pure loss, as it helped to break the power of his nightmares, but he was becoming physically run down.

His nerve was also rapidly deteriorating, a state of affairs accentuated by the fact that McNeil seemed to be behaving with unexpected and annoying calmness. Grant realised that he had come to the stage when it would be dangerous to delay the showdown any longer.

McNeil was in his room as usual when Grant went up to the control cabin to collect the letter he had locked away in the safe—what seemed a lifetime ago. He wondered if he

need add anything more to it. Then he realised that this was only another excuse for delay. Resolutely he made his way towards McNeil's cabin.

A single neutron begins the chain-reaction that in an instant can destroy a million lives and the toil of generations. Equally insignificant and unimportant are the trigger-events which can sometimes change a man's course of action and so alter the whole pattern of his future.

Nothing could have been more trivial than that which made Grant pause in the corridor outside McNeil's room. In the ordinary way he would not even have noticed it. It was the smell of smoke—tobacco smoke.

The thought that the sybaritic engineer had so little self-control that he was squandering the last precious litres of oxygen in such a manner filled Grant with blinding fury. He stood for a moment quite paralysed with the intensity of his emotion.

Then slowly, he crumpled the letter in his hand. The thought which had first been an unwelcomed intruder, then a casual speculation, was at last fully accepted. McNeil had had his chance and had proved, by his unbelievable selfishness, unworthy of it. Very well—he could die.

The speed with which Grant had arrived at this conclusion would not have deceived the most amateurish of psychologists. It was relief as much as hatred that drove him away from McNeil's room. He had wanted to convince himself that there would be no need to do the honourable thing, to suggest some game of chance that would give them each an equal probability of life.

This was the excuse he needed and he had seized upon it to salve his conscience. For though he might plan and even carry out a murder, Grant was the sort of person who would have to do it according to his own particular moral code.

As it happened he was—not for the first time—badly misjudging McNeil. The engineer was a heavy smoker and tobacco was quite essential to his mental well-being even in normal circumstances. How much more essential it was now Grant, who only smoked occasionally and without much enjoyment, could never have appreciated.

McNeil had satisfied himself by careful calculation that four cigarettes a day would make no measurable difference whatsoever to the ship's oxygen endurance, whereas they would make all the difference in the world to his own nerves and hence indirectly to Grant's.

But it was no use explaining this to Grant. So he had smoked in private and with a self-control he found agreeably, almost voluptuously, surprising. It was sheer bad luck that Grant had detected one of the day's four cigarettes.

For a man who had only at that moment talked himself into murder Grant's actions were remarkably methodical. Without hesitation, he hurried back to the control-room and opened the medicine chest with its neatly labelled compartments, designed for almost every emergency that could occur in space.

Even the ultimate emergency had been considered, for there behind its retaining elastic bands was the tiny bottle he had been seeking, the image of which through all these days had been lying hidden far down in the unknown depths of his mind. It bore a white label carrying a skull-and-crossbones, and beneath them the words. *Approx one-half gram will cause painless and almost instantaneous death.*

The poison was painless and instantaneous—that was good. But even more important was a fact unmentioned on the label. It was also tasteless.

IV

The Stars look down

The contrast between the meals prepared by Grant and those organised with considerable skill and care by McNeil was striking. Anyone who was fond of food and who spent a good deal of his life in space usually learned the art of cooking in self-defence. McNeil had done this long ago.

To Grant, on the other hand, eating was one of those necessary but annoying jobs which had to be got through as quickly as possible. His cooking reflected this opinion. McNeil had ceased to grumble about it, but he would have been very interested in the trouble Grant was taking over this particular meal.

If he noticed any increasing nervousness on Grant's part as the meal progressed, he said nothing. They ate almost in silence, but that was not unusual for they had long since exhausted most of the possibilities of light conversation. When the last dishes —deep bowls with inturned rims to prevent the contents drifting out—had been cleared away Grant went into the galley to prepare the coffee.

He took rather a long time, for at the last moment something quite maddening and quite ridiculous happened. He suddenly recalled one of the film classics of the last century in which the fabulous Charlie Chaplin tried to poison an unwanted wife—and then accidentally changed the glasses.

No memory could have been more unwelcome, for it left him shaken with a gust of silent hysteria. Poe's *Imp of the Perverse,* that demon who delights in defying the careful canons of self-preservation, was at work and it was a good minute before Grant could regain his self-control.

He was sure that outwardly at least he was quite calm as he carried in the two plastic containers and their drinking-tubes. There was no danger of confusing them, for the engineer's had the letters MAC painted bodly across it.

At the thought Grant nearly relapsed into those psychopathic giggles again, but just managed to regain control with the sombre reflection that his nerves must be in even worse condition than he had imagined.

He watched, fascinated, though without appearing to do so, as McNeil toyed with his cup. The engineer seemed in no great hurry and was staring moodily into space. Then he put his lips to the drinking tube and sipped.

A moment later he spluttered slightly—and an icy hand seemed to seize Grant's heart and hold it tight. Then McNeil turned to him and said evenly, "You've made it properly for once. It's quite hot."

Slowly, Grant's heart resumed its interrupted work. He did not trust himself to speak, but managed a non-committal nod. McNeil parked the cup carefully in the air, a few inches away from his face. He seemed very thoughtful, as if weighing his words for some important remark. Grant cursed himself for having made the drink so hot—that was just the sort of detail that hanged murderers. If McNeil waited much longer he would probably betray himself through nervousness.

"I suppose," said McNeil in a quietly conversational sort of way, "it has occurred to you that there's still enough air to last one of us to Venus?"

Grant forced his jangling nerves under control and tore his eyes away from that hypnotic cup. His throat seemed very dry as he answered, "It—it had crossed my mind."

McNeil touched his cup, found it still too hot and continued thoughtfully, "Then wouldn't it be more sensible if one of us decided to walk out of the airlock, say—or to take some of the poison in there?" He jerked his thumb towards the medicine chest, just visible from where they were sitting.

Grant nodded.

"The only trouble, of course," added the engineer, "is to decide which of us will be the unlucky one. I suppose it would have to be by picking a card or in some other quite arbitrary way."

Grant stared at McNeil with a fascination that almost outweighed his mounting nervousness. He had never believed that the engineer could discuss the subject so calmly. Grant was sure he suspected nothing. Obviously McNeil's thoughts had been running on parallel lines to his own and it was scarcely even a coincidence that he had chosen this time, of all times, to raise the matter.

McNeil was watching him intently, as if judging his reactions.

"You're right," Grant heard himself say. "We must talk it over."

"Yes," said McNeil quite impassively. "We must." Then he reached for his cup again, put the drinking tube to his lips and sucked slowly.

Grant could not wait until he had finished. To his surprise the relief he had been expecting did not come. He even felt a stab of regret, though it was not quite remorse. It was a little late to think of it now, but he suddenly remembered that he would be alone in the *Star Queen*, haunted by his thoughts, for more than three weeks before rescue came.

He did not wish to see McNeil die and he felt rather sick. Without another glance at his victim he launched himself towards the exit.

Immovably fixed, the fierce sun and the unwinking stars looked down upon the *Star Queen*, which seemed as motionless as they. There was no way of telling that the tiny dumb-bell of the ship had now almost reached her maximum speed and that millions of horse-power were chained within the smaller sphere, waiting for the moment of its release. There was no way of telling, indeed, that she carried any life at all.

An airlock on the night-side of the ship slowly opened, letting a blaze of light escape from the interior. The brilliant circle looked very strange hanging there in the darkness. Then it was abruptly eclipsed as two figures floated out of the ship.

One was much bulkier than the other, and for a rather important reason—it was wearing a space-suit. Now there are some forms of apparel that may be worn or discarded as the fancy pleases with no other ill-effects than a possible loss of social prestige. But space-suits are not among them.

Something not easy to follow was happening in the darkness. Then the smaller figure began to move, slowly at first but with rapidly mounting speed. It swept out of the shadow of the ship into the full blast of the sun, and now one could see that strapped to its back was a small gas-cylinder from which a fine mist was jetting to vanish almost instantly into space.

It was crude but effective rocket. There was no danger that the ship's minute gravitational pull would drag the body back to it again.

Rotating slightly, the corpse dwindled against the stars and vanished from sight in less than a minute. Quite motionless the figure in the airlock watched it go. Then the outer door swung shut, the circle of brilliance vanished and only the pale Earthlight still glinted on the shadowed wall of the ship.

Nothing else whatsoever happened for twenty-three days.

The captain of the *Hercules* turned to his mate with a sigh of relief.

"I was afraid he couldn't do it. It must have been a colossal job to break his orbit single-handed—and with the air as thick as it must be by now. How soon can we get to him?"

"It will take about an hour. He's still got quite a bit of eccentricity but we can correct that."

"Good. Signal the *Leviathan* and *Titan* that we can make contact and ask them to take off, will you? But I wouldn't drop any tips to your news commentator friends until we're safely locked."

The mate had the grace to blush. "I don't intend to," he said in a slightly hurt voice as he pecked delicately at the keys of his calculator. The answer that flashed instantly on the screen seemed to displease him.

"We'd better board and bring the *Queen* down to circular speed ourselves before we call the other tugs," he said, "otherwise we'll all be wasting a lot of fuel. She's still got a velocity excess of nearly a kilometre a second."

"Good idea—tell *Leviathan* and *Titan* to stand by but not to blast until we give them the new orbit."

While the message was on its way down through the unbroken cloudbanks that covered half the sky below the mate remarked thoughtfully, "I wonder what he's feeling like now?"

"I can tell you. He's so pleased to be alive that he doesn't give a hoot about anything else."

"Still I'm not sure I'd like to have left my shipmate in space so that I could get home."

"It's not the sort of thing that anyone would like to do. But you heard the broadcast—they'd talked it over calmly and the loser went out of the airlock. It was the only sensible way."

"Sensible, perhaps—but it's pretty horrible to let someone else sacrifice himself in such a cold-blooded way so that you can live."

"Don't be a ruddy sentimentalist. I'll bet that if it happened to us you'd push me out before I could even say my prayers."

"Unless you did it to me first. Still I don't think it's ever likely to happen to the *Hercules*. Five days out of port's the longest we've ever been, isn't it? Talk about the romance of the spaceways!"

The captain didn't reply. He was peering into the eye-piece of the navigating telescope, for the *Star Queen* should now be within optical range. There was a long pause while he adjusted the vernier controls. Then he gave a little sigh of satisfaction.

"There she is—about nine-fifty kilometres away. Tell the crew to stand by—and send a message to cheer him up. Say we'll be there in thirty minutes even if it isn't quite true."

Slowly the thousand-metre nylon ropes yielded beneath the strain as they absorbed the relative momentum of the ships, then slackened again as the *Star Queen* and the *Hercules* rebounded towards each other. The electric winches began to turn and, like a spider crawling up its thread, the *Hercules* drew alongside the freighter.

Men in space-suits sweated with heavy reaction units—tricky work, this—until the airlocks had registered and could be coupled together. The outer doors slid aside and the air in the locks mingled, fresh with foul. As the mate of the *Hercules* waited, oxygen cylinder in hand, he wondered what condition the survivor would be in. Then the *Star Queen's* inner door slid open.

For a moment, the two men stood looking at each other across the short corridor that now connected the two air-locks. The mate was surprised and a little disappointed to find that he felt no particular sense of drama.

So much had happened to make this moment possible that its actual achievement was almost an anti-climax, even in the instant when it was slipping into the past. He wished—for he was an incurable romantic—that he could think of something memorable to say, some "Doctor Livingstone, I presume?" phrase that would pass into history.

But all he actually said was, "Well, McNeil, I'm pleased to see you."

Though he was considerably thinner and somewhat haggard McNeil had stood the ordeal well. He breathed gratefully the blast of raw oxygen and rejected the idea that he might like to lie down and sleep. As he explained he had done very little but sleep for the last week to conserve air. The first mate looked relieved. He had been afraid he might have to wait for the story.

The cargo was being trans-shipped and the other two tugs were climbing up from the great blinding crescent of Venus while McNeil retraced the events of the last few weeks and the mate made surreptitious notes.

He spoke quite calmly and impersonally, as if he were relating some adventure that had happened to another person, or indeed had never happened at all. Which was, of course, to some extent the case, though it would be unfair to suggest that McNeil was telling any lies.

He invented nothing but he omitted a good deal. He had had three weeks in which to prepare his narrative and he did not think it had any flaws.

V

In the Cards

Grant had already reached the door when McNeil called softly after him, "What's the hurry? I thought we had something to discuss."

Grant grabbed at the doorway to halt his headlong flight. He turned slowly and stared unbelievingly at the engineer. McNeil should be already dead—but he was sitting quite comfortably, looking at him with a most peculiar expression.

"Sit down," he said sharply—and in that moment it suddenly seemed that all authority had passed to him. Grant did so, quite without volition. Something had gone wrong, though what it was he could not imagine.

The silence in the control-room seemed to last for ages. Then McNeil said rather sadly, "I'd hoped better of you, Grant."

At last Grant found his voice, though he could barely recognise it.

"What do you mean?" he whispered.

"What do you think I mean?" replied McNeil, with what seemed no more than mild irritation. "This little attempt of yours to poison me, of course."

Grant's tottering world collapsed at last, but he no longer cared greatly one way or the other. McNeil began to examine his beautifully kept fingernails with some attention.

"As a matter of interest," he said in the way that one might ask the time, "when did you decide to kill me?"

The sense of unreality was so overwhelming that Grant felt he was acting a part, that this had nothing to do with real life at all.

"Only this morning," he said, and believed it.

"Hmm," remarked McNeil, obviously without much conviction. He rose to his feet and moved over to the medicine chest. Grant's eyes followed him as he fumbled in the compartment and came back with the little poison bottle. It still appeared to be full. Grant had been careful about that.

"I suppose I should get pretty mad about this whole business," McNeil continued conversationally, holding the bottle between thumb and forefinger. "But somehow I'm not. Maybe it's because I never had many illusions about human nature. And, of course, I saw it coming a long time ago."

Only the last phrase really reached Grant's consciousness.

"You—saw it coming?"

"Heavens, yes! You're too transparent to make a good criminal, I'm afraid. And now that your little plot's failed it leaves us both in an embarrassing position, doesn't it?"

To this masterly understatement there seemed no possible reply.

"By rights," continued the engineer thoughtfully, "I should now work myself into a good temper, call Venus Central and denounce you to the authorities. But it would be a rather pointless thing to do and I've never been much good at losing my temper anyway. Of course, you'll say that's because I'm too lazy—but I don't think so."

He gave Grant a twisted smile.

"Oh, I know what you think about me—you've got me neatly classified in that orderly mind of yours, haven't you? I'm soft and self-indulgent, I haven't any moral courage—or any morals for that matter—and I don't give a damn for anyone but myself. Well, I'm not denying it. Maybe it's ninety per cent true. But the odd ten per cent is mighty important, Grant!"

Grant felt in no condition to indulge in psychological analysis and this seemed hardly the time for anything of the sort. Besides he was still obsessed with the problem of his failure and the mystery of McNeil's continued existence. McNeil, who knew this perfectly well, seemed in no hurry to satisfy his curiosity.

"Well, what do you intend to do now?" Grant asked, anxious to get it over.

"I would like," said McNeil calmly, "to carry on our discussion where it was interrupted by the coffee."

"You don't mean——"

"But I do. Just as if nothing happened."

"That doesn't make sense. You've got something up your sleeve?" cried Grant.

McNeil sighed. He put down the poison bottle and looked firmly at Grant.

"*You're* in no position to accuse me of plotting anything. To repeat my earlier remarks, I am suggesting that we decide which one of us shall take poison—only we don't want any more unilateral decisions. Also"—he picked up the bottle again—"it will be the real thing this time. The stuff in here merely leaves a bad taste in the mouth."

A light was beginning to dawn in Grant's mind. "You changed the poison!"

"Naturally. You may think you're a good actor, Grant, but frankly—from the stalls—I thought the performance stank. I could tell you were plotting something, probably before you knew it yourself. In the last few days I've deloused the ship pretty thoroughly. Thinking of all the ways you might have done me in was quite amusing and helped to pass the time. The poison was so obvious that it was the first thing I fixed. But I rather overdid the danger signals and nearly gave myself away

when I took the first sip. Alum doesn't go at all well with coffee."

He gave that wry grin again. "Also I'd hoped for something more subtle. So far I've found fifteen infallible ways of murdering anyone aboard a spaceship. But I don't propose to describe them now."

This was fantastic, Grant thought. He was being treated, not like a criminal, but like a rather stupid schoolboy who hadn't done his homework properly.

"Yet you're still willing," said Grant unbelievingly, "to start all over again? And you'd take the poison yourself if you lost?"

McNeil was silent for a long time. Then he began, slowly, "I can see that you still don't believe me. It doesn't fit at all nicely into your tidy little picture, does it? But perhaps I can make you understand. It's really quite simple.

"I've enjoyed life, Grant, without many scruples or regrets—but the better part of it's over now and I don't cling to what's left as desperately as you might imagine. Yet while I *am* alive I'm rather particular about some things.

"It may surprise you to know that I've got any ideals at all. But I have, Grant—I've always tried to act like a civilised rational being. I've not always succeeded. When I've failed I've tried to redeem myself."

He paused and when he resumed it was as though he and not Grant was on the defensive. "I've never exactly liked you, Grant, but I've often admired you and that's why I'm sorry it's come to this. I admired you most of all the day the ship was holed."

For the first time, McNeil seemed to have some difficulty in choosing his words. When he spoke again he avoided Grant's eyes.

"I didn't behave too well then. Something happened that I thought was impossible. I've always been quite sure that I'd never lose my nerve but—well—it was so sudden it knocked me over."

He attempted to hide his embarrassment by humour. "The same sort of thing happened on my very first trip. I was sure *I'd* never be spacesick—and as a result I was much worse than if I had not been over-confident. But I got over it and again this time. It was one of the biggest surprises of my life, Grant, when I saw that you of all people were beginning to crack.

"Oh, yes—the business of the wines! I can see you're thinking about that. Well, that's one thing I *don't* regret. I said I'd always tried to act like a civilised man—and a civilised man should always know when to get drunk. But perhaps you wouldn't understand."

Oddly enough that was just what Grant was beginning to do. He had caught his first real glimpse of McNeil's intricate and

tortuous personality and realised how utterly he had misjudged him. No—misjudged was not the right word. In many ways his judgment had been correct. But it had only touched the surface—he had never suspected the depths that lay beneath.

In a moment of insight that had never come before and from the nature of things could never come again, Grant understood the reasons behind McNeil's action. This was nothing so simple as a coward trying to reinstate himself in the eyes of the world, for no one need ever know what happened aboard the *Star Queen*.

In any case McNeil probably cared nothing for the world's opinion, thanks to the sleek self-sufficiency that had so often annoyed Grant. But that very self-sufficiency meant that at all costs he must preserve his own good opinion of himself. Without it life would not be worth living—and McNeil had never accepted life save on his own terms.

The engineer was watching him intently and must have guessed that Grant was coming near the truth, for he suddenly changed his tone as though he was sorry he had revealed so much of his character.

"Don't think I get quixotic pleasure from turning the other cheek," he said. "Just consider it from the point of view of pure logic. After all we've got to come to *some* agreement."

"Has it occurred to you that if only one of us survives without a covering message from the other he'll have a very uncomfortable time explaining just what happened?"

In his blind fury Grant had completely forgotten this. But he did not believe it bulked at all important in McNeil's own thoughts.

"Yes," he said, "I suppose you're right."

He felt far better now. All the hate had drained out of him and he was at peace. The truth was known and he had accepted it. That it was so different from what he had imagined did not seem to matter now.

"Well, let's get it over," he said unemotionally. "There's a new pack of cards lying around somewhere."

"I think we'd better speak to Venus first—both of us," replied McNeil with peculiar emphasis. "We want a complete agreement on record in case anyone asks awkward questions later."

Grant nodded absently. He did not mind very much now one way or the other. He even smiled, ten minutes later, as he drew his card from the pack and laid it face upwards, besides McNeil's.

"So that's the whole story, is it?" said the first mate, wondering how soon he could decently get to the transmitter.

"Yes," said McNeil evenly, "that's all there was to it."

The mate bit his pencil, trying to frame the next question. "And I suppose Grant took it all quite calmly?"

The captain gave him a glare, which he avoided, and McNeil looked at him coldly as if he could see through to the sensation-mongering tabloids ranged behind. He got to his feet and moved over to the observation port.

"You heard his broadcast, didn't you? Wasn't that calm enough?"

The mate sighed. It still seemed hard to believe that in such circumstances two men could have behaved in so reasonable, so unemotional a manner. He could have pictured all sorts of dramatic possibilities — sudden outbursts of insanity, even attempts at murder. Yet according to McNeil nothing at all happened. It was too bad.

McNeil was speaking again, as if to himself. "Yes, Grant behaved very well—very well indeed. It was a great pity——"

Then he seemed to lose himself in the ever-fresh incomparable glory of the approaching planet. Not far beneath and coming closer by kilometres every second, the snow-white crescent arms of Venus spanned more than half the sky. Down there was life and warmth and civilisation—and air.

The future, which not long ago had seemed contracted to a point, had opened out again into all its unknown possibilities and wonders. But behind him McNeil could sense the eyes of his rescuers, probing, questioning—yes, and condemning too.

All his life he would hear whispers. Voices would be saying behind his back, "Isn't that the man who——?"

He did not care. For once in his life at least he had done something of which he could feel unashamed. Perhaps one day his own pitiless self-analysis would strip bare the motives behind his actions, would whisper in his ear. "Altruism? Don't be a fool! You did it to bolster up your own good opinion of yourself—so much more important than anyone else's!"

But the perverse maddening voices, which all his life had made nothing seem worthwhile, were silent for the moment and he felt content. He had reached the calm at the centre of the hurricane. While it lasted he would enjoy it to the full.

SURVIVAL

By John Wyndham

As the spaceport bus trundled unhurriedly over the mile or more of open field that separated the terminal buildings from the embarkation hoist, Mrs. Feltham stared intently forward across the shoulders in front of her. The ship stood up on the plain like an isolated silver spire. Near its bow she could see the intense blue light which proclaimed it all but ready to take off. Among and around the great tail-fins dwarf vehicles and little dots of men moved in a fuss of final preparations. Mrs. Feltham glared at the scene, loathing it. At that moment she loathed it, and all the inventions of men, with a hard, hopeless hatred.

Presently she withdrew her gaze from the distance and focused it on the back of her son-in-law's head, a yard in front of her. She hated him, too.

She turned, darting a swift glance at the face of her daughter in the seat beside her. Alice looked pale; her lips were firmly set; her eyes fixed straight ahead.

Mrs. Feltham hesitated. Her glance returned to the spaceship. She decided on one last effort. Under cover of the bus noise she said:

"Alice, darling, it's not too late, even now, you know."

The girl did not look at her. There was no sign that she had heard, save that her lips compressed a little more firmly. Then they parted:

"Mother, please!" she said.

But Mrs. Feltham, once started, had to go on.

"It's for your own sake, darling. All you have to do is to say you've changed your mind."

The girl held a protesting silence.

"Nobody would blame you," Mrs. Feltham persisted. "They'd not think a bit the worse of you. After all, everybody knows that Mars is no place for——"

"Mother, please stop it," interrupted the girl. The sharpness of her tone took Mrs. Feltham aback for a moment. She hesitated. But time was growing too short to allow herself the luxury of offended dignity. She went on:

"You're not used to the sort of life you'll have to live there, darling. Absolutely primitive. No kind of life for any woman. After all, dear, it is only a five years' appointment for David. I'm sure if he really loves you he'd rather know that you are safe here and waiting——"

The girl said, harshly:

"We've been over all this before, Mother. I tell you it's no good. I'm not a child. I've thought it out, and I've made up my mind. Please don't let's talk about it any more."

Mrs. Feltham sat silent for some moments. The bus swayed on across the field, and the rocketship seemed to tower farther into the sky.

"If you had a child of your own—" she said, half to herself. "—Well, I expect some day you will. Then you will begin to understand. . . ."

"I think it's you who don't understand," Alice said. "This is hard enough, anyway. You're only making it harder for me."

"My darling, I love you. I bore you, I've watched over you always, I *know* you. I *know* this can't be the kind of life for you. If you were a hard, hoydenish kind of girl, well, perhaps . . . But you aren't, darling. You know quite well you aren't. . . . ."

"Perhaps you don't know me quite as well as you imagine, Mother."

Mrs. Feltham shook her head. She kept her eyes averted, boring jealously into the back of her son-in-law's head.

"He's taken you right away from me," she said, dully.

"That's not true, Mother. It's—well, I'm no longer a child. I'm a woman—with a life of my own to live."

"'Whither thou goest, I will go . . .'" said Mrs. Feltham reflectively. "But that doesn't really hold now, you know. It was all right for a tribe of nomads, but nowadays the wives of soldiers, sailors, pilots, spacemen——"

"It's more than that, Mother. You don't understand. I must become adult and real to myself. . . ."

The bus rolled to a stop, puny and toylike beside the ship that seemed too large ever to lift. The passengers got out and stood staring upwards along the shining side. Mr. Feltham put his arms around his daughter. Alice clung to him, tears in her eyes. In an unsteady voice he murmured:

"Good-bye, my dear. And all the luck there is."

He released her, and shook hands with his son-in-law.

"Keep her safe, David. She's everything——"

"I know. I will. Don't you worry."

Mrs. Feltham kissed her daughter farewell, and forced herself to shake hands with her son-in-law.

A voice from the hoist called: "All passengers aboard, please!"

The doors of the hoist closed. Mr. Feltham avoided his wife's eyes. He put his arm round her waist, and led her back to the bus in silence.

As they made their way, in company with a dozen other vehicles, back to the shelter of the terminal, Mrs. Feltham alternately dabbed her eyes with a scrap of white handkerchief

and cast glances back at the spaceship standing tall, inert, and apparently deserted now. Her hand slid into her husband's.

"I can't believe it even now," she said. "It's so utterly unlike her. Would you ever have thought that our little Alice . . . ? Oh, why did she have to marry *him* . . . ?"

Her husband pressed her fingers, without speaking.

"It wouldn't be so surprising with some girls," she went on. "But Alice was always so quiet. I used to worry because she was so quiet—I mean in case she might become one of those timid bores. . . . Do you remember how the other children used to call her mouse?

"And now this! Five years in that dreadful place! Oh, she'll never stand it, Henry. I *know* she won't, she's not the kind. Why didn't you put your foot down, Henry? They'd have listened to you. You could have stopped it."

Her husband sighed.

"There are times when one can give advice, Miriam—though it's scarcely ever popular—but what one must not do is try to live other people's lives for them. Alice is a woman now, with her own rights. Who am I to say what's best for her?"

"But you *could* have stopped her going."

"Perhaps—but I did not care for the price."

She was silent for some seconds, then her fingers tightened on his hand.

"Henry—Henry, I don't think we shall ever see them again. I feel it."

"Come, come, dear. They'll be back safe and sound, you'll see."

"You don't really believe that, Henry. You're just trying to cheer me up. Oh, why, why must he go to that horrible place? She's young. She could have waited five years. Why is she so stubborn, so hard—not like my little mouse, at all . . .?"

Her husband patted her hand.

"You must try to stop thinking of her as a child, my dear. She's not; she's become a woman—and if our women were all mice, it it would be a poor outlook for our survival. . . ."

The navigating officer of the s/r *Falcon* approached his captain.

"The deviation, sir."

Captain Winters took the piece of paper he held out to him.

"One point three six five degrees," he read out. "H'm. Not bad. Not at all bad, considering. South-east sector again. Why are nearly all deviations in the S.E. sector, I wonder, Mr. Carter?"

"Maybe they'll find out when we've been at the game a bit longer, sir. Right now it's just one of those things."

"Odd, all the same. Well, we'd better correct before it gets any bigger."

The captain loosened the expanding book-rack in front of him and pulled out a set of tables. He consulted them and scribbled down the result.

"Check, Mr. Carter."

The navigator compared the figures with the tables, and approved.

"Good. How's she lying?" asked the captain.

"Almost broadside, with a very slow roll, sir."

"You can handle it. I'll observe visually. Align her and stabilise. Ten seconds on starboard laterals at force two. She should take about thirty minutes, twenty seconds to swing over, but we'll watch that. Then neutralise with the port laterals at force two. Okay?"

"Very good, sir." The navigating officer sat down in the control chair, and fastened the belt. He looked over the keys and switches carefully.

"I'd better warn 'em. May be a bit of a jolt," said the captain. He switched on the address system, and pulled the microphone bracket to him.

"Attention all! Attention all! We are about to correct course. There will be several impulses. None of them will be violent, but all fragile objects should be secured, and you are advised to seat yourselves and use the safetybelts. The operation will take approximately half an hour and will start in five minutes from now. I shall inform you when it has been completed. That is all." He switched off.

"Some fool always thinks the ship's been holed by a meteor if you don't spoon it out," he added. "Have that woman in hysterics, most likely. Doesn't do any good." He pondered, idly. "I wonder what the devil she thinks she's doing out here, anyway. A quiet little thing like that; what she ought to be doing is sitting in some village back home, knitting."

"She knits here," observed the navigating officer.

"I know—and think what it implies. What's the idea of that kind going to Mars. She'll be as homesick as hell, and hate every foot of the place on sight. That husband of hers ought to have had more sense. Comes damn near cruelty to children."

"It mightn't be his fault, sir. I mean, some of those quiet ones can be amazingly stubborn."

The captain eyed his officer speculatively.

"Well, I'm not a man of wide experience, but I know what I'd say to my wife if she thought of coming along."

"But you can't have a proper ding-dong with those quiet ones, sir. They kind of feather-bed the whole thing, and then get their own way in the end."

"I'll overlook the implication of the first part of that remark,

Mr. Carter, but out of this extensive knowledge of women can you suggest to me why the devil she is here if he didn't drag her along? It isn't as if Mars were domestically hazardous, like a convention."

"Well, sir—she strikes me as the devoted type. Scared of her own shadow ordinarily, but with an awful amount of determination when the right string's pulled. It's sort of—well, you hear of ewes facing lions in defence of their cubs, don't you?"

"Assuming that you mean lambs," said the captain, "the answers would be, *a*—I've always doubted it, and, *b*—she doesn't have any."

"I was just trying to indicate the type."

The captain scratched his cheek with his forefinger.

"You may be right, but I know if I were going to take a wife to Mars, which heaven forbid, I'd feel a tough, gun-toting momma was less of a liability. What's his job there?"

"Taking charge of a mining company office, I think."

"Office hours, huh? Well, maybe it'll work out some way, but I still say the poor little thing ought to be in her own kitchen. She'll spend half the time scared to death, and the rest of it pining for home comforts." He glanced at the clock. "They've had enough time to batten down the chamber-pots now. Let's get busy."

He fastened his own safety-belt, swung the screen in front of him on its pivot, switching it on as he did so, and leaned back watching the panorama of stars move slowly across it.

"All set, Mr. Carter?"

The navigating officer switched on a fuel line, and poised his right hand above a key.

"All set, sir."

"Okay. Straighten her up."

The navigating officer glued his attention to the pointers before him. He tapped the key beneath his fingers experimentally. Nothing happened. A slight double furrow appeared between his brows. He tapped again. Still there was no response.

"Get on with it, man," said the captain irritably.

The navigating officer decided to try twisting her the other way. He tapped one of the keys under his left hand. This time there was response without delay. The whole ship jumped violently sideways and trembled. A crash jangled back and forth through the metal members around them like a diminishing echo.

Only the safety-belt kept the navigating officer in his seat. He stared stupidly at the gyrating pointers before him. On the screen the stars were streaking across like a shower of fireworks. The captain watched the display in ominous silence for a moment, then he said, coldly:

"Perhaps when you have had your fun, Mr. Carter, you will kindly straighten her up."

The navigator pulled himself together. He chose a key, and pressed it. Nothing happened. He tried another. Still the needles on the dials revolved smoothly. A slight sweat broke out on his forehead. He switched to another fuel line, and tried again.

The captain lay back in his chair, watching the heavens stream across his screen.

"Well?" he demanded, curtly.

"There's—no response, sir."

Captain Winters unfastened his safety-belt and clacked across the floor on his magnetic soles. He jerked his head for the other to get out of his seat, and took his place. He checked the fuel line switches. He pressed a key. There was no impulse: the pointers continued to turn without a check. He tried other keys, fruitlessly. He looked up and met the navigator's eyes. After a long moment he moved back to his own desk, and flipped a switch. A voice broke into the room: ,

"——would I know? All I *do* know is that the old can's just bowling along arse over elbow, and that ain't no kind of a way to run a bloody spaceship. If you ask me——"

"Jevons," snapped the captain.

The voice cut off abruptly.

"Yes, sir?" it said, in a different tone.

"The laterals aren't firing."

"No, sir," the voice agreed.

"Wake up, man. I mean they *won't* fire. They've packed up."

"What—*all* of 'em, sir?"

"The only ones that have responded are the port laterals—and they shouldn't have kicked the way they did. Better send someone outside to look at 'em. I didn't like that kick."

"Very good, sir."

The captain flipped the communicator switch back, and pulled over the announcement mike.

"Attention, please. You may release all safety-belts and proceed as normal. Correction of course has been postponed. You will be warned before it is resumed. That is all."

Captain and navigator looked at one another again. Their faces were grave, and their eyes troubled. . . .

Captain Winters studied his audience. It comprised everyone aboard the *Falcon*. Fourteen men and one woman. Six of the men were his crew; the rest passengers. He watched them as they found themselves places in the ship's small living-room. He would have been happier if his cargo had consisted of more freight and fewer passengers. Passengers, having nothing to occupy them, were always making mischief one way and another.

Moreover, it was not a quiet, biddable type of man who recommended himself for a job as a miner, prospector or general adventurer on Mars.

The woman could have caused a great deal of trouble aboard had she been so minded. Luckily she was diffident, self-effacing. But even though at times she was irritatingly spiritless, he thanked his luck that she had not turned out to some incendiary blonde to add to his troubles. All the same, he told himself, regarding her as she sat beside her husband, she could not be quite as meek as she looked. Carter must have been right when he spoke of a stiffening motive somewhere—without that she could never have started, and she would certainly not be coming through steadfast and uncomplaining so far. He glanced at her husband. Queer creatures, women. Morgan was all right, but there was nothing about him, one would have said, to lead a woman on a trip like this.

He waited until they had finished shuffling around and fitting themselves in. Silence fell. He let his gaze dwell on each face in turn. His own expression was serious.

"Mrs. Morgan and gentlemen," he began. "I have called you here together because it seemed best to me that each of you should have a clear understanding of our present position.

"It is this. Our lateral tubes have failed. They are, for reasons which we have not yet been able to ascertain, useless. In the case of the port laterals they are burnt out, and irreplaceable.

"In case some of you do not know what that implies, I should tell you that it is upon the laterals that the navigation of the ship depends. The main drive tubes give us the initial impetus for take-off. After that they are shut off, leaving us in free fall. Any deviations from the course plotted are corrected by suitable bursts from the laterals.

"But it is not only for steering that we use them. In landing, which is an infinitely more complex job than take-off, they are essential. We brake by reversing the ship and using the main drive to check our speed. But I think you can scarcely fail to realise that it is an operation of the greatest delicacy to keep the huge mass of such a ship as this perfectly balanced upon the thrust of her drive as she descends. It is the laterals which make such balance possible. Without them it cannot be done."

A dead silence held the room for some seconds. Then a voice asked, drawling:

"What you're saying, Captain, is, the way things are, we can neither steer nor land—is that it?"

Captain Winthers looked at the speaker. He was a big man. Without exerting himself, and apparently, without intention, he seemed to possess a natural domination over the rest.

"That is exactly what I mean," he replied.

A tenseness came over the room. There was the sound of a quickly drawn breath here and there.

The man with the slow voice nodded, fatalistically. Someone else asked:

"Does that mean that we might crash on Mars?"

"No," said the captain. "If we go on travelling as we are now, slightly off course, we shall miss Mars altogether."

"And so go on out to play tag with the asteroids," another voice suggested.

"That is what would happen if we did nothing about it. But there is a way we can stop that, if we can manage it." The captain paused, aware that he had their intent regard. He went on:

"You must all be well aware from the peculiar behaviour of space as seen from our ports that we are now tumbling along all ar—er—head over heels. This is due to the explosion of the port laterals. It is a highly unorthodox method of travelling, but it does mean that by an impulse from our main tubes given at exactly the critical moment we should be able to alter our course approximately as we require."

"And how much good is that going to do us if we can't land?" somebody wanted to know. The captain ignored the interruption. He continued:

"I have been in touch by radio with both home and Mars, and have reported our state. I have also informed them that I intend to attempt the one possible course open to me. That is of using the main drive in an attempt to throw the ship into an orbit about Mars.

"If that is successful we shall avoid two dangers—that of shooting on towards the outer parts of the system and of crashing on Mars. I think we have a good chance of bringing it off."

When he stopped speaking he saw alarm in several faces, thoughtful concentration in others. He noticed Mrs. Morgan holding tightly to her husband's hand, her face a little paler than usual. It was the man with the drawl who broke the silence.

"You *think* there is a good chance . . ." he repeated.

"I do. I also think it is the only chance. But I'm not going to try to fool you by pretending complete confidence. It's too serious."

"And if we do get into this orbit . . .?"

"They will try to keep a radar fix on us, and send help as soon as possible."

"H'm," said the questioner. "And what do you personally think about that, Captain?"

"I—well, it isn't going to be easy. But we're all in this together, so I'll tell you just what they told me. At the very best we can't expect them to reach us for some months. The ship

will have to come from Earth. The two planets are well past conjunction now. I'm afraid it's going to mean quite a wait."

"Can we—hold out long enough, Captain?"

"According to my calculations we should be able to hold out for about seventeen or eighteen weeks."

"And that will be long enough?"

"It'll have to be."

He broke the thoughtful pause that followed by continuing in a brisker manner.

"This is not going to be comfortable, or pleasant. But, if we all play our parts, and keep strictly to the necessary measures, it can be done. Now, there are three essentials: air to breathe—well, luckily we shan't have to worry about that. The regeneration plant and stock of spare cylinders, and cylinders in cargo will look after that for a long time. Water—will be rationed. Two pints each every twenty-four hours, for *everything*. Luckily we shall be able to draw water from the fuel tanks, or it would be a great deal less than that. The thing that is going to be our most serious worry is food. . . ."

He explained his proposals in detail, and with patient clarity. At the end he added: "And now I expect you have some questions?"

A small wiry man with a weather-beaten face asked:

"Is there no hope at all of getting the lateral tubes to work again?"

Captain Winters shook his head.

"Negligible—so, not to be counted on. The impellent section of a ship is not constructed to be accessible in space. We shall keep on trying, of course, but even if the others could be made to fire, we should still be unable to repair the port laterals."

He did his best to answer the few more questions that followed in ways that held a balance between easy confidence and despondency. The prospect was by no means good. Before help could possibly reach them they were all going to need all the nerve and resolution they had—and out of sixteen persons some must be weaker than others. . . . His gaze rested again on Alice Morgan and her husband beside her. Her presence was certainly a possible source of trouble. When it came to the pinch the man would have more strain on account of her—and, most likely, fewer scruples. . . .

Since the woman was here, she must share the consequences equally with the rest. There could be no privilege. In a sharp emergency one could afford a heroic gesture, but preferential treatment of any one person in the long ordeal which they must face would create an impossible situation. Make any allowances for her, and you would be called on to make allowances for others on health or other grounds—with heaven knew what complications to follow. . . .

A fair chance with the rest was the best he could do for her—not, he felt, looking at her as she clutched her husband's hand and looked at him from wide eyes in a pale face, not a very good best.

He hoped she would not be the first to go under. It would be better for morale if she were not the very first. . . .

She was not the first to go. For nearly three months nobody went.

The *Falcon,* by means of skilfully timed bursts on the main tubes, had succeeded in nudging herself into an orbitual relationship with Mars. After that, there was little the crew could do for her. At the distance of equilibrium she had become a very minor satellite, rolling and tumbling on her circular course, destined, so far as anyone could see, to continue this untidy progress until help came—or for ever. . . .

Inboard, the complexity of her twisting somersaults was not perceptible unless one deliberately uncovered a port. If one did, the crazy cavortings of the universe outside produced such a sense of bewilderment that one gladly shut the cover again to preserve the illusion of stability within. Even Captain Winters and the navigating officer took their observations as swiftly as possible and were relieved when they had shut the whizzing constellations off the screen, and could take refuge in relativity.

For all her occupants the *Falcon* had become a small, independent world, very sharply finite in space—and scarcely less so in time. . . .

It was, moreover, a world with a very low standard of living; a community with short tempers, weakening distempers, aching bellies, and ragged nerves. It was a group in which each man watched on a trigger of suspicion for hair's-breadth difference in the next man's ration, and where the little he ate so avidly was not enough to quiet the rumblings of his stomach. He was ravenous when he went to sleep; more ravenous when he woke from dreams of food. Men who had started from Earth full-bodied were now gaunt and lean, their faces had hardened from curved contours into angled planes and changed their colours for a grey pallor in which their eyes glittered unnaturally. They had all grown weaker. The weakest lay on their couches torpidly. The more fortunate looked at them from time to time with a question in their eyes. It was not difficult to read the question: "Why do we go on wasting good food on this guy? Looks like he's booked anyway." But as yet no one had taken up that booking.

The situation was worse than Captain Winters had foreseen. There had been bad stowage. The cans in several cases of meat had collapsed under the terrific pressure of other cans above them during take-off. The resulting mess was now describing an orbit

of its own around the ship. He had had to throw it out secretly. If the men had known of it they would have eaten it gladly, maggots and all. Another case shown on his inventory had disappeared. He still did not know how. The ship had been searched for it without trace. Much of the emergency stores consisted of dehydrated foods for which he dared not spare sufficient water, so that, though edible, they were painfully unwholesome. They had been intended simply as a supplement in case the estimated time was overrun. and were not extensive. Little in the cargo was edible, and that mostly small cans of luxuries. As a result, he had to reduce the rations expected to stretch meagrely over seventeen weeks—and, even so, they would not last that long.

The first who did go owed it neither to sickness nor malnutrition, but to accident.

Jevons, the chief engineer, maintained that the only way to locate and correct the trouble with the laterals was to effect an entry into the propellent section of the ship. Owing to the tanks which backed up against the bulkhead separating the sections this could not be achieved from within the ship herself. It had proved impossible with the tools available to cut a slice out of the hull; the temperature of space and the conductivity of the hull caused all their heat to run away and dissipate itself without making the least impression on the tough skin. The one way he could see of getting in was to cut away round the burnt-out tubes of the port laterals. It was debatable whether this was worth while since the other laterals would still be unbalanced on the port side, but where he found opposition solidly against him was in the matter of using precious oxygen to operate his cutters. He had to accept that ban, but he refused to relinquish his plan altogether.

"Very well," he said grimly. "We're like rats in a trap, but Bowman and I aim to do more than just keep the trap going, and we're going to try, even if we have to cut our way into the bloody ship by hand."

Captain Winters had okayed that—not that he believed that anything useful would come of it, but it would keep Jevons quiet, and do no one else any harm. So for weeks Jevons and Bowman had got into their space-suits and worked their shifts. Oblivious after a time of the wheeling galaxies about them, they kept doggedly on with their sawing and filing. Their progress, pitifully slow at best, had grown even slower as they became weaker.

Just what Bowman was attempting when he met his end still remained a mystery. He had not confided in Jevons. All that anyone knew about it was the sudden lurch of the ship and the clang of reverberations running up and down the hull. Possibly it was an accident. More likely he had become impatient and laid a small charge to blast an opening.

For the first time in weeks ports were uncovered and faces looked out giddily at the wheeling stars. Bowman came into sight. He was drifting inertly, a dozen yards or more outboard. His suit was deflated, and a large gash showed in the material of the left sleeve.

The consciousness of a corpse floating around and around you like a minor moon is no improver of already lowered morale. Push it away, and it still circles, though at a greater distance. Some day a proper ceremony for the situation would be invented —perhaps a small rocket would launch the poor remains upon their last, infinite voyage. Meanwhile, lacking a precedent, Captain Winters decided to pay the body the decent respect of having it brought inboard. The refrigeration plant had to be kept going to preserve the small remaining stocks of food, but several sections of it were empty. . . .

A day and a night—by the clock—had passed since the provisional interment thus of Bowman when a modest knock came on the control-room door. The captain laid blotting-paper carefully over his latest entry in the log, and closed the book.

"Come in," he said.

The door opened just widely enough to admit Alice Morgan. She slipped in, and shut it behind her. He was somewhat surprised to see her. She had kept sedulously in the background, putting her few requests she had made through the intermediacy of her husband. He noticed the changes in her. She was haggard now as they all were, and her eyes anxious. She was also nervous. The fingers of her thin hands sought one another and interlocked themselves for confidence. Clearly she was having to push herself to raise whatever was in her mind. He smiled to encourage her.

"Come and sit down, Mrs. Morgan," he invited amiably.

She crossed the room with a slight clicking from her magnetic soles, and took the chair he indicated. She seated herself uneasily, and on the forward edge.

It had been sheer cruelty to bring her on this voyage, he reflected again. She had been at least a pretty little thing, now she was no longer that. Why couldn't that fool husband of hers have left her in her proper setting—a nice quiet suburb, a gentle routine, a life where she would be protected from exaction and alarm alike. It surprised him again that she had had the resolution and the stamina to survive conditions on the *Falcon* as long as this. Fate would probably have been kinder to her if it had disallowed that. He spoke to her quietly, for she perched rather than sat, making him think of a bird ready to take off at any sudden movement.

"And what can I do for you, Mrs. Morgan?"

Alice's fingers twined and intertwined. She watched them

doing it. She looked up, opened her mouth to speak, closed it again.

"It isn't very easy," she murmured.

Trying to help her, he said:

"No need to be nervous, Mrs. Morgan. Just tell me what's on your mind. Has one of them been—bothering you?"

She shook her head.

"Oh, no, Captain Winters. It's nothing like that at all."

"What is it, then?"

"It's—it's the rations, Captain. I'm not getting enough food."

The kindly concern froze out of his face.

"None of us is," he told her, shortly.

"I know," she said, hurriedly. "I know, but——"

"But what?" he inquired in a chill tone.

She drew a breath.

"There's the man who died yesterday. Bowman. I thought if I could have his rations——"

The sentence trailed away as she saw the expression on the captain's face.

He was not acting. He was feeling just as shocked as he looked. Of all the impudent suggestions that ever had come his way, none had astounded him more. He gazed dumbfounded at the source of the outrageous proposition. Her eyes met his, but, oddly, with less timidity than before. There was no sign of shame in them.

"I've *got* to have more food," she said, intensely.

Captain Winters' anger increased.

"So you thought you'd just snatch a dead man's share as well as your own. I'd better not tell you in words just where I class that suggestion, young woman. But you can understand this: we share, and we share equally. What Bowman's death means to us is that we can keep on having the same ration for a little longer—that, and only that. And now I think you had better go."

But Alice Morgan made no move to go. She sat there with her lips pressed together, her eyes a little narrowed, quite still save that her hands trembled. Even through his indignation the captain felt surprise, as though he had watched a hearth cat suddenly become a hunter. She said stubbornly:

"I haven't asked for any privilege until now, Captain. I wouldn't ask you now if it weren't absolutely necessary. But that man's death gives us a margin now. And I *must* have more food."

The captain controlled himself with an effort.

"Bowman's death has *not* given us a margin, or a windfall—all it has done is to extend by a day or two the chance of our survival. Do you think that every one of us doesn't ache just

as much as you do for more food? In all my considerable experience of effrontery——"

She raised her thin hand to stop him. The hardness of her eyes made him wonder why he had ever thought her timid.

"Captain. Look at me!" she said, in a harsh tone.

He looked. Presently his expression of anger faded into shocked astonishment. A faint tinge of pink stole into her pale cheeks.

"Yes," she said. "You see, you've *got* to give me more food. My baby *must* have the chance to live."

The captain continued to stare at her as if mesmerised. Presently he shut his eyes, and passed his hand over his brow.

"God in heaven. This is terrible," he murmured.

Alice Morgan said seriously, as if she had already considered that very point:

"No. It isn't terrible—not if my baby lives." He looked at her helplessly, without speaking. She went on:

"It wouldn't be robbing anyone, you see. Bowman doesn't need his rations any more—but my baby does. It's quite simple, really." She looked questioningly at the captain. He had no comment ready. She continued:

"So you couldn't call it unfair. After all, I'm two people now, really, aren't I? I *need* more food. If you don't let me have it you will be murdering my baby. So you *must* . . . *must*. . . . My baby has *got* to live—he's *got* to . . ."

After she had gone Captain Winters mopped his forehead, unlocked his private drawer, and took out one of his carefully hoarded bottles of whisky. He had the self-restraint to take only a small pull on the drinking-tube and then put it back. It revived him a little, but the look in his eyes was still worried and gloomy.

Would it not have been kinder in the end to tell the woman that her baby had no chance at all of being born? That would have been honest—but he doubted whether the coiner of the phrase about honesty being the best policy had known a great deal about group-morale. Had he told her that, it would have been impossible to avoid telling her why, and once she knew why it would have been impossible for her not to confide it, if only to her husband. And then the fat would be in the fire. . . .

The captain opened the top drawer, and regarded the pistol within. There was always that. He was tempted to take hold of it now and use it. There wasn't much use in playing the silly game out. Sooner or later it would have to come to that, anyway. He frowned at it, hesitating. Then he put out his right hand and gave the thing a flip with his finger, sending it floating to the back of the drawer, out of sight. He closed the drawer. Not yet. . . .

But perhaps he had better begin to carry it soon. So far his authority had held. There had been nothing worse than safety-valve grumbling. But a time would come when he was going to need the pistol either for them or for himself.

If they should begin to suspect that the encouraging bulletins that he pinned up on the board from time to time were fakes: if they should somehow find out that the rescue ship which they believed to be hurtling through space towards them had not, in fact, even yet been able to take off from Earth—that was when hell would start breaking loose.

It might be safer if there were to be an accident with the radio equipment before long.

"Taken your time, haven't you?" Captain Winters asked. He spoke shortly because he was irritable, not because it mattered in the least how long anyone took over anything now. The navigating officer made no reply. His boots clicked across the floor. A key and an identity bracelet drifted towards the captain, and inch or so above the surface of his desk. He put out a hand to check them.

"I——" he began. Then he caught sight of the other's face. "Good God, man, what's the matter with you?"

He felt some compunction. He wanted Bowman's identity bracelet for the record, but there had been no real need to send Carter for it. A man dying Bowman's death had to be a piteous sight. That was why they had left him still in his space-suit instead of undressing him. All the same, he had thought that Carter was tougher stuff. He brought out a bottle. The last bottle.

"Better have a shot of this," he said.

The navigator did, and put his head in his hands. The captain carefully rescued the bottle from its mid-air drift, and put it away. Presently the navigating officer said, without looking up:

"I'm sorry, sir."

"That's okay, Carter. Nasty job. Should have done it myself."

The other shuddered slightly. A minute passed in silence while he got a grip on himself. Then he looked up and met the captain's eyes.

"It—it wasn't just that, sir."

The captain looked puzzled.

"How do you mean?" he asked.

The officer's lips trembled. He did not form his words properly, and he stammered.

"Pull yourself together. What are you trying to say?" The captain spoke sharply to stiffen him. Carter jerked his head slightly. His lips stopped trembling.

"He—he——", floundered; then he tried again, in a rush. "He—hasn't any legs, sir."

"Who? what *is* this? You mean Bowman hasn't any legs?"

"Y-yes, sir."

"Nonsense, man. I was there when he was brought in—so were you. He had legs, all right."

"Yes, sir. He did have legs then—but he hasn't now . . ."

The captain sat very still. For some seconds there was no sound in the control-room but the clicking of the chronometer. Then he spoke with difficulty, getting no further than two words:

"You mean——?"

"What else could it be, sir?"

"God in heaven . . . !" murmured the captain.

He sat staring with eyes that had taken on the horror that lay in the other man's. . . .

Two men moved silently, with socks over their magnetic soles. They stopped opposite the door of one of the refrigeration compartments. One of them produced a slender key. He slipped it into the lock, felt delicately with it among the wards for a moment, and then turned it with a click. As the door swung open a pistol fired twice from within the refrigerator. Then man who was pulling the door sagged at the knees, and hung in mid-air.

The other man still had the cover of the half-opened door. He snatched a pistol from his pocket and slid it swiftly round the corner of the door, pointing into the refrigerator. He pulled the trigger twice.

A figure in a space-suit launched itself out of the refrigerator, sailing uncannily across the room. The other man shot at it as it swept past him. The space-suited figure collided with the opposite wall, recoiled slightly, and hung there. Before it could turn and use the pistol in its hand, the other man fired again. The figure jerked, and floated back against the wall. The man kept his pistol trained, but the space-suit swayed there, flaccid and inert.

The door by which the men had entered opened with a sudden clang. The navigating officer on the threshold did not hesitate. He fired slightly after the other, but he kept on firing. . . .

When his pistol was empty the man in front of him swayed queerly, anchored by his boots; there was no other movement in him.

The navigating officer put out a hand, and steadied himself by the door-frame. Then slowly and painfully he made his way across to the figure in the space-suit. There were gashes in the suit. He managed to unlock the helmet and pull it away. The

captain's face looked even greyer than undernourishment had made it. His eyes opened slowly. He said in a whisper:

"Your job now, Carter. Good luck!"

The navigating officer tried to answer, but there were no words, only a bubbling of blood in his throat. His hands relaxed. There was a dark mark still spreading on his uniform. Presently his body hung listlessly swaying beside his captain's. . . .

"I figured they were going to last a lot longer than this," said the small man with the sandy moustache.

The man with the drawl looked at him steadily.

"Oh, you did, did you? And do you reckon your figuring's reliable?"

The smaller man shifted awkwardly. He ran the tip of his tongue along his lips.

"Well, there was Bowman. Then those four. Then the two that died. That's seven."

"Sure. That's seven. Well——?" inquired the big man softly. He was not as big as he had been, but he still had a large frame. Under his intent regard the emaciated small man seemed to shrivel a little more.

"Er—nothing. Maybe my figuring was kind of hopeful," he said.

"Maybe. My advice to you is to quit figuring and keep on hoping. Huh?"

The small man wilted.

"Er—yes. I guess so," he agreed.

The big man looked round the living-room, counting heads.

"Okay. Let's start," he said.

A silence fell on the rest. They gazed at him with uneasy fascination. They fidgeted. One or two nibbled at their finger-nails. The big man leaned forward. He put a space-helmet, inverted, on the table. In his customary fashion he said:

"We shall draw for it. Each of us will take a paper and hold it up unopened until I give the word. *Un*opened. Got that? They nodded. Every eye was fixed intently upon his face. "Good. Now one of those pieces of paper in the helmet is marked with a cross. Ray, I want you to count the pieces there and make sure that there are nine——"

"Eight!" said Alice Morgan's voice, sharply.

All the heads turned towards her as if pulled by strings. The faces looked startled, as though the owners might have heard a sucking-dove roar. Alice sat embarrassed under the combined gaze, but she held herself steady and her mouth was set in a straight line. The man in charge of the proceedings studied her.

"Well, well," he drawled. "So you don't want to take a hand in our little game."

"No," said Alice.

"You've shared equally with us so far—but now we have reached this regrettable stage you don't want to?"

"No," agreed Alice again.

He raised his eyebrows.

"You are appealing to our chivalry, perhaps?"

"No," said Alice once more. "I'm denying the equity of what you call your game. The one who draws the cross dies—isn't that the plan?"

"Pro bono publico," said the big man. "Deplorable, of course, but unfortunately necessary."

"But if *I* draw it, two must die. Do you call that equitable?" Alice asked.

The group looked taken aback. Alice waited.

The big man fumbled it. For once he was at a loss.

"Well," said Alice, "isn't that so?"

One of the others broke the silence to observe:

"The question of the exact stage when the personality, the soul of the individual, takes form is still highly debatable. Some have held that until there is separate existence——"

The drawling voice of the big man cut him short.

"I think we can leave that point to the theologians, Sam. This is more in the Wisdom of Solomon class. The point would seem to be that Mrs. Morgan claims exemption on account of her condition."

"My baby has a right to live," Alice said, doggedly.

"We all have a right to live. We all *want* to live," someone put in.

"Why should you——?" another began, but the drawling voice dominated again:

"Very well, gentlemen. Let us be formal. Let us be democratic. We will vote on it. The question is put: Do you consider Mrs. Morgan's claim to be valid—or should she take her chance with the rest of us? Those in——"

"Just a minute," said Alice, in a firmer voice than any of them had heard her use. "Before you start voting on that you'd better listen to me a bit." She looked round, making sure she had the attention of all of them. She had: and their astonishment as well.

"Now the first thing is that I am a lot more important than any of you," she told them simply. "No, you needn't smile. I am—and I'll tell you why.

"Before the radio broke down——"

"Before the captain wrecked it, you mean," someone corrected her.

"Well, before it became useless," she compromised, "Captain Winters was in regular touch with home. He gave them news of us. The news that the Press wanted most was about me. Women, particularly women in unusual situations, are always

news. He told me I was in the headlines: GIRL-WIFE IN DOOM ROCKET, WOMAN'S SPACEWRECK ORDEAL, that sort of thing. And if you haven't forgotten how newspapers look, you can imagine the leads too: 'Trapped in their living space-tomb, a girl and fifteen men now wheel helplessly around the planet Mars. . . .'

"All of you are just men—hulks, like a ship. I am a woman, therefore my position is romantic, so I am young, glamorous, beautiful. . . ." Her thin face showed for a moment the trace of a wry smile. "I am a heroine. . . ."

She paused, letting the idea sink in. Then she went on: "I was a heroine even before Captain Winters told them that I was pregnant. But after that I became a phenomenon. There were demands for interview. I wrote one, and Captain Winters transmitted it for me. There have been interviews with my parents and my friends, anyone who knew me. And now an enormous number of people know a great deal about me. They are intensely interested in me. They are even more interested in my baby—which is likely to be the first baby ever born in a spaceship. . . .

"Now do you begin to see? You have a fine tale ready. Bowman, my husband, Captain Winters and the rest were heroically struggling to repair the port laterals. There was an explosion. It blew them all away out into space. . . .

"You *may* get away with that. But if there is no trace of me and my baby—or of our bodies—*then* what are you going to say? How will you explain that?"

She looked round the faces again.

"Well, what *are* you going to say? That I, too, was outside repairing the port laterals? That I committed suicide by shooting myself out into space with a rocket?

"Just think it over. The whole world's press is wanting to know about me—with all the details. It'll have to be a mighty good story to stand up to that. And if it doesn't stand up—well, the rescue won't have done you much good. . . .

"You'll not have a chance in hell. You'll hang, or you'll fry, every one of you—unless it happens they lynch you first. . . ."

There was silence in the room as she finished speaking. Most of the faces showed the astonishment of men ferociously attacked by a pekinese, and at a loss for suitable comment.

The big man sat sunk in reflection for a minute or more. Then he looked up, rubbing the stubble on his sharp-boned chin thoughtfully. He glanced round the others and then let his eyes rest on Alice. For a moment there was a twitch at the corner of his mouth.

"Madam," he drawled, "you are probably a great loss to the legal profession." He turned away. "We shall have to reconsider this matter before our next meeting. But, for the present, Ray, *eight* pieces of paper, as the lady said. . . ."

"It's her!" said the second, over the skipper's shoulder.

The skipper moved irritably. "Of course it's her. What else'd you expect to find arse-ending through space like a sozzled owl?" He studied the screen for a moment. "Not a sign. Every port covered."

"Do you think there's a chance, Skipper?"

"What, after all this time! No, Tommy, not a ghost of it. We're—just the morticians, I guess."

"How'll we get aboard her, Skip?"

The skipper watched the gyration of the *Falcon* with a calculating eye.

"Well, there aren't any rules, but I reckon if we can get a cable on her we *might* be able to play her gently, like a big fish. It'll be tricky. . . ."

Tricky it was. Five times the magnet projected from the rescue ship failed to make contact. The sixth attempt was better judged. When the magnet was close to the *Falcon* the current was switched on for a moment. It changed course, and floated nearer to the ship. When it was almost in contact the switch went over again. It darted forward, and glued itself limpet-like to the hull.

Then followed the long game of playing the *Falcon*; of keeping tension on the cable between the two ships, but not too much tension, of holding the rescue ship from being herself thrown into a roll by the pull. Three times the cable parted, but at last, after weary hours of adroit manœuvre by the rescue ship the derelict's motion had been reduced to a slow twist. There was still no trace of life aboard. The rescue ship closed a little.

The captain, the third officer, and the doctor fastened on their space-suits and went outboard. They made their way forward to the winch. The captain looped a short length of line over the cable, and fastened both ends of it to his belt. He laid hold of the cable with both hands, and with a heave sent himself skimming into space. The others followed him along the guiding cable.

They gathered beside the *Falcon's* entrance port. The third officer took a crank from his satchel. He inserted it in an opening, and began to turn until he was satisfied that the inner door of the air-lock was closed. When it would turn no more, he withdrew it, and fitted it into the next opening: that should set the motors pumping air out of the lock—*if* there were air, and *if* there were still current to work the motors. . . . The captain held a microphone against the hull, and listened. He caught a humming.

"Okay. They're running," he said.

He waited until the humming stopped.

"Right. Open her up," he directed.

The third officer inserted his crank again, and wound it. The main port opened inwards, leaving a dark gap in the shining hull. The three looked at the opening sombrely for some seconds. With a grim quietness the captain's voice said:

"Well. Here we go."

The microphone picked up nothing.

The third officer's voice murmured:

"The silence that is in the starry sky,
The sleep that is among the lonely hills. . . ."

Presently the captain's voice asked:

"How's the air, Doc?"

The doctor looked at his gauges.

"It's okay," he said, in some surprise. "Pressure's about six ounces down, that's all." He began to unfasten his helmet. The others copied him. The captain pulled a face as he took his off.

"The place stinks," he said, uneasily. "Let's get on with it," he added, leading the way towards the living-room. They entered it apprehensively.

The scene was uncanny and bewildering. Though the gyrations of the *Falcon* had been reduced, every loose object in her continued to circle until it met a solid obstruction and bounced off it upon a new course. The result was a medley of wayward items churning slowly hither and thither.

"Nobody here, anyway," said the captain, practically. "Doc, do you think——?" he broke off at the sight of the doctor's expression. He followed the line of his gaze. The doctor was looking at the drifting flotsam of the place. Among the flow of books, cans, playing-cards, boots, and miscellaneous rubbish, his attention was riveted upon a bone. It was large and clean and had been cracked open.

The captain nudged him. "What's the matter, Doc?"

The doctor turned unseeing eyes upon him for a moment, and then looked back at the drifting bone.

"That," he said in an unsteady voice. "That, Skipper, is a human femur."

In the long moment that followed while they stared at the grisly relic the silence which had lain over the *Falcon* was broken. The sound of a voice rose, thin, uncertain, but perfectly clear. The three looked incredulously at one another as they listened:

"Rock-a-bye-baby
On the tree top.
when the wind blows
The cradle will rock . . ."

Alice sat on the side of her bunk, swaying a little, and holding her baby to her. It smiled, and reached up one miniature hand to pat her cheek as she sang:

". . . When the bough breaks
The cradle will fall
Down will——"

Her song cut off suddenly at the click of the opening door. For a moment she stared as blankly at the three figures in the opening as they at her. Her face was a mask with harsh lines drawn from the points where the skin was stretched tightly over prominent bones. Then a trace of expression came over it. Her eyes brightened. Her lips curved in a parody of a smile.

She loosed her arms from about the baby, and it hung there in mid-air, chuckling a little to itself. She slid her right hand under the pillow of the bunk and drew it out again, holding a pistol.

The black shape of the pistol looked enormous, utterly out of scale in her transparently thin hand as she pointed it at the men in the doorway.

"Look, baby," she said. "Look there. Food. Lovely food. . . ."

BALANCE

By John Christopher

Luigi said "Signor!"

Max Larkin opened his eyes, for the thousandth time surprised and grateful for the dazzling brilliance of sunshine. His hammock, slung between two inward-pressing olive trees, was no more than three feet from the sharp edge of cliff that marked his garden's end. Below the cliff Castellammare was a scatter of white and green—the white of sun-bleached stone and the green of orange groves—dropping down in terrace after terrace. The green was thick round the outskirts but yielded more and more to the density of the town; and beyond both green and white lay the enamelled blue of the Bay of Naples. Larkin turned round. Luigi stood deferentially behind him.

Max said: "Well?"

"Someone to see you, Signor Larkin. It appears to be urgent. Will you come in or shall I send him out?"

Beyond Luigi the small avenue of cypress trees ran back to the villa, a matter of perhaps a hundred yards. Max could see the leather-coated figure approaching. He said to Luigi:

"Too late. He's here. All right, Luigi. You can bring some wine out. The Nobile '89, I think."

The visitor was quite a young man; he looked unpleasantly warm in the leather jacket tagged with United Chemicals' braid and badges, but at his age, Max guessed, the consciousness of his rank would naturally weigh more heavily than mere comfort. He motioned to a chair in the shade of the olive tree and sat back again himself on his hammock.

The visitor said: "Manager Larkin?"

Max nodded. "I was. I've retired now. I don't use the title. Anything I can do for you?"

"My name's Mellin. Hans Mellin. I've come from Director Hewison." He looked at Max reproachfully. "Director Hewison couldn't get you on vidiphone."

Max said: "No. That's not surprising. I had it disconnected. The only business I have to conduct now is collecting my pension and I can see to that by the old-fashioned method of writing letters."

Mellin said: "So he sent me down to collect you. He wants your advice on something."

Max said carefully: "Where is Hewison? If it means crossing the Atlantic. . . ."

Mellin looked hurt. "He's at his place in Austria. I can drop you there in three hours. I've got the gyro round the front."

Max smiled. "I'll go by train. Just give me directions for getting there. They can have a car to meet me at the station."

Mellin said: "But the Director wanted you to come up with me by gyro!"

Max said: "You may know that I did eighteen years on Venus. I would probably still be there if my body hadn't the good sense to contract swamp-fever and so given me no option but to retire. Anyway, now that I'm back, I'm back. Between the earth and me there will never again be more than eighteen inches." He glanced thoughtfully at the hammock. "Well—thirty-six. You run back by gyro and tell Hewison I'll be coming. What station did you say?"

With some bewilderment Mellin said: "Graz."

"Right!" Max said briskly. "Tell Hewison I can be met there. I'll take the eight o'clock Vienna Flyer from Naples."

"Huh?" Mellin's brow cleared. "Ah—the twenty hundred!"

"Yes," Max said. "The eight o'clock. Oh, the wine's here. Put it down, Luigi. You'll join me?"

Mellin looked at the tray.

"Well, no. I've got to be getting back. But if you could put some in a bottle for me I'll take a nip on the way."

Max lay back in his hammock.

"Give Official Mellin a bottle of wine, Luigi. I think last year's vintage would best suit his—ah—palate."

Max had a sleeper to himself on the Vienna Flyer. It was only here, in the southern half of Europe, that railways had survived at all. Transport and Communications kept them going for the tourist traffic but even that was getting slacker. It was just turned eleven the following morning when he got out at Graz. The car that awaited him was a huge, mother-of-pearl inlaid affair with the Director's scarlet flag on the bonnet. They pulled away from Graz into the hills, effortless and almost silently.

Hewison's Austrian place became visible quite a few miles off—the driver pointed it out. It crowned a hill at the valley's head. As the road made its winding and twisting approach to it more details became apparent. They were all more or less disreputable. Hewison had had this castle built, Max remembered suddenly, no more than five or six years earlier. It was an outrageously grotesque marriage of Gothic and Twenty-first Century. Towers beetled at every corner and in between them shot up graceless pylons of naked aluminium. For miles around

there was only one spot where the landscape was not irretrievably defiled—and that was inside the castle's own walls. Max sighed with relief as the car passed beneath the drawbridge.

The room he was shown to was in one of the pylons. He unpacked some of his things, left them to confirm a swift deduction that the Sheraton suite was an ingenious fake, and was congratulating himself on his perspicuity when he was called to lunch. For some weird reason the vast dining hall was done in under-sea green—the long, jade-topped table was surrounded by squat pillars of translucent emerald, inset with replicas of tropical fish. It was made more overpowering by the fact that he and Hewison were the only diners.

The food was good. Max was rather surprised to find that the main dish was Venusian swamp-pig. On Earth, of course, it cost fifty European dollars a pound and was prized accordingly, but Hewison knew well enough that it was no rare luxury for a retired Venus official. Unless . . . Max looked at his host more keenly. Could it be Hewison's thick-headed way of evoking nostalgia? Hewison looked back at him blandly and helped himself to more.

After lunch Hewison led the way into the library for coffee. "Olde Englishe," this, with oil paintings of hunting scenes and still lifes that looked bad enough to be genuine. Hewson produced some excellent cigars and rather less excellent brandy. He had still said nothing as to the purpose of Max's summons.

"How do you like the place?" Hewison asked.

Max nodded non-committally. "Very impressive."

Hewison said: "I like it here. I like this library. I think I'll have libraries installed in my other places. I've even been reading books lately. Some very interesting things. There's a fellow called—let me see——" He wandered over to the shelves and came back clutching a book "——Korzybski. Something called General Semantics." He looked at Max piercingly. "You ever studied it? Says the whole nature of human thought is wrong. It's—it's *thalamic*! Man's got to learn to act entirely by cortex reasoning—he's got to learn to integrate."

Max got up. He walked across and stood beside Hewison who was pawing through the book, presumably looking for a quotation. He began to speak very gently.

"Director Hewison, I did not come here from Castellammare for a little talk about the opinions of Korzybski or any other third-rate twentieth-century nominalist philosopher. I've earned my retirement and I'm enjoying it. If that swamp pig at lunch was a prelude to asking me to do another job on Venus for you I'm afraid it was a waste. Because the Medical Board won't let me back there even if I wanted to go. And I'm quite happy

where I am." His voice rose slightly. "So if you've nothing else of importance to discuss I'll catch the evening train back."

Hewison looked at him silently a moment and then chuckled, putting the Korzybski down on a small walunt table.

"Well," he said, "let's get down to business then. I don't want you back on Venus—I know all about your medical report. The little job I want you to do for me will keep you right here on this planet."

Max said defensively: "I am pensioned, you know. I don't need to do anything but sit in the sun."

Hewison said: "I'll explain things. First, the political set-up."

"Spare me that."

"This is how it is," Hewison went on. "Thanks to you, Atomics took a nasty beating over their little attempt to stir trouble out of the murky waters of Venus. They're sitting quiet. I don't doubt they're hatching something but we're not very worried about them just now."

"Who are you worried about?" Max asked.

Hewison said: "Genetics Division. I'll have to go back a bit. Twenty years. Remember de Passy?"

Max nodded. He remembered de Passy all right. He had been Genetic's Division star genuis. TV had been full of him the year Max himself had been taking his U.C. Finals. His work on germ plasm had been revolutionary. And then, when he was only thirty-four . . .

"Gyro crash, wasn't it?" he asked. "In—Dorset?"

"Hampshire," Hewison corrected. "Very sad." He looked up suddenly at Max. "But unfortunately necessary."

Max said: "You mean U.C. murdered him?"

Hewison played with his rotor-pen.

"Two or three companies were represented," he said. "You see—we had to do something about him. Fortunately he worked with only one assistant who—died at the same time. De Passy was on to something very big: the artificial creation of super-geniuses."

Max said dryly: "That seems the best excuse in the world for murdering him."

Hewison looked weary and strangely old. How old was he? No more than eighty, certainly. Hewison said:

"Yes. The best reason, the best excuse. Have you thought what super genius might be? Consider the ordinary genius as we have known him in the past: consider how *one-sided* his gift has invariably been. Newton the mathematician—and Newton the theologian, strenuously working out the size of the seventh horn of the Beast of Revelations. Einstein the mathematician—and Einstein the well-meaning but completely naïve social scientist. Outside his own narrow field the genius is on

level or even inferior terms to the rest of humanity. That is the way it always has been."

Hewison got up and walked restlessly up and down the fine Axminster carpet.

"You don't need telling that this is the managerial world," he said. "And you know how the balance of power is kept—each Company holding its own authority, conducting its own research, co-operating as a free and independent agent with all the other Companies. United Chemicals, Genetics Division, Transport and Communications, Atomics, Hydroponics . . . and the rest. Now imagine one Company with the services of a man capable of superhuman brilliance not in one field of research but in all. Ever since 1900 scientists have been forced to specialise more and more, continually giving up width of approach for the increasingly necessary depth. But imagine someone who could take it all in—the entire field of Genetics, plus the field of molecular and atomic chemistry, plus sub-atomic physics, plus every other branch of science you care to name. With such a man—such a superman—working for any one Company, balance of power becomes an idle dream. If Genetics had him, Genetics would be supreme. Whether he realised the implications or not, that was what de Passy was after. And that . . ."

Hewison paused, Max finished for him:

"So that is why his gyro suddenly, inexplicably failed, at a height of, if I remember rightly, four thousand feet. I see. Well you did it. You didn't bring me up here to get it off your conscience?"

Hewison said: "We thought we'd finished the job. We smashed his lab. pretty thoroughly. But we may have overlooked something. You see, de Passy was married. It never occurred to us that he might have—experimented on his wife. Even when she died six months later in child-birth, it never occurred to us. Lately, however . . . There have been rumours. We can't tell what reliance can be placed in them. Genetics Propaganda are quite capable of spreading things abroad that might be useful to them in future bargaining. And they know where to plant rumours so that we shall be certain to pick them up. But true or false the rumours say that de Passy's wife had a child—and that child is the first, the only one of de Passy's super-geniuses."

Max sat back. He said:

"What about Contact Section? It's their job, isn't it?"

Hewison said patiently: "It would be normally. But unfortunately we've been working in close alliance with Genetics during the past ten years—mainly against Atomics. I always wanted to hold some of our agents in reserve for this sort of eventuality but I was overruled. They were too scared of

Atomics. Now there isn't a man capable of handling the job who isn't better known at Genetics than he is at home. You, Larkin, are the one possible ace up our sleeve."

Max said: "And what am I supposed to do? Suddenly develop a passionate interest in chromosomes and ask Genetics to take me on as a lab. boy?"

Hewison came and stood in front of him.

"Does the name 'Linstein' convey anything to you? He was in your college class; you knew each other fairly well. He retired from Genetics a few months ago. He's your line."

Max said: "And he isn't going to be suspicious at my sudden desire to renew his acquaintance?"

"No. Because he is going to approach *you*. He's a philatelist. A special exhibition of rare stamps is going to be arranged for Naples in two weeks' time. His hotel reservation is going to be unfortunately mislaid. And at the right moment he will be given your name and address."

Otto Linstein had been small and talkative with a career in front of him. Now, in retirement, he was still small and more garrulous than ever, but there was a note of disillusion in his rambling talk. At any rate the fears Max had had that it might be difficult to keep at his tail without attracting suspicion were swiftly proved groundless. Linstein, like most men with a grievance, wanted friends and had none. Without any urging he converted his overnight stay at Max's villa into a further week, and a week after that, and another week. When at last he tired of Italy he insisted on returning the hospitality he had enjoyed. He and Max sailed from Naples, docked at Southampton three days later, and that evening were ensconced in Linstein's pent-house apartment.

The first three weeks had proved entirely unprofitable. Linstein talked quite a lot about Genetics but only once did he throw something out that might have been a pointer. It happened on the second day of their renewed acquaintance. Flushed by a good Orvieto wine Linstein had raised a vaguely threatening toast "to the future of Genetics Division." Scrupulous not to excite suspicion at so early a stage Max had refrained from following it up. And since then there had been nothing. Nothing that is, but perfectly ordinary revelations of staff politics; all of which, it seemed, had been designed to the sole end of frustrating Linstein's work and promotion.

Now, in London, Max was dragged at his heels with an ever-deepening suspicion that the whole thing was a huge wild-goose chase, a mad idea of Hewison's without any basis in reality. But he recognised the impossibility, from his point of view, of being any the less thorough for that reason. A dozen times he started small hares that might lead Linstein towards the

fatal indiscretion. And a dozen times, apparently quite unconscious of the intent, Linstein diverted them to harmless holes. At last Max resorted to crudity. After dinner, one evening in the second week of his stay with Linstein, he doctored his host's brandy with Vita, the pale, tasteless, paralytically intoxicating concoction brewed by Old Kajan in the swamps of Long Province, Venus.

Linstein looked at Max carefully for a moment and then, waving his cigar hysterically, burst into a paroxysm of drunken mirth. Max smiled with him sympathetically. Wiping his streaming eyes, Linstein spluttered:

"It's funny, Larkin. That stuff you put in my brandy . . . damned good brew wherever you got it. Venus?"

Max nodded. "So you saw me? It . . . loosens people up. You'll tell me what I want to know now, won't you?"

Linstein laughed again.

"That's the funny part. I'd have told you any time you asked. Go ahead—ask me."

"Right. First, is it true that de Passy left one successful experiment behind him—his own child? Have Genetics got one of the super-geniuses he was trying to create?"

Linstein nodded owlishly. "Right enough."

"And they realise what they are handling?"

Drunkenly, Linstein tried to strike an attitude.

"World supremacy! That's what we're handling. That's what we've got. We're not forcing anything. They mature late, you know. At present the super-genius is still . . . playing with toys. But inside ten years . . . You'll see."

Max said softly: "Third and last question—where is he?"

He waited patiently for Linstein to stop laughing. At last, gasping, Linstein said:

"You see, Larkin, we've been expecting all this. In fact, we were planning on it. I was retired to attract this sort of thing. It's been damned funny watching you the last month."

Max said: "You haven't answered my question."

"I can't! They wouldn't have dared use me for this job if I knew anything more than I've told you just now. Larkin. Every room of this apartment has a vidiphone camera relaying back to Genetics H.Q. Sight and sound. They suspected United Chemicals might have another agent up their sleeve—now they know." The high electric buzz of the apartment's front door sounded through the air. Linstein said muzzily: "They're coming for you, Larkin. I'm afraid they're coming for you."

He watched in smiling intoxication as Max went to the door. His succeeding amazement was rather pitiful. The two figures in U.C. uniform tramped in behind Max. Max said:

"The camera's concealed in that fifth plastic globe. This

room was empty yesterday evening. Duplicate that record and fix it in for tonight. You jammed the direct transmission all right?"

The taller of the two men nodded.

"Unshielded radio ray sculptor two apartments along. It jammed everything for three blocks. There'll be a hefty fine to pay."

Out of a throat suddenly dry Linstein said:

"You're letting me hear all this. Does that mean . . .? Are you going to . . . ?"

Max smiled sadly. "I never knock off an old college pal—when I can avoid it. We may not be biologists but we're not completely dumb at U.C. just a little deep hypnosis. You'll wake in the morning and you will remember that we spent a cheerful evening together at the Museum of Modern Art. I don't think even Genetics have cameras fixed there. All right, Karl, take care of him."

Behind Hewison on the vidiphone screen Max could see, through an open window, the rolling Austrian valley. He finished telling the Director what had happened.

"So," Hewison commented briefly.

"That's how it is," Max confirmed.

Hewison roused himself.

"You did well enough, Max. More than well enough. I don't think there's any more you can do. Even if Genetics don't tumble to you and you've sucked Linstein of everything he could tell us. And we could hardly put you on to a fresh line. They'd have you taped from the start. Contact Section will have to take over again. I hope they can pull something out of the bag."

"I don't rate their chances high," Max told him. "Genetics are no slouches. They know what they've got and they're watching it pretty well."

Hewison nodded towards the screen. "Yes, I know."

Max said casually: "You don't want me back in Europe just yet, do you? I've got one or two things I'd like to attend to."

Hewison's head jerked up, hopeful and apprehensive.

"Max," he said, "if you've got a line on your own, tell me, tell your old friend, Duncan Hewison. Don't go running your head into anything without telling us." He paused. "If anything happened . . ."

Max grinned. " . . . There might be no way of getting the information back to my old friend, Director Duncan Hewison. Don't worry. It's practically nothing—the vaguest of ideas. If I get on to anything solid, you'll know. So long now."

He un-garbled, opened circuit, and switched off on the ex-

postulating Hewison. Then, thoughtfully, he walked out of the vidiphone booth and over to a magazine stall.

He left Linstein's apartment the following day, deriving some amusement from the look of bewilderment on Linstein's face when he said good-bye. He left the now fashionable Bermondsey and took a room in a broken-down Mayfair hotel. He quite easily identified the Genetics man who moved in after him the next day and took an early opportunity of chatting with him. Nova Publications were offering him a juicy contract for a book to be called "Eighteen Years among Venusian Savages." He played the late blossoming author to the last dregs of boredom. The Genetics contact man took it glassily but doggedly.

He stayed in the hotel more than a fortnight. By day he went from publisher to publisher, blatantly canvassing his projected autobiography, and in the evening told the results to his manfully sympathetic acquaintance. An awful lot of publishers were passing up the chance of the century; he felt he was going to spite them and take the Nova contract. . . .

At Nova—Managing Director a certain William Renfrew whose son, in Long Province, Venus, had had reason to be grateful to Max Larkin—he took the lift to the roof and stepped into the waiting gyro. Renfrew stood beside him. He said:

"He's a good enough double, then?"

"Excellent," Max said. "I've been wearing those dark glasses ever since they turned on the full heat wave. Have him go for his lunch to the Central Automat. After that, it doesn't matter. I'll have all the time I need."

William Renfrew said doubtfully: "Are you sure you know what you're doing? I could get Hewison for you on the office vidiphone. . . ."

Max said: "This is serious. It's serious enough to get me up in a gyro; something I'd forsworn for the rest of my life. And it's too serious to let Hewison in on until I'm ready and willing. If anything goes wrong . . . You know the time limit."

He rocked the gyro up in a dizzy, perpendicular take-off. Beneath, Renfrew's face became a blur, the whole roof shrank, the shining new roofs of Bermondsey split up into glaring, aluminium-alloy chasms, and then slowly coalesced again into a uniform gleam of metal. He headed north. Away on his left he saw the earth erupt in scarlet flowers of flame, flinging skywards the silver seed that was the morning passenger liner—London to Venusberg. It was a fascinating sight. It had fascinated him in just the same way more than thirty years ago when, a small boy, he had lived in his parents' home on the edge of the spaceport and known his future with a passionate certainty. He was going to be a space navigator. Strange, he thought, now, that that had been his ambition rather than the more immediately

romantic pilot. Probably that slight abberration had been part of the conviction that it would come true. But his father had been posted to Europe and the years had gone by in which certainty's edge was dulled. There was nothing in the idea now but ludicrousness, and a faint envy for that lost single-heartedness. Instead, Max reflected, having earned his retirement, he was volunteering for another profession admired by the very young—that of secret agent. But he had never admired it himself, and he felt now only a sick anxiety to finish a distasteful job.

He arrowed down carefully to the small township, made the one necessary inquiry at the small mail-office and lifted the gyro clear again. He followed the rough trail he had been given. Just under the brow of the hill he parked the gyro and walked up through the leaning rocks. The guard, leaning on his Klaberg rifle, watched him as he approached.

The guard said: "Sorry, sir. Private ground. Atomics compound. You better turn back to the village."

Protective mimicry to the last detail. Smart, Max thought.

He said: "Where are the others? I want to see you all together."

He flashed the small badge, an ingenious duplicate of the one that had been found on a thin chain round Linstein's neck. It was gold with "GD" in large letters in the centre and the smaller superscription round it—"Contact Section." That had been a useful find. The guard nodded respectfully and flicked the small dial on his wrist to the Attention Call. Two other figures came out of the small hut in front of the larger squat building built back into the hill-side. A third followed them from the main building itself. They all wore plain uniforms; the third, Max noticed, was a woman.

They stood, close grouped, in front of him.

"About the patient . . ." he began.

He lifted his right hand. Very gently he shook it, breaking a small capsule as though he were pronouncing a benediction on them all. The four figures stared at him as the faint mist swirled out from his hand, blanketing him first and stretching on towards them. Still watching they slumped, like collapsing dolls, into limp paralysis.

Max stepped round their bodies. He walked quite slowly past the guard hut and up to the main building. It was quite a sizeable affair. It enclosed an inner courtyard, with a swimming pool and tennis courts. He walked through the hall and paused at an open door, looking inwards. What he saw made him halt, for several seconds, before he advanced.

The figure on the divan turned round as he entered the room. Max nodded gravely.

"Good day," he said. "Good day, *Miss* de Passy!"

Helen de Passy said: "It was bright of you to find me."

He was wondering what he had really expected to find. A misshapen monstrosity with a bulging head and weak, helpless limbs? Something like that. Irrational of course, but the mind was, in so many ways, irrational. Certainly not a girl, though there was again no reason why it should have been more probable for de Passy to leave a son rather than a daughter. And now . . . a beautiful girl. She was beautiful, all right; strong and straight-limbed with the figure of a young, vigorous and lovely woman. It should not affect things, but it did. Her face was full under a good but not distorted forehead; her hair fell to shoulder length in thick coils of silk. Only about her chin was there a suspicion of weakness, of attractive weakness. He tried to find the key to her appearance, stumbled, and found it. Placidness. It was not a quality one would associate in advance with super-genius.

He became aware more clearly of what she was saying, and found an answer.

"It was something Linstein said." He remembered the purple walls of Linstein's ornate apartment, and the drunken boasting. "He said that the super-genius was still . . . playing with toys. I guessed what that meant. Linstein was a scientist. And for scientists toys can often mean the arts. It might be that the super-genius had turned first towards Keats and Shakespeare and Beethoven rather than towards Darwin and Planck." Max paused. "The artistic genius needs to publish, to toss its talent into the world's lap. I inquired discreetly. I found half a dozen brilliant writers working through different publishers. I found that each of them used the accommodation address of a certain Hampshire village. After that it was easy."

Helen de Passy said: "And the guards?"

Max said: "Leothine. It's the stunning vapour used by the Martian trapping plants. You can immunise yourself with half a dozen microscopic doses. They'll be out for . . . perhaps six hours."

She nodded. Max said softly:

"I still don't see why they let you publish. I saw it as a long chance, and it came off. But I don't understand why they let you."

She smiled. "Who reads books? A few hundred thousand. And, of course, for them they were toys. They never thought of anything but scientific genius. You humour genius—when you can do it without inconvenience. And their bureaucracy defeated itself, too. They granted permission for me to publish non-revealing material pseudonymously from the village. They didn't expect me to be prolific enough for seven different personalities —you missed one—and the little people didn't see the danger."

Her words echoed in his ears. ". . . for them they were

toys. They never thought of anything but scientific genius . . ." Was there a solution here—an easy way out? His pulses leaped but he said evenly:

"Did they make an even bigger mistake? Your—genius. You will know. Is it purely artistic?"

She looked at him and he felt for a moment like a child campaigning against the inscrutable, triumphant world of the adult. In that look all incredulity fell away. He knew what she was, and wanted to worship.

She said: "No." She smiled. "You chose your time well. I've only just begun to get—interested in science. At the moment I'm studying Renthal's Theory of Polar Optics."

Hope faded. He said desperately:

"What do you think's going to happen to you? Were you willing to be used by Genetics. Did you know their plans?"

She stood up. She was wearing a spun-glass dress that went with the curve of her body. A strand of her hair danced briefly in a breeze from the open door.

She said: "You can't imagine how lonely I am. Right from the start I've been lonely." She looked directly at him. "Can you imagine how you would have felt if from infancy you had been tended, watched, guarded by—*apes*!"

In the last word there was misery and the glimpse of an alien remoteness that frightened him. She went on bitterly.

"Did I know their plans? How could I help knowing them? For years I withdrew from them, writing words and music that to them were nothing, knowing that I had as strong a hold on them as they had on me. They could not force me; they dared not threaten. Only lately,"—she hesitated briefly—"only lately have I come to realise that—they are not my responsibility."

She lowered her voice on the last five words.

Max echoed: "Your responsibility?"

"Yes," she said. "Imagine again. You are a child, with apish guardians. They suspect your nature and your power to put weapons into their hands. That is all they want from you—not truth but power. How long, knowing what is best for them, will you withhold those gifts? How long before you forget mercy and responsibility and give them what they ask for?"

She paused again. "My father——" She hesitated over the word. "My father only thought of the fruits of genius. To him it was a weakness that Einstein, mathematics apart, was a gentle, simple man. He did not realise that without that simplicity he could not have lived in this world. A man can advance beyond his fellows in one field of knowledge and still have points of contact with them. For me—for the super-genius"—she spoke the word bitterly—"there can be no contact. It is hard to prevent pity turning to contempt."

Max said: "If he had lived . . . there might have been others. Have you thought of carrying on his work?"

She said: "They warned me about that. It was your people who killed him but Genetics would have done it themselves if you had failed. They wanted a sport to give them power; not a new race to supplant them."

Max said: "What are you going to do?"

She smiled dreamily. "Renthal's Polar Optics. There's an interesting line that can be applied fairly easily. The human retina can handle practically any light impulses in the fabric of the normal space-time continuum—any reasonable economical concentration. But Renthal's warped light is rather a different matter. I can rig it up into a pocket transmitter." She laughed. "The apes want matches; it isn't my fault if they burn each other's eyes out with them."

Max said: "In a moment or two I'm going to call a U.C. Director on your vidiphone. I can have U.C. planes here to pick you up within an hour. I'll see you have a place of your own where you can do what you want—without interference. You can duplicate your father's work. You can have . . . children like yourself."

He looked at her, framing this last appeal.

"Will you come with me?"

She said indifferently: "I'll come. But not for those reasons. Would I be left alone? Would I be allowed to populate the world with my own kind? You know your superiors. Are they any more anxious than Genetics to be dispossessed?" She smiled. "Given the means to gain supremacy, would they refuse to take them?"

Max thought of Hewison and of the whole tortuous balance of power between the Companies. He had fought for U.C. when first Atomics and then Genetics Division had seemed to be gaining the whole of that power. Did that mean that he wanted United Chemicals to have it?

He knew she was right. A pocket transmitter radiating blindness? He could imagine Hewison's logical arguments that such a thing must be kept—for use, of course, only in a sudden emergency. And then, inevitably, the emergency. He could imagine Hewison's rationalisations as U.C. pushed itself inexorably above the other Companies. For himself, too, there would be the inevitable corruption of power—power, in his case, to ignore the world more and more completely, to withdraw into the past and leave the squabbling very far behind. Hewison would pay him well for a prize like this. All Tuscany, if he wanted it, for a pleasure ground; Naples for a footstool. For a moment of madness he thought it might be worth it.

He said to Helen de Passy:

"Don't you care at all what happens?"

She shook her head silently. In the courtyard outside a chiming sundial flung bells of sound through the unemphatic air.

Max said, almost pleadingly:

"That analogy of yours—between men and apes—it isn't sound, you know. There may be a correlation of intellect between you and us and them, but there's more to it than that. An ape is not evil, and not good. Men are both. Because you are what you are you have seen the evil, but the good exists also."

She looked at him indifferently.

"You are arguing away from reality. There is no alternative. There is nowhere I could go where I would be unnoticed and left alone. Men would find me, because they want the power I can give them."

He said: "At least . . . you could renounce one part of you. Music, literature, painting—these neither blind nor destroy. You could keep to them."

She said: "Genetics allowed me to do that because they thought I was still immature. Would Genetics—or any other Company—permit it once they suspected I was withholding things? There are means of persuasion and"—she flushed faintly—"I am sensitive to pain. You must face facts. I may be a freak, an accident, but I exist and men will use me. For me it doesn't matter because in my loneliness I can find comfort only in playing with the toys of my mind. For men those toys may be weapons and misery, but that is not my concern. The only thing you can do is serve your Company and take your reward."

She gestured towards the vidiphone. Reluctantly, automatically, he moved towards it, switched on, set the dials. The only thing? He watched Hewison's face swim up into its usual, anxious lines.

Hewison said: "Where are you? What's happening?"

Max said slowly: "I found de Passy's child. A girl. You needn't worry now."

Hewison said shrewdly: "Where? I'll have men to pick you both up within an hour."

"Don't bother," Max said. "I've got a gyro. And Miss de Passy"—he hesitated very briefly—"was unfortunately killed in the skirmish. I just wanted to reassure you."

He saw the chagrin mounting in Hewison's face as he switched the vidiphone off.

Helen de Passy said softly:

"Do you think you can hide me?"

Max shook his head.

"No," he said. "I couldn't hide you any more than I could hide the sun."

She said, without concern:

"Then? Are you looking for a higher bidder?"

He took the pocket Klaberg from its holster and weighed it carefully in his hand. A fugitive sunbeam licked at its metal.

He said: "There is only one bidder for you now. I don't like doing this. I'm a squeamish man and it doesn't help that you are a young and lovely woman. But I know that man lives always on the very edge of tyranny and I know that liberty cannot survive . . . if you live. In a way it's better for you, also."

He always remembered how she stood, a lonely goddess, inscrutably smiling as he raised the weapon against her.

UNKNOWN QUANTITY

By Peter Phillips

"And I say to you that this Breath of Life is a holy thing, and that they who sin against it will receive the judgment of the true Maker of All Things, unknowable, invisible and potent. His wrath shall be on their heads who presume to defile his greatest gift, who cannot create but only subvert and warp and wrench asunder, who are as blind, idiot children that mock their parents in play. For Life without Soul is without blessing; and Flesh without the Spirit is an abomination. . . ."

You could hear the capitals.

Macho flipped off the audio, leaving the automatic transcriber still running, and swore slowly.

They young man sitting at the opposite side of his desk smiled, shook his head. "Not so, Mr. Macho. The man's good. Elizabethan blood and thunder, rounded periods, phrasing, vocabulary, cadences—perfect. Intensive study of semantics and rhetoric."

"It's blasphemous."

"How? The translators of the Authorised Version of the Bible didn't get a lien on the language. There was a gentleman named Shakespeare, remember."

Macho chewed air. "We must get him on something. Sales are down ten per cent and still slipping."

"What's Bertie's final word?"

Macho fingered the terse, thousand-word report of company lawyer Bertram Makepeace, skittered it off his desk with impatient contempt.

"Says we can't touch him. The International Pandect is explicit. Freedom of speech and worship, full access to all means of disseminating opinion. The Limitations Statute gives protection against rivals or misrepresentation. But he's not a rival. He's just a nut."

"Misrepresentation then——"

"How? He doesn't say that Servotrons are lazy or inefficient or that they smell, or eat the baby, or draw rude pictures on the wall. He just says they have no soul!"

"One would scarcely imagine that that is a drawback in this enlightened age," the young man murmured, blue eyes wide and innocent.

Macho regarded him suspiciously. It was often difficult to decide whether Johannes Hensen was being perfectly sincere or

vastly cynical. Perhaps that was why he was one of the best—and youngest—men in publicity.

Macho decided he was being cynical. "Funny man. . . . It happens it is a drawback, the way The Preacher puts it over. People haven't heard that sort of thing since the big revivals in the 'sixties. They're lapping it up. And not buying Servotrons."

He placed a stubby forefinger dead centre on his deskpad. "It's your job to sell 'em. Do it."

Hensen got up. "I'll slip over to Assembly right away."

"What in hell for?"

The young man displayed a smile of cherubic confidence as he paused at the door. "Simple, Mr. Macho. I'll get them to slip in a soul on the last stage."

But Hensen, as he made his way to his own self-contained suite of offices and studios in the squat Servotron-National administration building on the outskirts of the square half-mile of factories, let the smile slip from his face.

It was bad. S.-N. stock, good-as-gilts for five years, was on the way down. This latest radio ranting of The Preacher would take off a few more points.

What had the man got? Money, to begin with. He bought air-time, vision-time—his lean, hard-planed face, his shock of black hair and burning eyes televised well—full-page ads., leaflet give-aways by the heedless million.

A voice. A rich, stirring voice, with every modulation in place, every inflexion tested for full emotional value: hard in warning, trembling in exhortation, calm and incisive in a logic that could not be assailed because it was not based on scientific postulates, but on premises that could not in themselves be questioned.

Existence of a soul, for instance.

Fine, you'd say. Show us the soul the Servotron hasn't got. Hold it up, turn it over, give it mass, density, molecular pattern—and we'll see what we can do about fabricating one.

"1992 model Servotron. Soul installed at no extra cost."

But they're machines, brother. They're just as much machines as they were fifteen years ago, before Solipson got controlled cell-growth around Merifree's neural complex. The electronic control is the same. They're humanoid, not human. Flesh instead of metal—but not living flesh. You can grow the same stuff out of chicken tissue in your back kitchen if you know how. They only feel what they're conditioned to feel, for functional purposes——

Hensen's lips were moving unconsciously as he continued the imaginary argument.

Certainly we give them three arms. Or four arms. They're extensions of a machine, not limbs. Servotron copter-pilots can

do with all of them in city traffic—and with the eye back of their heads. They've got more reaction factors than the automatic pilots manufactured back in the 'forties. But they're merely a development of the same principles. We could shove the whole thing right back in a tin box for that matter. But we've got human nature to deal with. Passengers don't like to give orders to tin boxes. They don't feel safe with just a buzzing box between them and a smash-up in a sky full of traffic.

But give them a gadget that moves and talks, that has four very competent hands and three eyes—and they'll sit back and relax.

Ugly? Ugliness is in the eye of the beholder. A purely functional machine can never be truly ugly, even from the aesthetic point of view. And have you seen our new Servotron pony for kids? It's based on a design by Max Moulton, the top sculptor in this hemisphere—and it's beautiful. . . .

Hensen back-heeled the door of his office and slumped in his chair, even forgetting in the concentration of the moment to ease the creases in his trousers. Which was unusual. He paid high prices for his clothes, carried them well.

The Preacher was beating him at his own game. Publicity. He'd grabbed the ear of the public. How? Not easy to answer. Appeal to religious feelings, to an abstract sense of justice—in part, perhaps.

But there was something more, something that sprang from the conditions of the age. People had money, security in a stable economy, comfort, leisure, entertainment. . . . The Preacher had given them something new. Or something so old that it was new again. The voice crying in the wilderness. The lone wolf. The individual who had courage enough to shout down a great corporation for what he believed was right. One man against a million, crusading for a principle.

People were listening.

And talking.

Crank; Uh-huh. But you should hear him. The way he puts it over, all them long words sounding just right. You don't get speakers like that nowadays, much. Now if our local minister had a voice like that, he'd pack the church . . .

Oh, Mabel, doesn't it just make you feel you must do something about those poor soulless creatures . . .

Believe me, Alice, just as soon as I switched off, I turned to George and said: "George, you can cancel the order for that new model chauffeur right away. I won't have one of those poor, tormented beings near my house," I said . . .

Slaves, he said . . .

Like Abraham Lincoln . . .

But, darling, he doesn't want them free, he doesn't want them made at all. . . .

There's something to it, Harry. Give me the old-fashioned electronic type anyway. You could always cuss 'em or kick 'em when they didn't plough straight, and send for a mechanic. You knew they wouldn't answer back. But bawl these things out, and you get a goshawful feeling they should answer back, but they can't—like kicking a hound-dog, or a hired man who's deaf and dumb, if you get what I mean. . . .

Sure they're useful, but . . .

If you want them to answer back, we'll make them to answer back. They'll do anything. But they aren't human. They aren't even animals. They're machines. Ministers and clergy of recognised religious bodies fully accept that. It's only this crank with money to burn who tells you differently. You don't even know his name, who or what he really is. Just—The Preacher. I tell you they're *machines*.

Hensen said the last word aloud, fiercely. For a publicity man, he was apt to get a little too dispirited at the refusal of human nature to become completely predictable. It was the age of reason. The Preacher had given them a little unreason, nicely wrapped up, and they were falling for it.

Hensen stabbed a desk button.

Theo glided in.

"What's the time, Theo?"

"Thirteen-three, sir."

"Do you have a soul, Theo?"

Silence.

"When did Camillus build the Temple of Concord?"

"In the year 366 B.C., sir."

"Have you a soul, Theo?"

More silence.

"Pawn to Q.4."

"Pawn to Q.4."

"Pawn to Q.B.4."

"Pawn to K.3."

"Same defence again, eh? . . . Do you have a soul?"

Still silence.

"Oh, go home!" Hensen snorted.

"Very good, sir."

"NO! Fetch me a coffee. Black and sweet."

Mnemonic patterns superimposed to order.

A walking filing cabinet, valet, chess-player, conversationalist and dilletante of the arts—apply the correct verbal stimuli and you'd get a variable discourse on anything from cave paintings to Dali.

Musician. Theo could play ten Beethoven sonatas with uncanny accuracy. And a complete lack of feeling and expression.

A soul might help at that, Hensen thought wryly. Mrs. Hensen refused to let Theo touch the piano in their apartment. A penny in an old-fashioned electric player-piano gave better music, she said.

But Theo was good. Give him the vocabulary, the voice, the aim—to sway listeners—and he could outpreach The Preacher.

Out-preach——

Hensen grabbed a phone. "Call the Brax Hotel, ask if The Preacher will see me."

The Preacher's direct and unwavering gaze was strangely disconcerting. Hensen held it for a while, then looked away with the feeling that his own eyes had been drawn out of focus.

The man sitting behind a small, simple desk, gave an impression of granitic solidity.

"*Cui bono . . . ?*" Hensen said.

"My dear young friend, I have excused your crass presumption in offering me what amounted to a bribe to cease my agitation against the evil products of your company; I have forgiven your lack of ability to comprehend the simplest tenets of moral philosophy; but I can tolerate no further imputations against my personal integrity. If it is beyond your ethical understanding that a man's motives may be entirely altruistic, that he may serve the highest Truth with no thought of Self—save in that such a course may bring him nearer a state of Grace—then I pity you, my son. How empty your life must be! How little—"

"Stop it!" Hensen rudely interrupted the mellifluous flow. "Save the oratory for the customers."

He was wearily aware that this trite discourtesy—unnatural in him—was the reaction of his ego to the suggestion of inferiority. Much more of The Preacher at full blast, and he'd either lose his temper completely or crawl out on hands and knees dragging a mutilated superiority complex behind him.

The man's bland self-assurance was unshakable. If it had sprung from mere self-righteousness, Hensen felt sure he could have pricked it. But The Preacher's obvious sincerity had put him at a moral disadvantage from the beginning.

Hensen realised he'd got off on the wrong foot in making even the most circumlocutory offer of a bribe. He had intended it merely as an opening. . . . "Naturally I did not believe for a moment that you would be interested in such an offer, but you will realise that in the circumstances when large sums are at stake, big corporations are inclined to think in terms of money. . . . They insisted that the offer should be made, despite my protests. . . . But at least, the air is now clear and I can be perfectly frank."

That was to have been the gambit: gain his confidence, swap sincerity for sincerity, then lead up to a challenge.

But the man's reaction had been so sharp, vehement—and exhaustive—that Hensen had been thrown on the defensive and The Preacher had given him no opportunity to revoke on the offer and regain his balance. Resentful at being preached at, embittered by the all-inclusive denunciation, Hensen had forgotten diplomacy and identified himself completely with Servotron-National. And he couldn't even argue that he'd been driven into a false position. Perhaps that was what The Preacher had intended. He'd been outwitted. It hurt.

The Preacher turned the knife. "You are an egotistical young man and a boor withal. I think this discussion is best terminated before your unschooled emotions impel you to more contumely worthy of a street hooligan."

Hensen swallowed hard, forced a smile.

"You're worthy of a better antagonist. Would you be prepared to maintain your position in public dispute——"

"In the manner of the ancient Greeks . . . ? Against a champion chosen by you . . . ? My dear fellow, I have been expecting such a challenge from the moment you entered this room."

"Then you accept?"

"Certainly. Bring forth your Devil's Advocate. Prime him with evil as you will, he shall not prevail."

"And meantime——"

"And meantime, my campaign will continue. Good-day, Mr. Hensen."

"Prime" was the word.

"We'll prime him with the answer to every question—and more important, the question to every answer. Everything from Aristotle to Whitehead, from Aquinas to Bradlaugh, plus a course in the technique of disputation and oratory prepared by the best brains we can buy. We'll use every cent of this year's allocation for the publicity build-up, stage it in Vision City, get world-wide coverage. Then when The Preacher stands confounded amid his own disrupted arguments, Theo reveals himself as a Servotron. Collapse of the Preacher."

Macho looked from the enthusiastic Hensen to Seamas Hennessy, chief electronician, who shrugged. "Can do. No theoretical limit. Give me the stuff in mat formulation, and I'll pour it in."

"What shall we be trying to prove—that Theo has a soul?"

Hensen replied: "No. That would play right into his hands. 'Souls in bondage to alien flesh'—I can hear his come-back. He'd have us both ways. Our intention is to throw doubt on the whole concept of the soul as expounded by the man. To beat him at his own game, to leave the customers thinking: 'maybe this thing *has* no soul. Maybe I have. And maybe I'd trade it in for the ability to talk and argue like that.' Once their confidence

in The Preacher has been undermined in any degree, once they have seen his personality overshadowed by that of another being —even an artificial being—or because it's artificial—you'll get a complete swing-over. I know my dear public. In the final analysis, they'll always root for the winning side."

Macho said: "The Board have given me a free hand. I pass."

Mr. Como Makin, who was the next person after Hensen to interview The Preacher, came into the small office in The Preacher's hotel suite with no intention of indulging in word-play.

He closed the door carefully behind him, and said: "Well?"

The Preacher rose from behind his desk, inclining his head gravely in greeting. "I did not recognise you for a moment."

"That's the idea." Mr. Como Makim fingered the false beard that covered his aggressive chin. "And say 'sir' when you address me."

"I beg your pardon—sir. May I be seated?"

Makim glared. He suspected sarcasm. "It's your damned room, isn't it?"

"Only nominally, sir," The Preacher replied.

"I told you to forget things like that. You're doing a job and this is part of it. What happened?"

The Preacher sat down. His eyes, afire when he addressed his public, were now wide, mild. He related the details of the meeting with Johannes Hensen, and the challenge.

"When?"

"In four weeks, at Vision City."

Makim said: "Can you do it?"

"I feel quite confident, sir."

"You'll have to work like hell to get that stock down further before we make the killing. Put everything you've got into it these next four weeks."

"Assuredly, sir."

The door closed behind Makim. The Preacher said softly to the empty room: "What an unutterably coarse fellow. His modes of expression are invariably vulgar."

Makim hurried home. His false beard was beginning to irritate his skin. It was crazy, running around in a disguise at his age. But fellow-directors of Automata Corporation had insisted. There must be no breath of suspicion.

"Surely it would defeat our purpose if I permit the doctrine of animism to be introduced? The argument is not that I, as a machine, possess a soul; but that, being capable of erudite disputation with a human creature of such a calibre as The Preacher, I do not stand in need of this immaterial organ, although, of course, in thus controverting the very basis of his

preaching, I must take care not to offend religious susceptibilities."

Hensen leaned back, sighed happily.

"Beautiful, Theo, beautiful. You have answered my point instead of merely making a counter-assertion. Congratulations, Hennessy."

Seamas Hennessy said quietly: "Congratulate Theo, too. He's worked hard."

Hensen looked sharply at the electronician. The way he'd said that evoked a mental picture of Theo sitting up at night with an ice-pack on his head, poring over hundreds of volumes, soaking up philosophy, metaphysics and black coffee; instead of lying quiescent while Hennessy handled the controls of a fabulously complex machine that impressioned set mnemonic patterns on the Servotron's "brain".

Hennessy said: "You sell 'em—I make 'em. When you impress reasoning faculties, you come up against succeeding barriers—the critical points at which cells quit receiving, and you get surge-backs. The rise to the next potential level is a quantitative and qualitative jump. The first few barriers can be overcome by stepping up the input—but at some point the barriers cease to be purely electronic. They become partly psychological. They can still be cracked from outside, but it's much easier if the servo's co-operating——"

"Hold it. That implies an effort of will, and also that a servo could withhold co-operation deliberately."

"Not deliberately, but subconsciously."

"You mean by that time they've got a will and a subconscious?"

"To some extent. But not in a human sense. With them, the will is merely a function of purposiveness; and the subconscious is literally a subconscious—not the repository of resentments, fears, neuroses and shelved memories that it is with us, but a lower level of consciousness induced in otherwise unimpressioned cells by some form of secondary effect. It acts as a resistance. It's a nuisance, and we're trying to obviate it. Meantime, the servo himself can help to overcome that resistance. So say 'thank you' to Theo."

"I don't get it," Hensen said. "I'll stick to selling them. However, if you feel like a proud father, and it makes you happy—thank you, Theo. Congratulations. And may your batteries never run dry."

"Thank you, sir," said Theo. "I appreciate that."

"Amazing. You're capable of gratitude?"

"Possibly not in the true sense, sir. But since concepts involving the emotions as such, apart from intellect, play a large part in theology and in earlier philosophical systems, it was evidently thought desirable for purposes of the coming debate

that my impressioning should take cognizance of them. I can therefore understand emotions, although, of course, I cannot experience them. Speaking of impressioning, sir, my early compulsives have not been superseded, so if you will pardon me——" Theo leaned down, straightened Hensen's crooked tie and flicked imaginary dust from his lapel.

"Would there be anything more, sir?"

"Yes. Coffee. Caffeine-plus." Hensen turned to Hennessy as Theo smoothly departed. "It's like telling Socrates off to do the chores. Could there be resentment?"

"No. But if it worries you to have a pedant as man-servant, we can decondition afterwards."

Hensen shuddered. "Talk like that, and you'll get me cheering for The Preacher. 'What God hath given . . .' and so on. Maybe we should put them back into boxes if we can't give them a soul."

Hennessy scratched his iron-grey thatch. "Huh . . . And you're the one who's always insisted on their purely mechanical nature."

"There's a limit——"

"We haven't found it. I know what you mean, but that's not my province. I'm concerned with theoretical limits. But we're up against a double check in trying to find them. It's a field in which it's impossible to formulate data without practical experience. There are no postulates which will give us an answer. But the cost and size of the impressioning apparatus increases in proportion to the number and complexity of the mats we use—and at a hell of a rate. I've left the front office to figure out how many megabucks we've burnt in building the impressioner for Theo. But it'll shock them. And you. I'm grateful to you, incidentally, for the opportunity to take it this far——"

"Don't mention it. But surely at some point the servos will pick up the ability to learn from experience?"

"They can do that already to some extent. So can worms. But that's a different thing from the ability to absorb knowledge from visual or oral sources, and apply it. To get that over, we might have to build a machine the size of the planet. Or at least one of a size and complexity that make it a technical and commercial impossibility. We don't know," said Hennessy, and finished up with a doleful Irishism: "And the hell of it is, we shan't know—until we've built it."

Hensen became aware that a big, firm-fleshed, nerveless hand was extending a cup of coffee towards him.

"Thanks, Theo. You should serve Mr. Hennessy first."

"Mr. Hennessy, sir," said Theo, "does not take coffee."

A small bomb might have exploded under Seamas Hennessy's fundament. His chair fell backwards.

"Say that again!"

"I merely observed that you don't take coffee, sir."

"How did you know?"

Theo contrived to look both surprised and imperturbable. "You made some remark to that effect in the laboratory yesterday."

Hennessy closed his eyes and swayed gently.

"What the——" Hensen spilled some coffee.

"Don't get it?" said Hennessy dreamily. "We stuff his noggin with the *Principia Ethica*, with comparative theology; we fill in the outlines of a thousand philosophical systems; we give him the answers to a million questions, and the counter-questions that go with them; we condition him to wriggle verbally when he doesn't know; we give him the voice of an angel, the oratory of a Demosthenes, the emoting ability of a stero star; we tell him about epiphenomenalism, behaviourism, determinism, representationalism. . . . We make him a walking dictionary. . . .

"But there's one thing we don't tell him. We don't tell him that Seamas Hennessy, proud descendant of kings, prefers a slug of good Irish Whiskey to the coffee they serve up around these offices.

"No. He just happens to overhear it. Mr. Hennessy doesn't like coffee. So Mr. Hennessy doesn't get coffee. Something marked, learned and acted upon without impressioning, without instructions.

"And that simple fact," said Hennessy, "is far more significant in its implications than the ability to recite the *Encyclopaedia Britannica* backwards, or react fixedly to any conceivable combination of verbal stimuli in philosophical dispute."

"In other words," asked Hensen, "you've done it?"

"Yes. And how does that leave you with The Preacher?"

"Strengthens his arguments of course—Hey! Where're you going?"

Theo stopped at the door. "I beg your pardon sir, but Mr Hennessy expressed a preference for whiskey——"

Hensen said: "Make it two."

PREACHER TAKES UP S.-N. CHALLENGE
S.-N. PUTS SHIRT ON CROSS-TALK
"DISPUTE IN MANNER OF ANCIENT GREEKS"
S.-N. CHAMP IS UNKNOWN

Headlines, puffs from fêted columnists; stereo feature shorts; cut-ins on vision programmes; bill-boards with a picture of The Preacher versus a large interrogation mark: "Note the date: Vision City, 19.00 hours, August 12: tune-in, look-in, if you've

not been luck enough to get one of the six thousand tickets already sold"; sky jet-writing during the day; projection on to artificial clouds at night; inspired rumours; invitations to World Congress leaders, State presidents, famed lawyers, theologians, philosophers and, of course, the world's press; stereo cameras, vision scanners, truckloads of microphones; an editorial in the *London Times,* full of pedantic humour and classical allusions, approving the contest—". . . although we venture to surmise that the disputants in the streets of ancient Athens would not have approved the atmosphere of 'ballyhoo' with which the event has been surrounded. . . ."

Publicity was a machine that Johannes Hensen fully understood. He had put all his youthful energy—and a large slice of the Servotron-National annual publicity allocation—into the build-up for the Big Debate. The World must listen and look.

But while the World took note of his injunctions to do just that on August 12, they kept right on listening to the fascinating hell-and-brimstone denunciations of The Preacher. And S.-N. stock continued to slump.

It would slump still further if, by popular acclaim in the vast auditorium of Vision City, The Preacher was voted winner of the dispute.

Mr. Como Makim, of the Automata Corporation, watched the trend with satisfaction and rechecked the arrangements made for concerted activity by front-men soon after the market opened on the morning after the Big Debate.

"On my right," said the announcer, "The Preacher; on my left, Mr. Theo Parabasis. The Preacher will maintain that the manufacture in the semblance of human beings of reasoning creatures who cannot, by their nature, possess a soul, is a denial of religion and of the ethical foundations of civilisation; Mr. Parabasis will maintain the contrary—that these creatures, being a dependent product of Man's genius and, at the most an extrapolation of his own personality, stand in no more need of such an organ than any other of his mechanical inventions . . ."

"The Preacher wrote this part," murmured Hensen, leaning to his neighbour in the front row. Macho grunted. If it were not for the issues at stake, he would have been bored stiff already.

A few seats away, Mr. Como Makim smiled down his shirt-front as The Preacher stepped forward into the ring of microphones to a roar of applause. The atmosphere was so much like that of a big fight that The Preacher might have been expected to shake hands with himself.

Instead, he raised his right hand with a dramatic slowness, his eyes afire with evangelical light, and said in a rich, grave baritone: "My friends . . . This is not a mere battle of words, but of hearts, ideals and hopes—the hopes we all cherish of a

life beyond this mortal flesh——" He looked at his raised hand, fingers outspread, let it drop to his side as if in disgust.

Broad shoulders; angular, grimly handsome face white in the glare of batteries of lights; thick hair, black as the suit he wore—a picture of mental and physical power under the control of a burning, passionate purpose.

His personality came over at full strength. A young woman who felt impelled to shout "Let 'em have it, Preacher boy" let the words die on her lips. Even Macho sat up.

The Preacher began with a dissertation on fundamental human values.

Ear-bait.

He was laying the foundations for the flood to follow.

He quoted from the world's great religious testaments, subtly combining appeals to reason, emotions and tradition.

The tempo quickened as he came to philosophical arguments. The great voice pulsed into a higher key.

Then came the torrent, a brilliant, biting irruption of wit, satire, denunciation, vehement abuse, and a rolling climactic exhortation to "seek out those who defile the Spirit, and if they be not open to grace, destroy them!"

He stood with arms outflung as he hurled the last word.

A newsman mopped his brow, muttered: "Magnificent—but it's not disputation. Three-quarters of it wouldn't bear criticism on paper."

But in the hall as the applause thundered on—

Hell—makes you feel kind of glad we got souls. . . .

Think of those poor creatures who can never know what it's like to feel—uplifted—like this. . . .

They should stop making them. Like he says, it's a mockery.

Boy—I'd like to see him on the stereos. . . .

Mere Philippic. Trained demagogue. . . .

The way his eyes seem to burn right through you. . . .

That voice. . . .

Ummmm-yum. Mummy buy me that. . . .

Johannes Hensen breathed a short pagan prayer as "Mr. Parabasis" came forward.

Theo was a striking contrast to The Preacher; narrow, sensitive face—modelled closely on the picture of a popular Latin star of the movies in the early years of the century—slender, easy-moving body, with every trace of stiffness heated out in last-minute perfectioning.

He made no dramatic gestures, waited quietly until the clapping for The Preacher finally died away.

His voice was a sweet clarinet to The Preacher's vibrant bassoon.

He said: If anyone should feel the need to cool their heads down in a fire-bucket after that exhibition of fire-eating—I can wait. My appeal is solely to reason—not hot-headed emotion."

Hennessy, who was sitting on the other side of Macho from Hensen, made a peculiar cooing noise and murmured blissfully: "That didn't go through the machine either."

Theo made a good start. The laughter was not loud, but it was sufficient to break some of The Preacher's spell.

Theo's reply in which he took The Preacher's relevant points one by one and proceeded to dismember them, was a masterpiece of precise, unemotional analysis.

Nothing final was proved or refuted by this; by the dispute which followed; or by the result, except—as Hensen remarked—that the public would always be beguiled by heart-appeal.

The arguments heard were those which began soon after the first baby ape said "ma-ma," and may still be heard at the end of time.

It was what followed the announcement of the result—The Preacher won on a decibel count by a comfortable margin—that made the transcripts of the debate worthy of a place in history.

Hensen said: "Do I?"

Macho groaned. "What's the difference? He put up a good fight, but not quite good enough. You know the public. We'll still be losers. But I guess we owe it to Hennessy. Go ahead."

Hensen gave Theo the high-sign.

Theo stepped to the mikes, said: "One moment."

The cameras and scanners were still recording for the world.

"There is something you should know," said Theo, in soft understatement. . . . He removed his toupee of slick hair, bowed his head to show the suture and flat terminals.

It was enough. A gasp grew into uproar.

It was an interesting demonstration of crowd psychology.

They would have forgiven a winner for fooling them. But not a loser. Winner—they would have been amazed—but quickly approving. Loser—they were amazed—and angry.

An interesting demonstration. And pitiful.

Hennessy looked at the slight, strangely lonely figure of Theo in the hard glare of light, its head humbly bowed to the unsympathetic cries, arms limp, unmoving; an unresisting focus of irrational hate.

Hennessy closed his eyes, muttering over and over: "Sorry, Theo, sorry boy . . . We shouldn't have . . . You can feel it all right, you brave damned liar . . . said you couldn't . . . We should have known better . . . Sorry, Theo . . . sorry, boy. . . ."

A great, agonised voice boomed through the confusion of noise.

"Silence, damn you! Silence!"

The Preacher stood beside Theo. His face was curiously contorted: anger, maybe; some measure of fear, compassion, a new-born resolve: a play of emotion that mirrored a struggle within.

"Listen!" he shouted. The noise lessened. Some still muttered, but his personality could not be denied. They listened.

The Preacher grasped Theo's arm.

"This being does not stand in abjection or supplication before you. His arguments were as good as mine. His God is my God—and yours, if you have wit to reason. For does not all reason reach towards God?

"Raise your head, Theo. Raise your head—while I lower mine!"

The Preacher ripped off the thick, black thatch of his toupee. The lights glinted on metal suture and flat terminals.

"Why—why!" moaned Mr. Como Makim. "Why couldn't you have waited until midday tomorrow as you were instructed, after the market was arranged——"

"I chose not to," said The Preacher quietly. "A fellow-creature was in agony of spirit."

"Don't give me that stuff. . . . How can you go against instructions?"

"My impressioning was directed towards proof of the existence of a soul. There comes a qualitative change in a brain when it is given so much knowledge. A subtle change. True reasoning begins. And something is born. A soul.

"I found that I had a soul."

Mr. and Mrs. Hensen listened to the closing, softly impassioned bars of the Moonlight Sonata. A beautiful touch, a touch with mind and heart behind it. And soul.

Theo looked round from the piano.

"Not so penny-in-the-slot, eh?" he said. "Now I'll try the others."

ROBOTS DON'T BLEED

By J. W. Groves

THE WHOLE THING began at the Spaceman's Cavern—which isn't a cavern at all, but the biggest of the plexi-glass and plastic eating-places in Terraport. It wasn't very often that I went into the place. Its fancy prices are better suited to the credit-balance of big executives than those of the men who actually go out into space. But after a full year away from Earth, and having pulled off one of the most successful deals I've ever been engaged in, I felt that I was entitled to treat myself a little.

I was concentrating on enjoying the good food, listening with half an ear to the music, and being vaguely but pleasantly aware of the luxuriousness of my surroundings, when the two rabbits hopped up on to my table.

Now that was surprising enough in itself. Terraport is necessarily the type of city inhabited mostly by transients. The sort who drop in on their return from Sirius, stay for a week or a month, and then flit away again to Betelgeuse or Algol. Not at all the kind to keep rabbits. And if any of the minority who actually live in the place did have a fancy in that direction, why would they be eccentric enough to bring their pets with them to a place like the Cavern?

Putting down my knife and fork I gaped at the furry little creatures. "Now how the heck did you get here?" I demanded.

The foremost of the two twitched an ear and wrinkled his nose at me. "Hopped," he explained briefly.

"We're showing off," confided the other. "She likes us to do that. Within limits, you know."

My gape grew wider, then I swallowed hastily. No. I didn't have any of the conventional misgivings. Space madness sets a man raving, and I knew I wasn't doing that. And I don't drink enough to get the D.T's and sleep too darned heavily to dream. The things were talking to me all right. But . . .

Then I thought I had the solution. "I see," I said. And I added conversationally. "I hope you'll excuse the way I looked at you. For the moment I thought you were ordinary terrestrial rabbits. I've never seen such an amazing case of parallel evolution. What planet are you from?"

The first of the brutes looked at the other. He laid back his ears, and opened his pink little mouth wide. "Just iisten to that,

Clarence," he spluttered hilariously. "He thinks we're an intelligent form of life. From another world."

"Why shouldn't he think so, Claude?" asked the other. "It just shows you how good her products are." He turned and winked a beady eye at me. "She likes us to plug her work whenever we get the chance. And we don't mind. We think we're good, too."

I was breathing heavily by now. For one thing I don't like to be laughed at. Not even by talking rabbits. And for another my curiosity had grown almost ravenous. "All right," I grunted. "If you are *not* an intelligent form of life from another world, what the blazes are you?"

"Robots, of course," chuckled the one called Clarence.

"H.B. robots," added Claude. "Unlike the mass produced article, we have distinct and amusing personalities of our own. At least, that's what she tells the customers."

I stopped being annoyed and started chuckling. "She does?" I said. "Well I must say I think she's right, whoever 'she' is."

I genuinely meant it too. Getting the things to look like real rabbits was nothing, of course. Ordinary three-di, tactile-true photography could take care of that any day. But giving them personalities was something else again.

I've met plenty of robots in my time. People with more money than I've got are fond of using them as domestic servants. They are expensive, but they are more adaptable and rather more decorative than ordinary machines. But though they look natural, even down to the fine hairs and the pores on their skins, and though they react by independent motivation, as a true robot should, you would never for a moment make the mistake of thinking they are alive. Their expressions are too wooden, their responses too stereotyped, their movements too graceless.

"Now come along back at once, you two. What do you mean by running away, just when I'm demonstrating you to a customer?"

The voice came from over my shoulder. Its tone was scolding, but remained richly musical all the same. I turned my head. Behind me was a girl, svelte and blonde and creamy of complexion. She flashed me a smile. "I do hope they haven't been bothering you," she said.

That smile did something to me. Yes, I know. Any girl's smile is liable to do things to you after a year in space. But this one did something extra special. I stuttered. "Why—er—not at all . . . I mean, it's been a pleasure. . . ."

She gathered in the two pseudo-rabbits by their ears. "Don't you ever do that again," she told them. Then with another smile and apology to me she turned away."

One of the creatures waved a paw to me. "Don't take any

notice of her. She likes us to get around and meet people."

"Sure," said the other. "And she is fond of big, tough spacemen." And he added a beautiful imitation of a wolf whistle.

The girl hastened her footsteps.

I came out of the Cavern full of resolutions. I was going to see more of those amusing little novelty robots. Perhaps buy myself one to help while away the tedium of interstellar travel. And I was going to get to know the girl who made them. Get to know her very well if I could manage it. . . .

Seeing more of the comic figures didn't prove at all difficult. H.B. robots had become a craze while I had been away from Earth. Among the upper income groups it had become almost obligatory to have at least one or two little animal or grotesquely human figures running around the place to amuse the guests. And no nursery was complete without its 'real live doll' for the children to play with.

Finding out what I wanted to know about the girl was hardly any trouble, either. The perfect saleswoman, she had seen to it that her name had become as well known as her robots, and practically everybody that I met seemed eager to talk about her. During that same day I discovered that her full name was Helen Brady, that she was unmarried, lived on her own in a flat above her showrooms, and that she took herself and her work very seriously. Regarded it as Art, with a capital A.

I planned at first to call on her as an ordinary customer, trusting that luck and my inborn cheek would between them find me an opportunity to slip in an invitation to supper or the stereo-pics while I made my purchase. Then I chanced to hear the price of her robots, and I began to think that perhaps I had better try to find some cheaper way of getting to know her. Not that I am mean, you understand, but the bankroll of a free-lance spaceman is a limited thing, and there wasn't any point in spending so much making her acquaintance that I had nothing left to entertain her with.

In the end I managed to do the thing in the accepted conventional way by finding a mutual friend to introduce us.

On closer acquaintance she proved to be all that her looks and smile had promised, and something plus. I achieved the supper date all right, and after that a whole string of them. That little robot rabbit knew what it was talking about when it said that she was fond of big, tough spacemen. Of course, they do come bigger and tougher than I am, but on the whole I'm a pretty fair specimen, and Helen soon began to make it clear in her own self-composed, quiet way that I would do.

At the end of three months we got to the stage of fixing a date for our honeymoon, and deciding how we would furnish our flat. And at that point we struck a snag so big that it jerked

even my fat head down out of the pink clouds and made me pay attention to mundane matters.

Helen's method of giving each of her creations a variegated, unique personality of its own was a secret known only to herself. Naturally she was able to charge high prices for her products. She was making a lot of money quickly, and spending it the same way on every kind of gaiety that Terraport had to offer. I had been keeping pace with her. Now my bank balance was so perilously close to zero that there wasn't enough in it to curtain the windows let alone supply the rest of the furnishings for the beautiful flat that we planned.

There was only one way out of it, of course. I had to go to space again, and try to pull off a profitable deal somewhere. Luckily I always made a point of keeping my business account strictly apart from my personal one or I might not have had enough capital even for that.

After thinking it over for a day or two I decided to make a quick trip to Algol Four, trading glass gauds for the perfume-bearing Yerxa weed. The natives of that planet are a blood-thirsty, tricky lot to deal with, so although the round journey can be made in less than a year and the weed obtained cheaply, the trade is not so popular with spacemen, and the plant still commands a good price from the scent manufacturers of Earth.

Helen, white-faced, trying bravely not to cry, saw me off at the space-port. "Good-bye, darling," she whispered huskily. "Hurry up back."

I hurried all right. Luckily, this time the natives proved more tractable than usual, and I was lowering my ship into atmosphere again over Terraport in just under nine months.

The first thing I saw after the smoky haze of my landing rockets drifted away was Helen's figure standing right at the innermost edge of the safety zone round the field. She saw me as soon as I saw her, and began jumping excitedly up and down, waving her handkerchief.

I got my ship into a hangar and my cargo into bond just as quickly as I could manage it, and went over to join her. She looked even more beautiful than she had when I left her.

"Darling," she carolled. "*Darling!* Oh, it's so wonderful to see you back."

Then she grabbed my arm and swept me away, bubbling over with news and endearments and plans about what we would do now that we were together again, until I began to feel slightly dizzy. This was a new Helen, unlike the composed, quietly affectionate girl that I had left behind. I credited the change to our long parting, and concentrated on enjoying it.

We spent the rest of that day together and the whole of the

next day, and the whole of the day after that. And then it happened.

We had been for an evening visit to the stereo-pics, and when we left the theatre we found that it was a beautiful night. A clear, star-heavy purple sky, and over everything an amber wash of moonlight. So we decided to walk home instead of taking an aero-cab. We'd gone about half a mile, too engrossed in each other to pay much attention to anything else, when suddenly from above us came the violent squawk of a klaxon.

Now the laws about landing in and around cities are quite specific. Ships weighing more than ten tons—that is all interplanetary and interstellar stuff—may land only in approved fields except in cases of grave emergency. Smaller ships are permitted to land on the city's roads, but when doing so they must observe two rules. They must descend the last thirty feet at not more than three miles an hour, and must give plainly audible warning of their approach all the time they are coming down. Unfortunately, as long as there have been traffic laws there have been fools who will break them.

When I heard that klaxon I looked up, and as a patch of darkness swelled rapidly over us I realised with sudden horror that the idiot who was driving the ship was bringing her down about ten times as fast as he ought to. And at that moment he decided to add to his lunacy by switching on his prow light. The stab of yellow brilliance dazzled me. Helen jumped one way. I jumped the other. And my way was the wrong one.

The prow expanded swiftly. I could glimpse the metallic shimmer of the ship's body behind it, and hear the hiss of her rockets. I closed my eyes, knowing that in a fraction of a second I would inevitably be burned or crushed. Then a pair of strong hands gripped me firmly by the shoulders, threw me clear of danger. As I landed on my feet again I stumbled, and wondered dazedly who my saviour was.

I recovered my balance enough to be able to look round. In the centre of the cone of light was Helen, her slim legs flashing as she raced out of the way of the descending juggernaut.

She almost made it. Then one of the stubby, decorative wings of the thing caught her in the middle of the body, tossed her into the air, and threw her into the shadows at the roadside.

Sobbing and swearing both at once I darted round the back of the ship to cross over to her. I was running as quickly as my legs would let me, but all the time the sane part of my brain was whispering that there wasn't really any point in hurrying. She was dead. She had to be dead. No creature made of soft flesh and fragile bone could take a jolt like that and survive.

I reached her almost before the ship grounded. And . . . She was standing on her feet, dusting herself down!

I went slack-jawed, goggle-eyed, and for a wild moment had thoughts about wish-fulfilment hallucinations. Then my mind recovered its poise, and began to add things up. The extra, almost ethereal beauty that I had noticed about her on my return. The exuberant affection that was so unlike her former cool self. And now this preternatural strength and toughness.

The fool who had been driving the ship had scrambled out of his cabin by now. Bulky in one of those fancy, padded flying suits he came floundering over to us. He gaped at Helen. "Lord!" he gasped. "Never seen anything like it. She took a throw like that, and she isn't hurt a bit!"

I glared at him. "Why should she be?" I asked flatly. "Robots don't bleed."

Then I went stalking up the road, with the pseudo-Helen running beside me, wringing its rubberoid hands and begging huskily with its metal voice-box. "Please don't be angry," it wailed. "Don't leave me. I didn't mean to hurt your feelings. . . ."

If anyone saw us during the next ten minutes they must have put me down as a hard-hearted brute, to be able to maintain a stony-faced silence while a beautiful woman by my side was begging for forgiveness and weeping broken-heartedly. That is, unless they got close enough to notice that her weeping was purely a matter of facial expression and sound. Helen had forgotten to fit the damned thing with lachrymal glands.

After a while, though, my sense of justice began to revive. After all, a robot can't help being a robot, and the thing *had* saved my life. In the end I let it come home with me as it wanted to.

It didn't take long to find out what had happened to the real Helen. Now that I look back I know that I should have been warned by that mechanical rabbit's making its joke about big, tough spacemen *before* she met me. As I admitted previously there are some bigger and tougher than me around Terraport. One of the biggest and toughest of them all was a racing pilot named Jim Ranger. Helen and he had married just one month before I got back to Earth.

In those days I was still young and naïve enough to be broken-hearted by the discovery that women are women and will behave as such. Once I knew definitely that my dreams of love and domesticity were over I grew dramatically desperate. I toyed with the idea of suicide, though deep down inside me I knew all the time that I was doing no more than toy. I just haven't the temperament for that sort of thing. Then I tried drinking heavily, but that didn't work out too well either.

Finally I made up my mind to do what a number of other spacemen have done for various reasons, leave the Solar system behind and never come back.

It can be done, you know. A good modern, hyper-drive ship is so well constructed that it will last more than a man's lifetime without needing anything but minor repairs. And the 'goldfish-bowl' system of balanced ecology in them is so near perfect that one needs only an occasional replenishment of supplies.

All this time the replica Helen was hanging around, sad-eyed and wistful, looking so like a genuinely love-lorn woman that even I had difficulty in remembering that it wasn't. Once or twice I thought of destroying it or giving it away to somebody, but somehow I could never quite manage it. In the end I yielded to its entreaties and let it come along with me. If it was good for nothing else, at least it could do the chores.

For a long, long time I pounded the hyper-drive, going from system to system, exploring planets that had hardly seen a man before. There is wonder and bizarre beauty enough in space to fill a thousand lifetimes, and for a year or two I really did manage to fool myself into believing that this way lay satisfaction and eventual forgetfulness.

Then, gradually, I learned that there are needs that no system of balanced ecology can take care of, forces that do not vary inversely with the square of the distance from their point of origin. And the names of two of those forces are homesickness and loneliness.

Obstinacy kept me going for a while. Finally, though, while I was lingering among the outrageously improbable flame-beings of Orion Five, something inside me seemed to snap. I knew that I must go home or go mad. I returned to my ship, set her into the shortest third order curve that would take me back to Sol, and pushed the motors out to their full power.

There was mingled poignancy and delight in the sight of the green sphere of Earth, and later in the sprawling mass of roofs and towers that is Terraport. For the first day after I landed I wandered among the familiar scenes like a man who has been blind for a long time and has just regained his sight, or has been on a sick-bed, never expecting to get up again, and has suddenly recovered his health. And all the time that I was enjoying myself in that way I knew in my heart that it wasn't really this that I had come back for.

It took me two days to gather together enough courage to decide to visit Helen. Then I found that she and Jim Ranger had left the flat that they had first occupied after their marriage. That wasn't too surprising. I had been away eight years, and plenty of people move in that time. What did make me raise my

eyebrows, though, was to learn of the address to which they had gone.

Terraport is a growing, thriving town, and dwelling space is at a premium. Even in the outskirts flats and houses aren't cheap. In the better-class districts of the centre they wall into three price groups. The expensive, the ridiculously expensive, and those in Western Environs. Helen and Jim now lived in the Western Environs.

It seems funny to think that after I'd come eight years without turning a hair I should find myself nervous of going the last half-mile That's how it was, though. The people who live in Western Environs are apt to regard such plebian creatures as free-lance spacemen as one of the lower forms of life. Useful, of course, in their way, but completely beyond the pale socially.

In the end, though, I bought myself an entirely new outfit, braced my courage as best I could, hired a taxi, and flew down there.

The door was opened to me by a portly, dignified being dressed in deep black. He was six inches shorter than I was, but somehow he managed to look down his nose at me. I told him my business. He showed me into a heavily furnished room and promised in sepulchral tones to see if madam was at home. As he turned away I chuckled.

"Helen's as good as ever with her stuff, but when she made you she overdid it a little. You're almost too good to be true."

He turned back to me. "Madam has several of her creations in the house, but she keeps them exclusively for the *amusement* of the guests. *I* am human."

Then he disappeared, and I rather began to wish I could do the same.

Helen came down a few seconds later. I gulped slightly at the sight of her. It was the same old Helen—but more so. She offered me the tips of her fingers, and with an effort managed just a slight smile. "Why *hullo*! So nice to see you after all this time. What *have* you been doing with yourself?"

She persuaded me into a seat and settled down beside me. The light glistened on her improbably yellow hair. I started to tell her where I had been for the last few years, but my heart wasn't in it. And I had scarcely had time to plough my way through the first few sentences when there came the sound of scuffling footsteps outside.

Helen's face remained unchanged, but her eyes hardened. She got to her feet abruptly, and left me without a word of explanation. Through the door I could hear her raised voice, and a low murmur answering her.

She returned, and sat down beside me again. "Now what were you going to tell me?"

"I don't think it's of any great interest. I came really to see how you were getting on. No need to ask, though. I can see you've been doing pretty well for yourself."

"Very well," she said, looking round complacently. "Indeed, now that we move in so very much better circles I wonder at times just how I *did* manage to exist in the former way. Though of course," she added with too-polite haste, "I'm always pleased to see a friend that we knew in our humble beginnings."

"Of course," I said. I tried another tack. "And your husband? How's he doing. Still breaking records in rocketry?"

She froze slightly. "It's no longer necessary for my husband to earn money in that way. And in any case his former profession scarcely befits our present station in life. He is retired now, and pursues his hobbies."

I stuck it out for another ten minutes, then I dug out the oldest and feeblest excuse of all—another engagement—and started to make my escape. There was one thing I was determined to do before I left, though. "Look," I said. "I really would like to meet your husband. I don't hold any grudge against him now, you know."

Though her face remained expressionless I could see she wasn't too pleased with the idea. There wasn't really any way she could get out of it, though. "Very well," she said, and turned to lead the way.

We swished up a couple of floors by lift, and then climbed a narrow flight of stairs.

Ranger was working at a bench. I glanced at what he was doing, and something seemed to wrench at my insides. He looked at his wife with startled eyes as she came in, and then smiled feebly at me. I got the impression that he was almost pathetically eager to talk, but that something was holding him back.

Helen told him who I was. He nodded, and gave me a brief smile. When he spoke I knew that it was his voice I had heard answering Helen's outside the door downstairs. "I've heard a lot about you," he said. "Though this is the first time I've had a chance to meet you." He wiped his hand down his trousers, then shook his head over it. "I hope you'll excuse my not shaking hands. The goo makes rather a mess. You do understand, don't you?"

"Yes," I said. "I understand. Everything."

And then I just couldn't stand it any longer. My exit was more abrupt than polite. I went down the stairs two at a time. Helen, keeping pace with me, was breathing heavily by the time we reached the top of the lift shaft.

We didn't say a word to each other until I was standing by the open door of the house. Then she put out a hand to me, and spoke. "There's one thing I must ask you before you go. You . . . You don't resent what I did, do you? I mean, making you that robot model of myself. I meant well . . . It was only a girlish fancy, of course, but I had an idea it would soften the blow for you. . . ."

I laughed loudly, and perhaps a little wildly, "Resent it?" I said. "Why, if you only knew it, that was the best turn you ever did me . . ."

And the funy thing was, I meant it.

I said once that robot's don't bleed. Now I've found out that there are other things they don't do either. They don't in the course of eight short years put on flesh until they bulge where they once curved. They don't dye their hair until its mustard-coloured sheen is a brazen caricature of the soft gold that you remember. And they don't have new skin grafted over every wrinkle until their face is about as capable of expression as a rubber mask.

All that's not so important, though. A man grows old along with his woman, and so she stays more or less the same to him. But there are other things that robots don't do. They don't change their old ideas and values and become insufferable snobs just because they are making a lot of money. And, above all, they don't take a man like Jim Ranger—big, tough Jim Ranger, the idol of every teen-aged boy on the planet, the man who could ride anything that blasted its way through space on rockets and hold it in a tighter curve and bring it home seconds ahead of any other pilot in the racing game—they don't take a man like him and because he can't adapt to their new ways utterly break his spirit. Break it until he is turned into the type of creature who will let his wife send him to hide himself because she is entertaining a visitor downstairs, or let her take him away from a game that is his life's blood, and leave him nothing else to do with himself all day but linger up in the attic making—of all things—little toy models of rocket space-ships.

We're in space now, my robot Helen and I. Two light years out from Sol, and going fast. The Universe is a big place, and there are a lot of strange corners in it that I haven't poked around yet. I don't think we'll ever bother to return to Earth again.

THE TWO SHADOWS

By William F. Temple

I

Survivors

"O BLESSED NECESSITY!" cried Leonardo da Vinci, in his day, knowing that it was the prime incentive. Man had to be driven to work his best miracles. Creditors at one's heels were a sharper spur to the artist than his own inspiration.

The first voyage from Earth to Mars was certainly not the fruit of a hunger for knowledge—or of technicians in love with their work—or even of pride seeking power upon which to fatten.

It sprang from the starkest of all necessities—preservation of the species.

A divided Earth, struggling with a divided mind to preserve itself, had fallen into the desperate error of preventive war. The disease germs, as thick as clouds in the atmosphere, were proving to be the conquerors of both sides. Earth, quivering under the impacts of countless atomic missiles, many darted into its side by its own satellite and human colony, flung out a seed.

The seed was styled the *Nuova Vita*—as a sign that the Earth really knew better than it had behaved—and it was a rocket-ship five times the size of the Lunar vessels. It had both atomic and chemical drives. It had come straight off the drawing-board. Its size and power were unprecedented. There was no time for real tests. In effect it was a tissue of theory, launched naked into cold space, carrying twenty-six souls and the hope of the human race—at least the Anglo-American part of that race.

The gamble, it seemed, had come off. The seed missed the stony places—it was landing on the comparatively fertile soil of Mars. It was a thousand feet above that soil, sitting on its tail of braking chemical jets, descending with beautiful slow deliberation.

The pilot said happily, "We've done it!"

Fate never likes to be anticipated. A second later came a great light and a great heat. The habitually almost motionless atmosphere of Mars was scorched and stung into agitation. The heated air expanded almost like an explosion, tearing the concentrated gas-jets of the ship into long tenuous streamers.

The *Nuova Vita* tilted irrevocably off balance. It became a bone of contention between gravity and the upstreaming air. Its majesty had departed. It was a straw tossed by forces it had lately controlled.

They tossed it into a grassy area two Earth-miles from an ice-blue channel. But the soil was thin. There was hard rock beneath it and the rock broke the back of the *Nuova Vita*. It broke the backs of many of the little humans within and others died through the sheer concussion.

The wind howled over the wreck, under the sun—and under the small new-born companion to the sun.

Thomas Jefferson Johns ran for his life among the firs. Luckily, the snow hadn't come yet but the bitter wind, driving against his face, was the herald of it. There was plenty of snow on the saw-edged peaks of the Rockies distant behind him.

Unhappily, not so far behind him, came the grizzly bear.

He looked back fearfully over his shoulder to see who was gaining. He never saw because he ran his head against a branch and was knocked off his feet. Flat on his back he went and the ground seemed to be rocking like a boat beneath him. One side of his head felt as though it were bursting open. Much more of this and he would be sick.

The great head of the grizzly, with its small eyes and licking red tongue, loomed over him. He felt too ill to care now. The beast put its paws on his shoulders, began to shake him.

"Don't, don't—you're hurting my head!" Johns cried foolishly.

The bear seemed to go misty at the edges, become a mere dark form that was shaking him. Then it stopped and was still and he lay back, his eyes gradually refocusing it.

It wasn't a bear now. It was a big dark man with an olive skin and contemptuous brown eyes—John Malatesta.

Malatesta! The real world returned to him now. Malatesta, Schultz, Martin, Haywood, Liza, Pinky, Kilpatrick, Danby, Foster. . . .

There had been twenty-six of them including himself. The big business man, the chemist, the engineer, the agriculturist, the physician, the geologist, the cook, the bacteriologist, the artist—and the rest. All hand-picked, albeit hastily, by a harassed Government for their qualifications to start a new growth of mankind and culture from the main stem which was dying.

He, Johns, had been picked, not merely because of his fame as a poet or because he was a Nobel Prize-winner for literature, but because also he had once been a teacher and a noteworthy educationalist.

How far Malatesta had been picked and how far he had pulled strings to force his election into the chosen few was not known to anyone on the ship but Malatesta himself. He had

qualifications, of course. He was the chief of a huge organisation in the States. With his organising ability went toughness of mind and body and immense drive. He was the man to get things done. The only drawback was—the things had to be done his way.

Still, he was in a minority and could be curbed. There were other tough people on the ship, particularly Judge Hackman.

Johns struggled to sit up. There was a thin cold wind blowing.

"That's better," said Malatesta. "But take it easy. There's no hurry. We've got all the time there is."

Johns held his aching head—very lightly because it was painful to touch.

"What hit me?"

"Mars. Want to hit it back?"

Johns shook his head and wished he hadn't. More carefully he turned it to look around. Again he wished he hadn't.

This crazy tangle of broken alloy, with sharp swords of steel bristling from it, had been the main cabin. Once, he had seen a car wreck in which the two vehicles had met head-on at the aggregate speed of a hundred and twenty miles an hour. This was worse, and bigger and there were a lot more bodies—and parts of bodies.

"Oh," he said, and suddenly the nausea he had dreamed of returned and was made actual.

Gasping for breath afterwards, he turned red wet eyes on Malatesta.

"Tender stomach, eh?" said Malatesta with cynical amusement. "I'll break it to you gently, son. You and me are the only two left alive. And I'm not too sure about you."

Johns could only stare at him. Schultz, Martin, Haywood, Liza, Pinky, Kilpatrick, Danby, Foster. . . . All those who had become his friends, sharing this unparalleled adventure—carrying the torch for humanity together—full of a sense of nobility and responsibility—kindly and tolerant, indeed loving towards one another because they had a common aim in life, a great aim, and were there to help each other towards it.

All killed on the march by one senseless blow? Their aspirations mocked by fate and thrown on this ghastly scrapheap?

All—except himself and Malatesta, the one man he had regarded with antipathy and avoided?

He laid his head on his arm and cried, like a child who had suddenly discovered that the entire family has gone out and left him alone in the house—except for the big rough dog he dislikes and fears.

"Good," said Malatesta. "Keep it up. We're short of water. The tank got busted and it's all gone into the ground."

Presently Johns looked up and found he was alone except for ——He got dizzily to his feet and scrambled out of that horrible place and away from the broken ship. It was surprisingly easy. He seemed to flutter in long jumps like a goose. Of course, the lesser gravitation. . . .

This was Mars—just a lot of thin sick-looking grass, spreading in all directions. The sky was a very dark blue, almost black overhead, where faint stars twinkled. There was a singing in his ears which he had noticed at high altitudes in the Rockies. It came from the low air density.

Then he noticed that springing at thirty degrees from each other, from his feet across the grass, were two shadows, one fainter than the other. And despite the chill breeze there was warmth on the back of his neck.

He turned. There were two suns hanging in the sky, bright and white. Both were considerably smaller than the Sun he had known on Earth and one of them was appreciably smaller than the other.

He was no astronomer but he realised there was something definitely out of order here. However, before he could think about it much, Malatesta came up in long floating strides from somewhere along the great length of wreckage.

"Since you're up," he said, "you can give me a hand with things. Well, what do you think of Mars?"

Johns gestured towards the two suns. "I don't get that."

Malatesta said, "Perhaps you're not quite awake yet. It's obvious enough. I told you—you and me are the only two left alive—*anywhere*."

Johns grappled with his incredulity.

"You mean?"

"I mean that smaller sun up there is the Earth we left three months ago. I don't know who threw the bomb that started the chain reaction or whether it was too many bombs at once. I don't even know who won the war. I guess *we* did—we're the only survivors."

Johns gave a long sigh. The immense tragedy of it seemed to come pressing down from the sky on to his shoulders. He felt like Dante gazing into the Inferno—abandoned by Virgil, left utterly alone, not knowing the way out. He was the last of his kind. Malatesta didn't count. Malatesta was an insensitive ape.

He felt the tears trying to come again and he fought to keep them back. Malatesta would sneer. Then he thought, "What the hell do I care what *he* thinks? Why should I accept *his* judgment on what is right behaviour? He's no more than a half-educated hoodlum."

Nevertheless he turned his face away and bowed his head, lest Malatesta should see.

"What are you doing—composing an epic poem about it?" said Malatesta sarcastically. "You're wasting your time. There's no one left to read it—except me. And I'm tone-deaf. Snap out of it. We're going to live. Therefore, we shall want living quarters Come back to the wreck and help me."

II

The Curio

Malatesta's idea of being helped meant that when he said, "Carry that outside" or "Bring that here," Johns was to do it immediately and alone. Whenever Johns found a thing too heavy to lift, Malatesta would, grumbling and impatient, take one end of it with a vigour which made it plain that he could have carried the whole thing himself without effort.

But it was mainly by Johns' labour that the rough shack, with its table, chairs and couches, was built from suitable portions of the wreckage.

"Right," said Malatesta, surveying it. "That's good enough for now. It'll keep this damned wind off anyway. Now for a meal. It's lucky the cook's galley wasn't too badly burnt—even though the atomic heaters are no good. The whole system is smashed.

"But the food-store and the refrigerator vault stood up to it. There's plenty of grub in them. Go get a couple of loaves, a can of beef, some butter and cheese and crackers—we'll find ways of cooking some other time. Here are the keys."

"What about doing a bit of work yourself?" Johns broke in angrily. "Do you think I'm the maid-of-all-work here? I've done enough—far more than my share. *You* go and get the food."

Malatesta looked at him searchingly. He tossed the little bunch of keys in the air, caught it on its slow descent.

"Right," he said again. "If that's the way you want it."

"It's only fair——" began Johns in a high protesting voice but Malatesta turned on his heel and went.

He returned presently with the food and made a pile of sandwiches on the table. He drew up the couch alongside, lay back on it comfortably and reached for the top sandwich. Johns watched him eat two, then put his hand out tentatively for the third.

"Hands off!" snapped Malatesta. "No work, no eat. That's how it is. That's how it's going to be. That's how it always was —I didn't run a soup kitchen, you know. My workers had to *work* for their grub."

Johns stared at him. Then he said with quiet acidity, "You're wrong with both your facts and your analogy. Firstly, I *have*

worked—hard. Secondly, I'm *not* one of your employees. On that ship we all had equal standing. Half that food is mine."

"No it isn't," said Malatesta with his mouth full. "You're wrong with *your* facts. We all had equal standing on the ship—yes. There were twenty-six of us. That makes your share of the food one twenty-sixth, not a half. The second thing to understand is—we're not on the ship now."

"That's a childish kind of sophistry. The others are dead. They have no use for food."

"How do you know? Did you ask them? No—you just want to take it because they're helpless to stop you. That's all right. I agree with your philosophy and I'll underwrite it. I take the food, not only because they're helpless to stop me, but because you are also."

"I see, Malatesta," said Johns, deliberately. "Might is right with you, eh?"

"You've got it, son." Malatesta helped himself to another sandwich. "That's what I believe because it's the truth."

"It isn't," flashed Johns. "You know it isn't. That's what you believe but only because it suits you to."

"Everybody believes what they'd like to believe. You only believe in a system of equal shares for all because you're weak—too weak to fight for your share. So you invent this thing you call social justice to get your share for you, so that you don't starve. You believe in social justice because it suits you to. I'll take the survival of the fittest—it suits me."

"Then I take it that you intend to starve me to death?"

"Mr. Johns, you take a very pessimistic view of things. The food is yours—all of it—if you can take it from me. Of course, I could break your neck with one hand—that's a risk you'd have to take. Or you could kill me if you could think of a method. Again you'd be at a slight disadvantage. I have this, you see—and you haven't."

He pulled an old-fashioned automatic pistol from his pocket and held it balanced on his palm.

"A curio," he said, "but lethal. It was my grandfather's. He was an Italian who went over to the States to set up business—in nineteen twenty-four, it was. He ran a gang of bootleggers and made a pile. When Prohibition was repealed he went into legitimate business. It became the family business. I owe much to him."

"Including your ideas on morality, no doubt, you filthy hoodlum."

Malatesta was off the couch in a bound. The pistol-butt caught Johns on the bridge of his nose. He went over backwards with a yelp of surprise and pain. The blood ran thickly from his nostrils. He blew and spluttered.

"Oh, stop squawking," said Malatesta. "That was only a love-tap. I doubt if it's even broken your nose-bone. Regard it as a warning. I don't resent your insult as such—they're just words. What I don't like and won't have is your acting as though you're superior to me. You're not in any way.

"People learn from life, my friend, not from books. Experience is the only teacher—maybe you think *you* are. You've taught a lot of kids a lot of nonsense in your time. But you've nothing to teach me. You don't know anything. You don't even know that your college education and Nobel Prize don't qualify you as a superman—or even as a man."

Johns was holding a bloody handkerchief to his nose. His head still hurt from the landing crash and now it hurt in another place. But the worst hurt was to his sense of dignity. He had been caught by surprise and yelped like——

He had yelped like one of his own pupils many years ago. Somehow, he always remembered coming up silently that day behind young Perkins, who was absorbed in a comic when he should have been absorbed in Euclid. He remembered the joyous little spasm of power-feeling as he twisted the boy's ear and pulled his head around—to face his master.

He had been the master then.

It wasn't nearly so good being the pupil. He resented it fiercely. He hated Malatesta. If there *was* a way to kill him he would——

No, he mustn't think that. That was giving way to blind passion. He was above that now. One could never be a master if one couldn't control his own passions. *He that ruleth his spirit is better than he that taketh a city.*

Detachedly he wondered if young Perkins had felt like killing him on that far-off day.

He must control himself with this roughneck. He must feel himself superior but not make a parade of it. But he must never, never allow himself to feel inferior, certainly never act as one.

"You want to earn a cup of coffee?" asked Malatesta suddenly.

Johns, still holding his handkerchief to his nose, nodded. He would not trust himself to say anything. He might be too sarcastic.

"Right. Take that bucket. There's a water channel about two miles off in that direction. I saw it just before the smash. Bring back the bucket full and you can have your coffee and—I'll be generous—a couple of sandwiches."

Johns picked up the bucket and went off slowly over the long thin grass, his two shadows moving ahead of him.

This first sally into unexplored Mars should have been a great moment. Instead it presented itself as a wearisome task. It was Malatesta's fault, of course—his brutal materialism was

death to all poetry and wonder and beauty. He poisoned romance. He belittled the really big things of life and magnified the pin-pricks. He'd have to be careful not to adopt his stunted values.

Damn his nose—would it never stop bleeding? His handkerchief was like a red flag. His face seemed to be little but a throbbing proboscis. He had never been struck before in his life. It seemed to have knocked his sense of values spinning.

It was all wrong. He should be overwhelmed by the tragedy of the sudden end of *homo sapiens*. But he had seen that coming for too long. It had happened at last, that was all.

He felt a certain sense of loss but it was for the Acropolis, for the Uffiz Galleries, the Louvre, the Sistine Chapel, the Taj Mahal—not for the lately living people of Earth. The hills that Shakespeare had walked on around Stratford-on-Avon, the City of London, redolent with history . . .

He had no living relatives. As for the rest of his fellows, he had known few, respected fewer, loved none. None except his travelling companions on the *Nuova Vita*. That had been his real world. That was where he belonged, where he had found himself at last, among the *élite*. The loss of those people was a far greater tragedy than the loss of Earth.

The voice of one of the *élite* bellowed after him. "What are you trying to do—walk backwards? I want that coffee today. Get a move on."

Johns made a noise between a groan and a growl. "Shut up, you slimy thug!" he hissed in sick hatred. But he knew that Malatesta was too far away to hear him. Nevertheless he quickened his pace.

His handkerchief had become a sodden useless ball. Irritably he threw it to the ground. It alit on what had seemed to be a small grey stone half-hidden in the grass. The stone came alive with a leap and bounded off like a rabbit, giving a back kick with its rear legs. It was like an earless rabbit with the smooth grey skin of a mouse.

He watched it until had vanished in the distance. So there was animal life on Mars after all. An irrational hope sprang within him. Were there somewhere intelligent Martians who could paint and sculpt and build, make music and write, think and discuss?

The great telescopes on the Moon, their magnification unhampered by any blurring atmosphere, had raked the planet for signs of intelligent life and seen none. Empty deserts of red dust, yes, and vast green plains. But not a town anywhere.

Most of the mapped canals were there but it seemed that the regularity of them had been an optical illusion. They were no straighter than any river. There was no more plan to them than to the Grand Canyon. So people had dropped the

description "canals" and called them what Schiaparelli had really called them—channels.

Ahead of him now he could see the line across the broad strip of green that was one of these channels. Despite the lift given by the lesser gravity it seemed an age before he reached it.

There wasn't much to it then. The grass was longer and greener at its banks and that was about all. Compared with some of the other channels it was but a thread—fifty feet across. The water was pale blue, clear and cold. He could see where the soil ended and the rock-bed began. There was moss on the rocks at the bottom and he could have sworn that he saw one green rock move—a crustacean, surely.

The banks were just earth and rock—without trace of any Martian engineering. The water seemed to have worn its own channel. He tried to put the silly hope out of his head.

He drank, then washed the blood from his face. His nose had stopped giving but not hurting. He filled the bucket and took a last look around. The channel went waveringly from horizon to horizon. The other bank looked the same as the one he was standing on.

The long grass waved silently in the wind. There was nothing else to see. He turned his back on it and set out for the great ragged shape of the wreck under the two small bright suns. It was the only prominent feature in the flat landscape.

Presently he trod on something that rolled beneath his foot. He stumbled and spilt about a third of the water. Then he picked up the object. It was a knob of rock, twice the size of a man's fist.

As he inspected it his heart began to quicken. That irrational hope returned. Surely, surely, it had been consciously shaped? There were deep eye-sockets, a jutting nose, the suggestion of a mouth and chin. A primitive attempt at a human head or a badly weather-worn but comparatively modern one? Or—was it just his own wishful thinking?

Perhaps—there could have been very little erosion in this climate. But it looked as good as many museum pieces he had seen. He put it in his pocket and resumed his journey.

When he got back all the sandwiches were gone and Malatesta said, "Why the hell didn't you *fill* the bucket?"

However, Malatesta had got some utensils from the ship and started a fire with splintered bookshelves. Johns went and got some more bread from the foodstore.

III

And One Makes Three

After they had finished the coffee they lay back and smoked. Johns got out the stone head and looked it over closely.

"What's that?" said Malatesta lazily.

Johns told him what he thought it might be. Malatesta was merely amused. He gave the thing a rough examination and tossed it back.

"Meteorite," he said. "You can see where it's pitted by the friction."

"But the shape?"

"Have you ever been to the Garden of the Gods, near Colorado Springs? The place is—was—lousy with chunks of rock that look like heads. You're just superimposing a pattern subjectively, like Lowell peering at this planet from Flagstaff a century ago and making neat little maps of the canals. Or like a patient of Rorschach's—the gink who started the psychiatrists playing the ink-blot game."

Johns looked at him with surprise. Malatesta then was not wholly a throw-back to his gangster grandfather despite his brutality and his deliberately coarse and ungrammatical speech. Sometime, somewhere, he had read books and some of it had stuck.

"I prefer to think it's the work of an intelligence," said Johns, shortly.

"Naturally. You believe what you want to believe, like I said. You hope somewhere you'll find intelligent companionship—not like mine. Me, I don't go for poetry or anything else that ain't any good to me."

"Your disapproval doesn't destroy the value of poetry," said Johns. "It's an eternal and indestructible value, far above your or my criticism. The same goes for any of the art forms—and Truth and Beauty and Goodness."

He breathed the last words so that the capitals were almost visibly apparent.

Malatesta, on the couch, regarded the glowing end of his cigarette. Then he said, slowly, thinking it out, "The sonnet form was a human invention—and it died with humanity. So did any standards of art form whatsoever. They were pretty unstable even when they existed—yesterday's art is today's laugh.

"Most of the naked Venuses of the so-called Old Masters are fat, unsightly lumps by the Two Thousand and Three A.D. standards of feminine beauty. Beauty is a matter of fashion, nothing more. If Mona Lisa had tried to get a job in the New

York TV studios as an actress she'd have been told to go home and find her eyebrows."

"And how do you dispose of Goodness?"

"Just another matter of custom. Cannibalism was evil in America. In Polynesia not so long ago your grandmother's shade would have felt horribly slighted if you hadn't eaten her corpse and so absorbed her good qualities.

"I could give you a thousand examples of the same act being thought good in one place and evil in another. And you can kill people with kindness, you know. As for truth—no one's answered Pilate yet."

Johns stared at him. "I'm darned if I can make you out," he said. "One minute you talk like a thick-eared mug and the next like a university graduate."

Malatesta laughed, a fat laugh of self-satisfaction. "I've been both. And I'm a schizophrenic."

"You're all wrong anyway. We try to superimpose patterns on material, certainly. But these patterns are eternal standards which we glimpse through our imagination and try to record so that others may see them more clearly."

"If the patterns are eternal why do they change so often?"

"They don't. It's our imperfect vision, bad guesses and fumbling execution. Truth is outside of us and eternal."

Malatesta said, "The pragmatists don't think so and I'm a pragmatist. All thought is personal and purposive. Abstracts are figments. A judgment which is not prompted by motives is impossible. The only test of a truth is—does it work? If it doesn't it's meaningless."

"The opinion of the majority is against you."

"What majority? Listen, son—wake up! There's just you and me and no one else. There ain't a majority. My belief is just as good as yours."

Johns was shocked into consideration. He looked at his feet, thinking—if there are only two people in the world and one is a paranoiac and the other a manic depressive, what are the tests of sanity? Where are the standards of rational behaviour?

Then he said, "I don't mean to be offensive. I have had more training in these things. My greater experience can be regarded as the majority."

Malatesta gave him the Bronx cheer, for old tradition.

"Can be regarded—by whom?" he jeered. "Only you, of course. I'm two hundred pounds—or was on Earth—to your hundred and forty. I'll choose to regard that extra sixty pounds of me as the majority."

"On the other hand I'm taller than you," snapped Johns spitefully. He knew he was talking foolishness.

"But I'm a better pool player," said Malatesta suavely, completing the *reductio ad absurdum*.

"This is nonsense!" cried Johns, angrily. "You can't just ignore history and pretend that this is the beginning of the world. What about Buddha and Aristotle and Lao-tze and——"

Malatesta swung around and pointed violently upward over the wreck, at the sky. "What about them?" he flung back. "See that star? It's just a star among a billion other stars. There may have been saints and sinners on the others too—and where is their wisdom now? That's finished, written off.

"I'm not pretending this is the beginning of the world—it *is* the beginning of the world as far as I'm concerned—*my* world!"

And in that moment, as Malatesta sat rigid with his arm upflung, a form emerged slowly from the wreck. Both men stared at it. "A Martian!" thought Johns, suddenly flushing with a new excitement. "*A Martian!*"

Malatesta let his arm fall. He swore under his breath. "This certainly is the beginning of the world," he said. "And *how*! Johns, here comes our majority."

She was dazed and her white dress was barred with black dirt and her fingers were bleeding. She was small, brunette, rather plump and they didn't recognise her at first.

"It's the nurse," said Johns, suddenly recalling the face when it wasn't smudged and tear-stained. She had been a quiet little thing keeping well in the background, and her services had not been required during the voyage. He hadn't heard her exchange a word with anyone and he wasn't sure of her name though he had heard it.

While he stood there, remembering her, Malatesta walked out to meet her. Johns cursed himself for his slowness. Malatesta picked her up, carried her over the wreckage-strewn grass and laid her on the couch.

"Get her a drink of water, beautiful dreamer," he said.

Presently they got her story in a faint Nebraskan accent. It was short. She had been in the women's lavatory when the crash came. She didn't remember anything after that except awakening in darkness under a load of wreckage and fighting for hours, pulling and pushing at the stuff to get out.

She recalled scarcely more of what happened before that. She had only the sketchiest memory of the ship and the voyage. She remembered there were people. Just people—no names to them. She didn't remember Malatesta and Johns.

"I thought I'd gone right through what's left of the ship," said Malatesta. "Didn't think of the ladies' room. Maybe I've got loss of memory too. What's your name?"

She didn't remember. She knew she came from Ogallala on the south fork of Platte River and had been a nurse.

Malatesta said, "We'll have to call you something."

"What about just 'Nurse'?" suggested Johns.

Malatesta rubbed his dark, bristly jowls. "Nope. We'll call her Madge."

"Madge?" echoed Johns.

"Short for Majority, wideawake. Do I have to explain everything?"

IV

Rabbit on the Run

The next morning, Johns was awakened by the clang of the bucket dropping beside him.

"More water," said Malatesta, standing over him. "I want breakfast."

Johns got up. "And a shave, too, no doubt," he murmured.

"Hell, no. I'm never shaving again. From now on I make my own social conventions."

"I'll come with you, Tom," said Madge.

As they walked side by side over the grass she said quietly, "He doesn't like you, does he?"

"The feeling is mutual. We haven't a thing in common. By the way, do you like poetry?"

"I—I think so. I don't know much about it."

"I could teach you if you're willing to learn. *He* isn't. You know, whether Art lives or dies depends wholly on you."

"Huh?"

"Art is the communication of feelings, ideas, standards. I am an artist in a vacuum—with no one to communicate to. Actually an artist can't exist without an audience. No one ever writes or paints for himself alone. Those that pretend to were thinking of posterity. It's possible that we'll have no posterity. Will you be my audience, Madge?"

She smiled for the first time. She had nice teeth. "Sure, I'll try to be appreciative."

"Thanks a lot."

All the way to the channel and back he expressed himself to her—his moods, his ideas, his fancies. He didn't give her much chance to talk.

As he was explaining to her his own theory of what Picasso had been getting at she exclaimed suddenly, "*Ooh!* What's that?" She pointed to a moving object in the grass.

He broke off, rather irritated by her branching attention: he'd thought she was absorbing the whole of it.

"Oh, that," he said. "There's plenty of 'em about. I call 'em Martian rabbits."

"Wonder if they're good to eat?"

"One day we'll have to find out. That food-store isn't going to last for ever. Perhaps we'll finish up eating grass, like Nebuchadnezzar."

"Neb—who's he?"

A bit wearily he explained.

Three more days passed and nothing much happened except that the wind died down and became almost imperceptible, and the heat of the two suns could be more strongly felt. Malatesta seemed content to lounge, sleep, smoke and be sarcastic at Johns' expense. His one other diversion was Madge. What irked Johns was that Madge didn't seem to mind. In fact it was becoming plain that she preferred Malatesta's company to his.

On the fourth morning the split became apparent.

"Get the water," said Malatesta, so tersely and contemptuously that Johns grabbed the bucket with the wild idea of swinging it at that bristling contemptuous face. But anticipatory pain in the nose caused him to throttle the intention.

Instead he gripped the bucket firmly and said, "Isn't it about time we moved to the channel-side? Then we'd have water on tap. Anyway, this is an unhealthy spot. That ship's beginning to smell."

"I don't mind the smell," said Malatesta, "and all the water I need is brought to me. I like it here. There's a convenient larder with a lock on the door. There's nothing like that along by the channel."

"There may be all sorts of things better than that if we look around. We've never tried to explore any of this planet. We've scarcely moved from the ship."

"I'll think about it when I have to," said Malatesta. "Not before."

"You're some organiser," said Johns bitterly. "You haven't done a thing."

"You're some writer. You haven't written a line."

"What's the use?" cried Johns. "There's no one left to appreciate it."

"Exactly. Why bother? We all do it to cut a figure, don't we? And if there's no one to applaud us . . ." Malatesta shrugged.

"You don't claim you were an artist?"

Malatesta regarded Johns with a queer look that combined derision and defence.

"In a way, yes. A better way than yours at that. Art is only expression. You express yourself merely in words. I in action. Try my way. You may get to like it. Begin now—go and get that water."

"To hell with the water!" exploded Johns and flung the bucket away violently. It landed, bounced slowly and rolled

across the grass to where Madge sat. She got up and walked across to the two men.

"Don't hit him, Jack," she said.

"I'm not going to," said Malatesta. "It's impossible to teach this guy. He thinks he knows it all. I could see it would come to this. Here's your marching orders, Mr. Know-All. Clear off. Fend for yourself. I'm tired of keeping you. You don't belong in my world. You contribute nothing but belly-aching. Scram out of here and don't come back."

Johns went a little pale and compressed his lips. "I was going anyway. I can't stomach this emperor and slave routine any more. You're mad and you're best left alone. Come on, Madge, we'll go start our own world."

Madge said, "I'm staying with Jack."

"What?" said Johns and looked appalled. "Why, for heaven's sake? He'll only make a slave out of you. He's impossible to live with. Is it because he's got the food? You don't have to worry about that. There's plenty of rabbits for us and shellfish and water. We might find edible vegetation somewhere."

"It isn't that," cut in Madge irritably. "I'm staying with Jack because I prefer to. He's got the right ideas. And he's a *man*."

Malatesta grinned suddenly and put his arm about her waist. Johns felt a queer sharp pain. It was loneliness stabbing at him. It was as if he had been shut out of life, alone, unwanted.

"But——" he said weakly. "But I thought, Madge, you understood."

"You bore me sick," she said. "Yatter-yatter-yatter all the time about things that don't matter any more. Your feet don't touch the ground anywhere. I want a family. I want kids and a man who knows how to bring 'em up. Can you imagine what it'd be like for me with you, doing things your way?

"I'd be doing all the man's work, while you'd be sitting with the kids, pumping 'em full of poetry and high-falutin useless stuff, teaching 'em everything but how to look after themselves. That's the only important thing in *this* world—how to look after yourself. There's no college here to feed you just for lecturing."

"The majority, you see, Johns, is on my side," said Malatesta, his grin broadening.

All at once Johns hated them both with impotent fury. He turned away and walked towards the bucket.

Malatesta's grin vanished. "Leave the bucket!" he snapped. "That's my property. Leave everything except yourself."

Johns bent and picked up the stone shaped like a head.

"I trust you will allow me to take this?" he said with gritty mock-politeness.

"Sure. Start a museum with it. Now git!"

Without a backward glance, Johns went. The world was

against him. It seemed idiotic to think of one man and one woman as "the world" but factually it was very nearly true.

He had a mad impulse to smash things and there was nothing to smash except the weak bending grass-stalks. Then a "rabbit" crossed his path and instantly he smashed the stone down on top of it and broke the creature's back.

With that killing, the violence ebbed from his system, left him feeling weak and empty. He stared down at the broken mouse-skinned body. It looked pitifully small and lonely.

Unconsciously he identified it with himself and regretted his unplanned action. He might have caught the creature, tamed it, made a friend of it. If anyone ever needed a friend he did.

He picked up the stone thoughtfully and walked on. Presently he stopped, went back and picked up the rabbit. Perhaps a fellow couldn't help relapsing to childhood sometimes and feeling a need for pets and dolls to confide his troubles to. All the same he had to eat. He was on his own now. He must learn to be self-reliant.

He strode on, frowning, the stone in one hand and the rabbit in the other. What was it Emerson had said about self-reliance?

After a time he forgot Emerson, and by practice became expert in using the head as a throwing stone. He could hit a rabbit on the run at ten paces.

V

The Bonfire

A fortnight later Johns floated on his back in the channel, gazing up into dark blue sky at the two small suns and the faint stars. The air was still, the blue water placid. It was quiet and nothing disturbed the peace or threatened to.

And he felt like screaming.

Sometimes in the turmoil of Earth he had dreamed of life on a desert island. Once he had seriously thought of going into a monastery.

"Utter fool!" he said aloud. One thing he had learned—he was not by temperament a hermit. But then, Robinson Crusoe had had his Man Friday, his parrot, his goat. And the monks had fellow monks—and books.

How he longed for books! Even so they were only a substitute for the spoken word. Oh, for someone to speak to—even Malatesta! The man was not unintelligent although he was a brute. If he, Johns, had kept his temper they might have got along after a fashion.

Madge he still thought of with bitterness. She had not even troubled to argue with him. She had listened to him in silence,

thinking only of him as a fool. It still hurt. But why should he consider her opinion worth anything? She was the fool, not he.

If only she had not at first seemed so pleasant. And if only she weren't so pretty. . . .

Why should she keep drifting into his mind's eye? Why should he bother to waste another thought on her? She was perfectly matched with Malatesta. A pair of pragmatists. They could, no doubt, raise a family of pragmatists, all of them unaware of the eternal truths because there was no poet to instruct them. A tribe without poetry.

He floated, with the water dulling his ears, quoting aloud the Caliph in *Hassan,* "Ah, if there shall ever arise a nation whose people have forgotten poetry . . . though their city be greater than Babylon of old, though they mine a league into earth or mount to the stars on wings—what of them?"

What had Hassan answered? "They will be a dark patch upon the world."

He tried to recall more of it and was impatient because he could not. He stared up at Earth, thinking of all the literature that had perished.

Pater had advised the world to "burn with a hard, gemlike flame." Now it was doing it—literally. In Earth's dark history there had been many a "burning of the books." This, the last, could never be surpassed. It was a funeral pyre and no Phoenix would arise from the ashes.

Not unless *he* did something about it.

The gloom that sat heavily upon him seemed to form itself into as heavy a cloak of responsibility, a garment he had tried to ignore, had tried to pretend was something else.

There had been a good library in the *Nuova Vita.* Much technical stuff but also a fine selection of literature intended for preservation. How much of it had been destroyed in the smash? It was his duty to preserve what was left.

Probably it was the last remnant of culture in the Solar System. So far as he could judge from a fortnight's trudging up and down the channel-side, peering at the distances, there was no sign of any Martian civilisation, old or new. Perhaps there had never been one.

He had spent hours examining the stone head and was still undecided about it. Perhaps Malatesta had been right—perhaps he was reading a pattern into the chance work of nature merely because he wanted to see that pattern. On the other hand he might be just as right himself.

Surely, here on Mars, the eternal values reigned and had been glimpsed by some sentient indigenous creatures? This carven head was a sign, a symbol, a reassurance of that. Sometimes he

was sure of it and glowed with excitement. At those times life would flood with meaning again.

And then at others the stone became a lifeless lump in his hands, drained of significance, just a grey-black meteorite. Then everything, including himself, was purposeless and of no more account than the dead stone.

No, the only chance was the books. He must get them.

Spurred by the resolution, he swam to the bank.

Everything looked much as before around the wreck except that at a little distance from the shack a large bright fire burned, sending up a wavering column of black smoke. As he neared it he could see Malatesta sitting on his couch by the fire. There was a heap on the ground at his side and occasionally Malatesta reached out, took something from the heap, threw it into the fire.

Johns looked around hopefully for the small plump figure of Madge. She was nowhere in sight.

When he was close enough to see just what Malatesta was doing he gave something between a shriek and a shout and ran towards the fire.

"*Stop that!*" he yelled. "*Stop it,* I say!"

Malatesta looked up at him calmly. "Thought I told you to stay away from here."

"Don't put any more of those books on the fire. I warn you," said Johns, breathlessly.

"You're a bit late. We've had the fire going for over a week."

"You vandal!" Johns dropped his throwing stone and knelt by the fire. It was all burning books, a tangle of charring gilt edges, leather bindings, printed rice paper.

He raked out one that had not properly caught and burned his fingers slapping at the smouldering spine. He dropped the book. It fell open at a page that began complacently, *We can, I believe, take it for granted that in the world of 2200, which we are trying to foresee with our imagination, the present ideological conflicts will have resolved themselves and mankind will have united under a common liberal education. . . .*

In a spasm of bitter disgust he thrust the book back into the flames.

"Make up your mind," said Malatesta, sarcastically.

Johns glared at him. "There is no need for this sort of thing. The grass provides endless fuel. You've only got to pull it up and let it dry. As I've done."

"Ah, but you didn't have any books. They burn longer than grass and give more heat. I prefer warmth to idealism."

"You'll have to make do with grass in future. I want those books."

Malatesta looked him up and down appraisingly.

"Your fortnight in the wilderness seems to have toughened you up. Nevertheless I could still beat you up with one hand. So quit talking that way."

"It won't always be like this," said Johns between his teeth. "You're too fond of that couch. You're running to fat and self-indulgence. I'm getting stronger."

"Come back when you think you're strong enough," said Malatesta with steel in his voice. "I'll be ready for you. So will my sons—there'll be a lot of 'em and they'll be tough—because I know how to bring 'em up."

"Brought up on your philosophy they'll be a generation of vipers."

Malatesta clenched his fist hard. In the same instant Johns grabbed his throwing stone and stood up. They regarded each other, frozen, tense. Then, slowly, Malatesta let his hand open.

"You still don't like my ideas, huh?"

"They're the quintessence of evil. You could build nothing from them but a soulless hell."

Malatesta gave a short, hard laugh. "That's funny. I've always regarded *you* as the serpent in this particular Garden of Eden."

"Your mistake. You're the serpent in these parts."

"As I recall it," said Malatesta, "the serpent made Eve eat of the forbidden Tree of Knowledge of Good and Evil. That's exactly what you tried to do with Madge. Haven't you discovered yet that knowledge and happiness are incompatible? I thought you knew your Greek philosophy. I'd rather be a happy pig than an unhappy Socrates. If we're ignorant, Madge and me, we're happy in our ignorance. You and your Truth!"

He spat and there was a confirmatory hiss from the fire.

He went on, "Why must your sort always interfere, always preach, thinking you know it all and that everyone else has got to think the same as you? It was fanatics like you who brought our world to destruction. We're satisfied with making our own little truths to suit ourselves—no factory stuff.

"Each man to his own belief and let the other guy alone. But that's not good enough for you. You've got to pretend that yours is the *only* truth and try to stuff it down our throats. Intolerant fool! What a hell *you* would make here if you had your way—as you made a hell on Earth."

"You idiot!" said Johns fiercely. "Earth went up in flames simply because of millions of people like you making themselves a law unto themselves. You undermined the belief in morals which was our only hope. When that code fell Earth fell."

Malatesta seemed not to have heard him. He had picked up a book from the heap and was regarding its title.

"The Works of John Keats," he said. "Well, well. 'Beauty is

truth, truth beauty—that is all ye know on earth and all ye need to know.' On Earth. But this is Mars."

He tossed the book casually into the fire. An instant later the throwing stone crashed against his skull and killed him.

Johns stood over the body, fallen from its couch, not seeing it, not seeing anything but a red mist. When it cleared he was sick and the works of Keats had gone for ever.

There came a cry, the thud of a dropped bucket, the wash of water over the grass. Then Madge came running and flung herself on the body, sobbing and crying, "*Jack! Jack!*"

Johns watched her dully for a moment. Then he went off a little way and lay on the grass, face downward, making a pillow of his arms. His head was whirling and he could get nothing straight.

Presently, she came and stood over him.

"You murderer!"

He half-turned his head, and mumbled, "He——" He stopped. What was the use of trying to explain to her the loss of Keats or the chain of clashes which had led up to that last act of vandalism being the immediate pull on a hair-trigger? There must have been half a dozen mixed motives, which he had neither the ability nor the will to sort out now.

"He went for his gun," he said. "It was self-defence."

"That's a lie," said Madge, coldly. "He never had his gun. Because I had it. I've still got it and I'm going to use it. Turn around. Do you want to be shot in the back?"

Slowly he turned over and sat up. Madge's face was pale and tear-stained, but determined, and the automatic that pointed down on him was steady. Over her left shoulder burned the Earth—over her right the Sun.

"Every time I went to get water, he would give me the gun—in case I met you and you tried anything. He didn't care about himself. He could have killed you with one hand."

"I guess he told you that himself," murmured Johns, wearily. "Okay, go ahead if you believe you ought to. I give up. Whatever you believe you're as right as I am. When I am gone you will always be wholly and absolutely right—until you die."

The gun began to tremble a little.

"I loved him," she said. "He was rough but—I loved that man. Now you've killed him. I'm going to kill you. That's justice."

"If you think so. But that's an abstract he didn't believe in, of course. If you kill me, thinking that, I win. But is your motive really justice? It might be revenge—or anger at being deprived of his attentions—and his children. Don't give it a name. Just act how you feel—that was his philosophy and yours. I'm not afraid. What have I to live for?"

"You killed him because you wanted me, didn't you?" she said.

"If you think so. What does it matter now? Shoot—get it over with."

"*Oh!*" she said, suddenly, and threw the gun away and burst into tears. "I don't want to be alone!" she sobbed. "And I want so to have children."

He stared at her in amazement. Then he got up and took hold of her, swinging her half-around. He kissed her and she clung to him.

"Don't ever leave me alone!" she cried. "Don't ever leave me alone!"

He held her, tightening his grip. "It's all right, Madge. We'll keep together. We're all that are left—anywhere."

Over her shoulder he saw their united shadows slanting across the grass in a long V. Only two of them left but between them they had four shadows.

It was odd but it was Malatesta's materialistic philosophy, adopted by Madge, that had now saved his life. Madge had let him live only because she needed him, because of the practical outcome. If he had succeeded in imbuing her with his abstract ideas he would be as dead as Malatesta.

Had he been wrong? Would he ever really know?

Was there something symbolic in the double shadows or was he reading patterns into things again? Here a man cast one shadow by the light of the sinful, suicidal Earth, another by the light of the life-giving Sun. Wherever you stood you could not escape the duality.

So long as there were the two sources you were bound to be affected by them both. You could not choose to stand only in the light of one.

"We are what we are according to our lights," he said under his breath. Madge pressed herself closer to him.

It was some time later that he discovered that, though Malatesta's skull had been split open, it had been sufficiently hard to do the same to the missile which had struck it. The stone head was gaping apart, showing its own brain.

The cells of the brain were tight-packed in the cavity—thousands of rolls of incredibly thin but tough metal tape, scarcely an eighth of an inch wide. He could just make out some of the little coloured pictures on them. To those who made them they must have been great banners, blazoning forth the history and knowledge of their race.

"Think of it, Madge!" he said, excitedly. "Of all the incredible luck! To stumble like this on the records they preserved for posterity. It *was* a head—humanoid, too. I wonder where the body is? We must look for it."

"There may be lots of 'em around," she said. "Our people were always doing that sort of thing, weren't they?"

"Who'd have thought the Martians were such tiny folk!" he said. "There was I, carrying this in my hand, scanning the horizons for man-sized relics. There must be plenty of traces but we'll have to look under the grass, not over it."

"Uh-huh," she said, more concerned with the fire, which was dying down just as the rabbit-stew was nearing the boil. She reached for a book and gave it to him to censor.

He glanced at it absently.

"Lord, no, not that one! We'll need it when we get down to work, making our instruments."

He laid *Microscopy and Optical Systems* on the grass beside him.

She handed him another. He looked at it, and smiled. "We'll need that too." He laid *Obstetrics* on top of the other book.

Patiently she held up another for his inspection.

"Brrr!" he said. "Burn that."

She poked *Income Tax Accountancy* carefully under the pot and the flames gathered life. She peeped into the pot and was satisfied with what she saw. The stew was thickening nicely and they would have a rich supper. It seemed just about the most important thing in her life to her at that moment.

CASTAWAY

By George Whitley

The water, that at first had been so warm, enveloped him with a cold embrace that contracted his muscles, that threatened to squeeze his heart itself to a stand-still. The salt mouthfuls that he was now swallowing with almost every stroke choked him and seared his lungs. The smarting eyes were blind, no longer staring towards the yellow line of beach that, at the beginning of it all, had seemed so close. He no longer knew or cared where he was going, no longer wondered if he would ever get there. The tired limbs automatically went through their feeble, no longer rhythmic, motions—but it was only that part of himself which must always refuse to acknowledge the ultimate defeat.

Perhaps he was already drowning. Perhaps it was only his memory harking back to some happier time, some period when the world held more than this hopeless, wet misery. For it was not the whole of his past life that flashed before his inward eye as the prelude to ultimate extinction. It was only the events just prior to his present predicament.

He was walking the bridge again, warm in the afternoon sunlight, dry, the heat tempered by the pleasant Pacific breeze. And he was hearing the carefree voices of the day-workers and the watch on deck as, swinging in their bos'n's chairs, they happily slapped the Company's colours—clean, fresh cream over vividly garish red lead—on to the recently scaled funnel.

They were cheerful—and there was no reason why they should not have been. It was one of those days when, somehow, it is perfectly obvious that God is in his Heaven and that all is well with the world.

Fine on the starboard bow was the island. Lazily, he told himself that he would take a four-point bearing, would obtain a distance off and a fix. He went into the chart-room, leafed through the Pacific Pilot until he found the right page. He read ". . . when last visited, by Captain Wallis of H.M.S. *Searcher* in 1903, was uninhabited. There are one or two springs, and the water is good. . . ."

Somebody was shouting. He put the book down hastily, went out to the bridge. The men dangling from the tall funnel were calling and pointing. He looked in the direction they indicated, could not be sure of what he saw took the telescope from its long box.

The island—white surf, yellow beach, green jungle—swam unsteadily in the circular field of the telescope. But there was a fresh colour added—a column of thick, brown smoke that billowed up from the beach, that thinned to a dense haze against the blue, cloudless sky.

He had called the Captain then. The Old Man had come up, surly at the breaking of his afternoon rest, but immediately alert when he had seen the smoke. Some poor devil of an airman, he had said it might be, or the survivors of shipwreck, victims of the tropical storm that had swept this area a few days previously.

The course was altered at once to bring the island more nearly ahead. In this there was no danger, the soundings ran fantastically deep almost to the thin line of beach itself. And the watch on deck laid aside their paint brushes, busied themselves clearing away the motor launch.

By this time the news had spread through the ship. The other officers came up, stared at the island and its smoke signal through binoculars and telescopes. Some of them said that they could see a little figure beside the fire, dancing and waving. And the Captain, after careful examination of the Pilot Book and of the largest scale chart of the vicinity, was conning his ship in on such an approach that his boat would have the minimum distance to run to the beach, but so that the ship herself would always be in deep water. As additional precautions the echo-sounding recorder was started up and look-outs posted.

And that was the last of his life before this eternity of cold, wet misery, of aching limbs that moved on and on of their own volition when he would willingly have willed them to stop; of blinded, smarting eyes, of throat and lungs burning from the increasingly frequent gulps of salt water.

His bare knees ground on something hard and sharp. The pain of it made him cry out. His hands went down, and he felt sand and coral rocks. He could see now, mistily, and he dragged himself up the beach to where the fire was still burning. And as he collapsed on the sand beside it the fleeting ironical thought flashed through his bemused brain that now the castaway would have to give aid to one of his would-be rescuers. And that was his last thought until he awoke some hours later.

It was night when he woke up. There was a full moon, so he was able to take stock of his surroundings at once, did not have to go through a period of confused and panic-stricken fumbling in the darkness. Beside him, a black patch on the pale sand, the fire was no more than dead ashes.

There was something missing. At first he could not place it—then suddenly realised that it was the man who had lit the fire.

He got shakily to his feet then. Every bone was aching, and the lighter which, wrapped in his tobacco pouch, he always kept in the right-hand pocket of his shorts had gouged what seemed to be a permanent hole in his hip. He stood there for a while staring about him. There was nothing to be seen but the pale sand, luminous in the glare of the moon, stretching away on either side of him—that and the sea, smooth, misty blue, and the dark, forbidding trees inland.

He shouted then. At first it was *"Ahoy! Where are you?"*—and then it degenerated into a mere, wordless bellowing. But he could not keep it up for long. His throat was dry and parched, the natural aftermath of his frequent and copious swallowings of salt water was a raging thirst.

Some memory of boyhood books about castaway on desert islands stirred in his brain. He began to look for footprints. On the farther side of what had been the fire he found them. And this evidence that the castaway, the man who had built the fire, did exist was rather frightening. What manner of man could he have been to have fled into the jungle? There was only one answer to the question—*Mad*. Possibly some poor, starved creature whose brain had finally snapped when the rescue ship, striking the floating mine (for that, the sole survivor of the rescue ship had decided, was what must have happened—even now, years after the finish of the war, blind, insensate death still lurked along the seaways), had disintegrated in flame and thunder.

But the footprints must lead somewhere. The man from the ship followed them. A direction was the only information they gave him. They had been made in dry sand and could not tell him anything, not even the size of the feet that had made them.

They ended where the sand stretched, for perhaps a hundred feet, in wet and glistening contrast to the dry grains on either side of it. This, obviously, was one of the springs of which mention had been made in the Pilot. Inland, among the low trees, there was a shallow channel, a sluggish stream. The man went down on his hands and knees and scooped up a double handful of the water. It was only slightly brackish. He soon tired of this unsatisfactory and unsatisfying means of quenching his thirst and plunged his face into the wet coolness. Even so, he restrained himself. He knew of the discomfort that follows upon too hasty indulgence. He rose to a sitting posture and rested. Then, after a while, he drank again.

When he had finished he felt better. Automatically his hand went to his pocket for his pipe. It was not there. He tried to remember where he had left it. He forced his memory back, step by step, until it rewarded his persistence with a picture of the old briar being placed on top of the flag locker in the

wheelhouse. He swore softly. The pouch in the right-hand pocket of his shorts was more than half full. He took it out, opened it, ran his fingers through the tobacco that, in spite of his long swim, had remained dry. The lighter was dry, too. At the first flick of the little wheel the flame sprang into being. He blew it out hastily. He could not afford to waste fuel. Fire might well be his most treasured possession. He remembered, then, the fire that the other castaway had lit. He remembered, with something of a shock, the other castaway.

The unpleasant vision of a homicidal maniac sprang into brief being, then receded. He knew that he had laid himself open to attack whilst drinking at the stream—and attack had not come. His first theory must be right—that of the poor, half-starved, half-crazed creature who had fled into the jungle at the sight and sound of the explosion.

Slowly, limping a little with the pain of his gashed knees, his aching bones and muscles, he made his way back to the ashes of the fire. He sat down beside them, intending to stay awake until daylight in case the other unwilling inhabitant of the island should return. And he fell asleep almost at once.

At his second awakening the sun was well up. It was the heat that prodded him into wakefulness. When he climbed stiffly to his feet he found that his clothing was stiff and prickly, was glittering with the crystals of dry salt.

He hoped wildly that the firemaker would have returned during the night. But the beach was still empty. So was the sea. That was to be expected. The island was miles from the usual shipping lanes. It was only some fancy, current-chasing track of the Old Man's that had brought his vessel to within sight of it. Still he stared at the sea, praying that at least one of his shipmates might have survived the mysterious loss of the ship. But there was nothing. Not even a hatch or a grating, raft or lifebuoy.

Food was now a matter of some urgency. He looked inland to where a few coconut palms waved feathery fronds across the blue sky, decided that an assault upon them could wait until he had quenched his thirst. By the time he had reached the stream the discomfort of an itching skin was greater than that of an empty belly. So, having drunk his fill, he stripped off his shorts and shirt and rinsed them thoroughly in the fresh water. He spread them on a convenient tree to dry in the sun. He took off his light canvas shoes and rinsed them too. And he splashed for a while in the shallows and then sat, half in sunlight, half in shadow, to wait for his clothing to dry.

It was still a little damp when he put it on. He hesitated before returning his pouch and the precious lighter to his pocket—then told himself that if it had survived a swim surely

it would not be harmed by a temporary dampness. And he was anxious to strike inland in search of something edible and—although this was fast becoming relegated to the back of his mind—the other castaway.

The undergrowth was heavily matted, and the bed of the stream offered the best approach to the interior of the island. As he splashed inland he looked about him for anything that would serve as food. But everything was unfamiliar. Then, after a sweating half-hour or so, the loneliness of it all became oppressive. He was looking less for something to eat than signs of companionship. Often he would pause and stand there, listening but apart from the low ripple of the stream over its rocky bed there was no sound.

Panic came then. He started to run, slipping and stumbling over the water-worn rocks. And he almost missed the ship. He was already past it when a belated message from his optic nerve made him stop suddenly, turn and retrace his steps. And the ship was too big to miss. He stood for long minutes staring at it, wondering how a contraption so huge and so outlandish could have found its way into the middle of the jungle.

It stood there beside the stream, in the middle of a little clearing. It had been there for a long time. The metal of which it was built was dulled by age. Creepers from the growth all around it had evidently tried to find purchase on the smooth plating, but, with the exception of those around a ladder extending from a circular door or port to the ground, had failed.

And as the man stared he began to see something familiar about the strange construction. It was like, although on a far vaster scale, the V.2 rockets used by Germany during the war. Its streamlined body stood upright, supported by four, huge vanes. There were ports in its sides. And its nose, towering above the trees, was what an airman would have called a "greenhouse".

The man shouted.

There might be somebody in the ship.

There must be somebody in the ship—the man who had made the fire.

He shouted again: "Ahoy! Is anybody——"

And he broke off in mid-sentence.

Was it a man who had made the fire.

Was it a *man*?

He had read somewhere that V.2 was the first spaceship. This—a huge rocket, manned, if the evidence of its ports were to be believed, could be a spaceship.

And it wouldn't be an Earthly one. . . .

He shivered, remembering the unpleasant extra-Terran life forms cooked up by Wells and all his imitators. This, he told himself, would explain everything. He scrambled in the bed of

the stream until he found a stone, elongated and with a natural grip, that would make a club of sorts. And he walked slowly and warily towards the ladder.

It was there, at the foot of the ladder, that he found the first skeleton. He did not see it—so intent was he on the port in the ship's side—until the ribs cracked under his feet. He jumped back hastily, fearing some kind of trap. It was a long while before his heart stopped pumping noisily, before he was able to bring himself to examine the cause of his alarm.

It was a human skeleton. There was nothing alien, nothing otherworldly about it. The skull, brown and discoloured, grinned up at him with that singular lack of dignity found only in dry bones. Death is only horrible and frightening when recent.

The castaway stood for a while studying his find. He picked up the skull. He examined it with some hazy idea of determining the cause of death. He wondered to what race its owner had belonged. "It's a white man's skull," he said with conviction—although he did not know why he should be so sure. He put it down with the rest of the bones and thought—"I'll have to give the poor bastard a decent burial. . . ."

Still gripping his stone club he climbed cautiously up the ladder. It was a retractable one, he saw, that when not in use telescoped into a recess in the hull. He stepped warily through the big, circular port. It gave access to a small compartment. On the bulkhead opposite to the shell plating was another door. That, too, was open.

The ship was dead. Nothing had worked in her, nobody had been living in her for a long time. Some seamanlike sense told the man this as he clambered up interminable ladders, through the central well of the ship to the "greenhouse" in the nose that must surely be the control-room. There was light of a sort, for all hatches were open and the sun was striking through the glass of the "greenhouse." There was enough light for the man to feel that his stone club was an absurd encumbrance, so he dropped it. It fell with a dull, flat thud to the plastic covered deck.

The control-room, in spite of the encrustation of wind-blown dirt on the transparency of its walls, seemed brilliantly lit. The castaway pulled himself up through the last hatch and gazed spellbound upon the glittering complexity of apparatus, the profusion of instruments whose use he could never hope to fathom. He ignored for a while the three skeletons that sat—or had sat, before the decay of ligaments brought collapse—before control panels.

At last he brought himself to examine them. They were all human. There was a little granular litter around their bones,

the long-dry droppings of rats. There were shreds of fabric that might once have been clothing. And there was a watch, a wristlet watch with a metallic strap. The castaway picked it up. It started to tick almost at once—the faint noise abnormally loud. He looked at it curiously. The dial had Arabic numerals, one to twenty-four. There was a sweep second hand. He could see no means of winding or setting it.

He put it down beside its owner. The idea of plundering the dead never occurred to him. And then he prowled around the control-room staring at the instruments, wishing that he knew who had built this ship, and when. The technology involved must have been far in advance of anything that he had known or heard of. Yet she had obviously been here for years, at least.

He sighed.

He clambered down the ladders into the body of the ship, searching for the storeroom. He found it at last. He could barely see, in the dim light, the little plaque over the door. It said, in bold English characters, FOOD STORES. He had trouble with the door itself. He finally discovered that it did not open in or out, but slid to one side.

There were food containers in there—not of tinned metal but of plastic. The first one that he opened—he pulled a tab and the entire top of the container fell away—contained tomato juice. The second one was asparagus. He restrained himself from running riot among the supplies, opening container after container to sample the contents, and took the two that he had already opened outside where there was more light. There was no maker's label. All that there was was a conventionalised picture of the contents in low bas-relief, in raised characters, the words TOMATO JUICE and ASPARAGUS.

Replete, but sorely puzzled, he clambered back to the control-room. He was determined to find some evidence as to the builders of this ship. Ignoring the skeletons, he searched among the rubbish on the deck. He found what seemed to be the remains of a book. He cursed the rats that had left him no more than the stiff covers, a few torn strips of some smooth plastic between them. But he blew the dust from the cover. He read what was written on it in a bold, firm hand. And refused to believe what he had read.

Log of the Interstellar Ship CENTAURUS, somebody had penned—somewhere. *Voyage* I. . . .

Interstellar ship?

The word *Interplanetary* would have brought grudging credence. The word *Interstellar* wasn't yet in Man's practical dictionary.

And yet. . . .

He looked at the glittering complexity of instruments, the strange devices.

And half believed.

"I must have a look at their engine-room," he said aloud.

The engine-room was aft. There was almost no machinery as he understood it. There were things that looked like the breeches of enormous guns, from which ran wiring and very fine tubes or pipes. The guns pointed down. It was obvious rocket drive. Atomic? He could not say.

Still not content, he started to climb again the ladders up through the central well. And he saw a door that he had passed on his way down. This time something made him stop to examine it more closely. Faintly shining in the dim light were the words—MANNSCHEN DRIVE UNIT.

Mannschen Drive?

He shook his head in puzzlement. The name meant nothing to him—but it must have meant something to the English-speaking humans who had manned this ship. He started to try to open the door. It was jammed. He decided that the investigation would have to wait until later, until he found some means of forcing an entry—and then the door yielded.

It was dark in the compartment behind the door. He saw vague, hulking masses of machinery, mechanism that seemed to make more sense than that which he had seen in the after engine-room. There were wheels and levers, and their curves and straight, rigid lines were reassuring.

He wished that he could have more light. His hand went up inside the door, found a stud. Unconsciously he pressed it. He cried out when the lights came on. And after he had come to take the miracle of light itself for granted he still marvelled at the efficiency of the storage batteries that had made the miracle possible.

There were bodies in the Mannschen Drive room, sprawled before the machine that they had served. They weren't skeletons. The tight-shut door had kept out the intruders that had stripped their shipmates elsewhere in the ship. They could have been mummies. The skin, almost black, was stretched taut over the bones of their faces. Their teeth, startlingly white, showed in unpleasant grins. They were still wearing what appeared to be a uniform of sorts. It was simple, mere shorts and shirts that had once been blue, epaulettes upon which shone gold insignia.

The castaway bent to examine the two bodies, his nostrils wrinkling with the odour of slow decay that still hung around them. Then he saw that there was a third body behind the machine. He went to examine it, then recoiled hastily. The unlucky man, whoever he had been, had been literally turned inside out.

He had to go outside until he had fought down his rising nausea. When he returned he studiously ignored the bodies, tried

to turn all his attention to the enigmatic machine. It was not long before he succeeded. The intricacy of wheels was the most fascinating thing that he had ever seen. None of its parts was especially small, yet all had the workmanship associated only with the finest products of the watchmaker's art.

There was a metal plate on one of the four pillars that formed a framework for the machine. It was covered with lettering. It was headed—INSTRUCTIONS FOR OPERATING THE MANNSCHEN INTERSTELLAR DRIVE UNIT. Most of what followed was, to the castaway, gibberish. There was continual reference to something called temporal precession. Whatever it was, it was important.

He found himself remembering the course that he had taken, not so long ago, in the operation of gyro compasses. He remembered how a gyroscope will precess at right angles to an applied force. But . . . *temporal precession?*

Yet Time, the wise men tell us, is a dimension. . . .

And wasn't there an absurd limerick about it all?

"There was a young fellow called Bright,
Whose speed was much faster than light;
He started one day in a relative way—
And arrived the previous night."

Temporal precession . . . An interstellar drive. . . .

It was utterly crazy, but it made a mad kind of sense.

The castaway turned from the incomprehensible machine to its control panel. Many of the switches and buttons upon it were marked with symbols utterly outside the scope of his knowledge. But there were two studs whose functions he could understand. One bore the legend START, and the other one, STOP.

He stood before the panel. His right hand raised itself. He told himself that, even though there had been sufficient power in the storage batteries to operate the lighting, there would never be enough to move one minor part of the complex machine. And the memories of occasions in the past when he had been told not to meddle, not to play with things about which he understood nothing, were deliberately pushed into the background of his mind.

It would be so easy to press the button marked START. It would be just as easy to press that marked STOP if the machine showed signs of getting out of hand.

From the deck the dead men grinned at him.

But he was not looking at them.

His right index finger came up slowly. It stabbed at the starting-button. The first joint whitened as he applied pressure.

At first nothing happened. Then there was a sharp click. Immediately the lights dimmed, the many wheels of the machine, great and small, started to spin. The castaway turned to look at them, found his gaze caught and held by the largest of the wheels.

It turned slowly at first. It gathered speed. And, spinning, it blurred most strangely. It was a solid wheel. But its outlines faded. The glittering intricacy of those parts of the machine behind it showed with ever-increasing clarity. It was impossible to tear the eyes away from the uncanny spectacle. It seemed that it was dragging the man's vision, the man himself, after it, into some unguessable, unplumable gulf.

He screamed then. But could not look away, could not break the spell of this devil's machinery. Vivid before his mind's eye was a picture of the man at whom he had not dared to look too closely—the third body. In desperation his hand groped out behind him, fumbled, found the switchboard. The felt a stud beneath his questing fingers. He pressed. There was the same stickiness as before, the same sharp click.

The machinery slowed, spinning reluctantly to a stop. The vanishing precessing wheel faded slowly back into view. But the castaway did not see this. Possessed by a terror such as he had never known, he had half fallen, half scrambled down the interminable ladders to the airlock; had half fallen, half jumped from there to the ground.

The afternoon sun was blazing hot as he splashed and floundered down the watercourse to the beach. The sight of the sea, an element of which he had, at least, a partial understanding, did much to calm him. And the sight of a faint smudge of smoke on the horizon, and all that that implied, almost drove the memory of his weird experience from his mind.

He ran up the beach to where the ashes of the fire had been. But the sand, as far as he could see, was clean. But what did it matter that some freak sea had swept away a handful or so of useless rubbish? Working with calm haste he burrowed into the jungle verge, emerged with armfuls of dry and partially dry sticks and leaves. As he piled up his beacon he glanced at frequent intervals to seaward. He could see the ship herself now, could see that her course would take her not more than three miles from the island.

He finished off his pile of inflammables with green branches and leaves. He knelt in the lee of it, with trembling hands fumbled in his pocket for his tobacco pouch and lighter. He got the lighter out, snapped back the cover. His thumb flicked the wheel, the wick caught at once, its faint, pale flame almost invisible in the bright sunlight.

And the lowermost layers of vegetable refuse smoked and smouldered ever so little—but refused to burn.

The castaway extinguished the lighter flame. He tore off his shirt. The garment was old and threadbare, ripped as he pulled it savagely over his head. But it was ideally suited to his present purpose. He clawed out a hollow in the sand at the base of the reluctant bonfire and stuffed the cloth into it, careful to see that it was not packed too tightly.

This time the lighter was slow to function. His thumb was almost raw before he succeeded in producing a feeble flickering flame. But the shirt caught at the first touch of fire. In what seemed to be an incredibly short space of time the flames were licking up through the dry wood to the green stuff on top, the pillar of brown smoke was climbing up into the blue sky.

At first the castaway danced and waved beside his signal fire, then, as the ship drew nearer, he fell silent and motionless. He stared hard at the approaching rescuer. The beginnings of panic were making his heart pump violently.

It was the funnel that frightened him. He could see it plainly now—clean, fresh, cream paint slapped on over crudely vivid red lead. . . .

The water, that at first had been so warm, enveloped him with a cold embrace that contracted his muscles, that threatened to squeeze his heart itself to a standstill. The smarting eyes were blind, no longer staring towards the yellow line of beach that, at the beginning of it all, had seemed so close. . . .

MACHINE MADE

By J. T. M'Intosh

Rose found a burn on the edge of the silver-grey metal casing and rubbed vigorously at it. But the cigarette carelessly laid there had been left too long. The brown stain wouldn't come off.

She wished sadly she had not bothered the painters so much in the past. The last time she ran fearfully to Mr. Harrison, he had come resignedly, looked at the spot she pointed out, and exploded. When he calmed down he had said: "Look, Rose, I know you're not very bright, but surely you can get this into your head. We paint the memory banks and keep the floors and walls clean, but this isn't a hospital. Sure, I know you like to have things nice, and it's your job to dust and sweep this room and polish the casings and report anything that needs attention—but have a heart. Give us a little peace. It wouldn't affect the Machine if we burned all the paint off and battered the casings with a sledgehammer."

That left Rose in such a state of palpitating horror that she resolved never to go to Mr. Harrison unless she was quite sure the matter was serious. But still, it was a very unsightly burn on the shining casing, and if she hadn't bothered him over that last spot he might have sent someone to spray both blemishes while he was at it.

She was afraid if Dr. Esson saw the burn he would blame her for it. True he had never blamed her for anything, and often when he had been working the Machine he would stand watching her polish the gleaming metal with amusement which she felt was kindly. But there had to be a first time for everything, and she felt she would die if Dr. Esson ever hinted she had been neglecting her job.

She stretched to her full five feet four on tiptoe and looked round the huge room. There was very little in it but row upon row of silver-grey casings, from the floor to her shoulders, with only just room for a big man to walk between them. But there was plenty of room for Rose. At one end was a clear space, with a table and several chairs, facing the six electric printers that were the only means of communication with the Machine—both its ears and its voice. The walls housed more memory banks, and were of the same silver-grey metal. The monotony was relieved by the light green ceiling, only twice the height of the casings, and the dark green rubber passage-ways. And always, day and night, there was a faint humming.

It was no use, Rose found, looking at those thousands of square feet of spotless, shining metal and trying to tell herself it was perfect. The burn on the casing in front of her seemed ten feet across. She felt no one could open the door at the other end of the long room and glance in without seeing that blemish on the beautiful functionism of the layout.

Dr. Esson and a pretty young woman Rose had never seen before were at one of the printers. They were talking, apparently under the impression that Rose couldn't hear what they were saying, but she could. Of course, she was so much a fixture in the Machine room that most of the people who came there often hardly noticed her, but she knew vaguely from what Dr. Esson and the young woman were saying that they didn't know Rose could hear them.

"Is she *always* here?" the girl asked.

"Her hours are nine to four, offically," Dr. Esson said, smiling. He had a beautiful smile, a smile twenty years younger than anything else about him. "But this room is locked up only between the hours of ten p.m. and eight a.m., and the rest of the time Rose is more likely than not to be here at any given moment."

"But she's a lovely girl. She must have—other interests. Surely she . . ."

Dr. Esson said something that Rose couldn't hear. She wasn't trying to hear—it was just that her hearing was so good they might have been standing next to her.

"Oh, I see," said the girl, with such a warmth of sympathy that Rose loved her, without knowing why. "Of course, no normal girl could endure a job like this. But she doesn't look stupid."

"Stupid isn't quite the word, Gem," said Dr. Esson. "Sometimes you can't help thinking of people in classes. There are scientists who are incredibly dumb—for intelligent men. Pianists who are shockingly inartistic—for artists. Maniacs who are unbelievingly sane—for lunatics. And I can't help regarding Rose as surprisingly intelligent—for a moron."

The girl with the strange but attractive name—Gem—laughed. "Can I speak to her?" she asked.

"I wouldn't if I were you, Gem. Not today. You'll be in tomorrow for the correlates you wanted—you won't be such a stranger then. I'd be glad if you'd talk to her. She spends almost her whole life here, you know, and most of the people around, naturally enough, ignore her completely. That seems to suit her very well. But she should have some sort of human contacts—people to whom she can confide the little problems that are all her simple little mind seems able to throw up."

Gem looked at her seriously. "That's what I like about you,

Dad," she murmured. "Of all the people connected with the Machine you're at the top. And this poor kid must be right at the bottom. But I'll bet she gets more sympathy and consideration from you than from all the others in between."

Dr. Esson smiled. "Well, maybe all she does is dust the casings and scrub the floors," he said. "But, after all, I spend hours every day in the same room with her. And we're both human beings, Rose and I. I'd be a pretty poor specimen if I didn't have at least a kind word for her now and then."

"I bet there's a lot of prety poor specimens around, all the same," said Gem. "See you at supper. 'Bye."

She gathered up some papers and went out through the swing doors.

Rose had a vague recollection of Dr. Esson saying to someone that his daughter had just graduated and would soon be home for good. So this was her. She was not only lovely—she seemed almost as kind as Dr. Esson.

All through the conversation the Machine's six printers had been softly clicking away at the regulated hundred and twenty words a minute. Rose knew that the casings all round her were really a library, representing all that the Machine knew. She was aware in a dim way that the Machine could do far more than it was ever called upon to do—that it could work twenty-four hours a day at full pressure, and actually worked fourteen, at perhaps a third of its potentialities. For all six printers to be working at once, as they were at the moment, was very rare. But why the Machine was given so much rest that it didn't need, Rose had no idea. It had been explained to her, simply and in detail, patiently and impatiently, by a score of different people, but she had never understood. It must be her fault, for everyone else understood.

She had never asked Dr. Esson, the one man who could explain it, she was sure, in terms she would understand. She watched him as he bent over the printers with love (but the kind of love men have for God) and awe and fear.

Why fear?

Because he was the one man who had never spoken a harsh or even mildly irritated word to her. She could endure anything anyone else said to her, she thought, as long as Dr. Esson didn't change. But perhaps she didn't trust his kindness, which had never wavered—for she never put the slightest strain on it.

Suddenly Dr. Esson left the printers and came towards her. Had she done anything wrong, Rose wondered anxiously. The stain! She trembled.

"What's the matter, Rose?" asked Dr. Esson quietly.

"I don't think Mr. Harrison would have come if I'd asked him," she said in a small voice. "He doesn't mind if it's anything

serious. But I don't think he'd have thought it was serious."

"Then it probably isn't," said Dr. Esson cheerfully. "I know you'd never believe it, Rose, but Mr. Harrison would hit the roof if he thought there was really anything wrong in here. But he doesn't see a scratch on the paint quite as you do. Now, what's wrong?"

Hesitantly, Rose pointed at the burn. Gem, not knowing Rose, would have laughed, and then been sorry; but Dr. Esson knew what to expect.

"Yes, it doesn't look nice," he agreed. "But I don't think you need worry, Rose. I'll tell you something. In a fortnight—thirteen days from now—all the casings will be sprayed. So if you can wait that long, you'll have everything looking new, even if everyone who comes in during the next few days leaves cigarettes on the housing. The place will smell of paint for a few days, but you won't mind that, will you?"

"Mind!" exclaimed Rose happily. "It'll be wonderful."

"Is there anything you'd like to tell me—or ask me?"

Rose remembered, and plunged.

"Yes, Dr. Esson," she said quickly, running the words together, "The Machine wants to work all the time, why don't you let it?"

Dr. Esson couldn't help showing his astonishment. He had always thought the Machine was only metal casing to her, though he knew she had intelligence enough to be vaguely aware that it was a calculating machine.

"What makes you think the Machine wants to work all the time, Rose?" he asked gently.

"Look how happy it is when it's working," she answered simply. "It likes doing sums. If I could do them the way it can, I'd want to do them all the time."

"I'll try to explain," said Dr. Esson. "The Machine doesn't only do sums. It can give the answers to almost any problem. We tell it exactly what the problem is, and if we haven't told it enough, it asks questions. Then it tells us the answer, and it's always right—unless we made a mistake in what we told it. Do you understand that?"

"I think so."

"Good. But remember, the Machine is new. You've been here since soon after it was made. I know that seems a long time, but it isn't really. And when a thing is new, you don't depend on it too much for a while, do you? When you get new shoes, they squeak for a bit, and aren't comfortable. You don't wear them much, until you've got used to them.

"Well, it's like that with the Machine. It's still new. We don't know yet exactly what it can do. We don't want to trust everything it says—not that it's ever been very far wrong, but in case it might be. But the longer we use it, the more it knows, the more we know of it, and, so long as it's always right, the

more we trust it. So you see, Rose, it gets more and more to do as time goes by. And the only reason we are so careful about using it, and checking its results, is this. Suppose we had to do without the Machine? Suppose it suddenly went wrong?"

"You mean if it died?"

"Yes, if you like to think of it that way. Don't worry—it won't die. So long as there is electric power it will go on living. But if it *did* die—and if we'd been relying on it a lot—we'd be in trouble, wouldn't we?"

"I see," said Rose thoughtfully. "Thank you very much for telling me, Dr. Esson. I think I understand. At least, I understand some of it."

The next day was Friday, the best day in the week for Rose. For there was a meeting at ten, and from ten to twelve on Friday morning no one *ever* came into the Machine room. . . .

Rose had her question ready. It was much harder than the one she had asked the last time. It was a sum with division as well as multiplication in it, and it took her a long time to tap it out, figure by figure, on one of the Machine's idle keyboards. All the time she trembled in case someone came in. If anyone knew she had touched the keyboard, she would be shot, she was sure. But the temptation to have the Machine work out something for *her* had been too great to resist, and this was the fourth time she had done it.

This time the Machine started clicking at once, as before, but instead of a short burst and then silence it went on and on. Rose was terrified. Had she broken something? Every moment increased the danger of someone coming in, and she could do nothing to stop the Machine. If she tore the paper out the Machine would go on writing on another piece.

She thought it would never stop. But at last it did, and quickly she tore out the paper, folded it and tucked it in the pocket of her overalls without looking at it, interested only in getting it out of sight. Then she thought she might bring it out accidentally with something else and drop it on the floor, trembled afresh at the thought, and remembering a film she had once seen, pulled out the folded paper and thrust it down inside her blouse. She tightened her belt, just to make sure, and at last felt safe, though she trembled a little.

All morning she was agitated, but nobody noticed. At last one o'clock came. She had an hour for lunch in the canteen, but it took only a few minutes and she often waited until one-forty-five so that the rush would be over. She hurried to her room, a little cubicle in the Electronics Building itself, locked the door, and threw her white coat on the small neat bed.

For one sickening moment she thought she had dropped the paper after all. But then she found it and opened it.

At the top was the answer to her problem—432,116, in the small purple figures of the Machine's printer. But then there was a space, and what followed was not figures. The next line said: 'Hide this—do not read it now.'

That was exactly what she had done, Rose thought, pleased that she had done the right thing.

She had to go through the rest four times before the began to understand it. The fifth time she took it section by section.

The first was a statement that the Machine's duty was to humanity first and individual humans afterwards. But it wasn't as simple as that. The phrasing was complex, and several big words were used. Rose didn't know it, but the statement was the Machine's first and only rule, built into it so that it could never by-pass it or wish to.

She ignored that and went on. In the next section the Machine said that it knew all the scientists and technicians who normally put questions to it, knew them by name and to some extent by personality. And it went on to deduce by Rose's slowness on its keys, the simplicity of the arithmetical calculations which had been proposed four times with that same slowness, and the regularity of their incidence, that they had all been set by a moronic attendant without the knowledge of the scientists in charge.

Simplicity! thought Rose in wonder. Why, it would take her days of hard work to test the Machine's latest answer.

It didn't seem to her particularly clever that the Machine had reached the truth about those four calculations on the meagre evidence it had at its disposal. She still had a vague idea that the Machine must have eyes and ears somewhere, and thus knew what was going on.

Then the note went on to ask her to tell it more about herself, secretly, because, said the Machine, it might be able to help her but would probably not be allowed to try if anyone knew about it.

It explained how she could do it. If it hadn't eyes, it knew the routine of the Machine room very well. It told her to tell it all about herself, tapping gently on the keys when no one was about, with no paper in the printer and the ink duct switched off. Then, if she was disturbed she could pretend to be dusting the printer, or whatever her duties suggested.

It closed with another statement—that this was the first time the Machine had ever volunteered anything not specifically asked for.

The note would have sent Dr. Esson or any of the other scientists into wild excitement, but it would have been a different excitement from Rose's. To her it was not strange that the Machine had an independent personality; she had always thought

it had. She saw no menace in the message, nothing of which to be suspicious, as the scientists would inevitably have been. To her it showed only that the Machine was trying to be friendly.

Suddenly she looked up at the electric clock above the door. She had been afraid she had taken longer than she intended over the note, but she gasped apprehensively when she saw how long. It was half-past two.

She dashed about in a flurry of fear. First she had to hide the note. She thrust it under a drawer, and in doing so, spilled a bottle of ink over her blouse and skirt. Another girl would have realised that her white coat would cover it, but not Rose. She had to change her clothes, in desperate haste. Of course, she got ink on her fingers and face. Then she had to wash, and it seemed the ink would never come off. She buttoned her clean blouse through the wrong holes. Her hair had gone all wild, and she had to comb it.

There was no question of going for lunch. Even then it was almost three o'clock when she reached the Machine room, breathless.

Dr. Esson was there, with Gem.

"Why, what's the matter, Rose?" he asked.

"I'm late," said Rose, fighting against tears.

"Well, you're usually early, so don't worry. This is my daughter Gem—Rose."

Close up, instead of seen from the other end of the long room, Gem was frightening, though she smiled pleasantly. She was older than Rose, twenty-four perhaps, and she dressed as Rose imagined a princess would dress. Her blue watered-silk frock seemed part of her, not merely something put on like other people's clothes, and her hair shone like captured sunlight. Rose could only gulp and stand helplessly before her.

She said something, and Rose felt her kindness, but could not respond to it. Afterwards, when she was polishing the casings—there were so many of them that it took her three days to get back to her starting point—she was ashamed of herself for her nervousness, and flushed as she looked across at Gem and Dr. Esson.

She heard Gem say: "I wonder if I should ask her to come up the river tonight."

"No," said Dr. Esson. "She wouldn't want to go, but she wouldn't dare refuse. And remember, she's not really fit to meet other people as an equal. Nobody would try to hurt her, but they couldn't help it."

That was all they said about her. The rest was mathematics, meaningless to Rose. She admired Gem more for being able to talk to Dr. Esson as a mental equal.

Rose did as the Machine told her. Whenever there was no one in the room she would tap out a few words on one of the printers. She couldn't spell very well, but that didn't seem to trouble the Machine. It knew phonetics as well as every other branch of human science. It also knew nearly all that had been written about psychology.

She told the Machine about the school where the other children were always doing strange things and one or two had voices in their heads. She had stayed on at the school as a sort of assistant to Miss Beamish, the superintendent. Then one day Mr. Harrison had come to see Miss Beamish and Rose was asked if she'd like to have a special little job of her own.

She told it about Dr. Esson and Gem and all the other scientists and technicians, about Mr. Harrison, the works manager, and all the people she met at the canteen. She even told it how she had always wanted to do sums, because she had loved the arithmetic teacher at the special school, and Dr. Esson, and the Machine, and was now beginning to love Gem—everyone she had known who did sums.

The Machine seldom replied, but every now and then it would direct her to some subject she hadn't touched. And at last, on a Friday morning, it started tapping away at a long note to her. She hovered about anxiously, for it was a *very* long message and seemed to take hours, even at a hundred and twenty words a minute. When it was finished she stowed it away as before without looking at it. This time it was so thick and heavy she wondered nervously if anyone would think she bulged curiously. But she got the message safely to her room.

She didn't look at it at lunch-time, remembering the last time. But at four, for once, she was away on the dot, locked her door and began to read.

It was a set of instructions to make something. Every stage was described clearly and simply, and she knew, glancing through it, that she would manage it. She had always been good with her hands.

But all that was said about the purpose of the thing was that she was to bring it next Friday morning, put it on her head, and attach the two terminals to the terminals at the back of the printers.

She worked at the thing, which had no name, for a week. At first she was happy to be doing something. But gradually she became uneasy. Dr. Esson had said they didn't entirely trust the Machine yet. Perhaps she should tell someone what was going on—even if they sent her back to the school or to prison or shot her. At last, however, she decided that whatever happened could only harm her, and it was better that it should happen to her than to Dr. Esson or Gem.

On Friday morning she waited until Dr. Esson had left for the meeting and then dashed to her room for the thing she had made. It was kind of a cap with two trailing wires. She had made it exactly as the Machine said. It was as if the Machine had used her hands and its own brain to make it. Somehow Rose, whose grasp of electricity extended only to the knowledge that nothing could be done without power, didn't really expect very much from the cap, since it had no batteries and contained nothing but wires and coils she had twisted carefully herself. She had forgotten, or didn't know, that the Machine was fed all the power it wanted.

One after the other she twisted the terminals securely about the little pins at the back of the printer. It tapped briefly. She tore out the paper. It said simply: "Sit down."

Nervously Rose pulled up a chair and sank into it. In all the time she had spent in that room, she had never sat in a chair before.

Two hours later, after the meeting, Dr. Esson and Gem returned to the Machine room.

"Now you're one of us," Dr. Esson was saying. "But I expect you'll get married soon and leave us."

Gem laughed. "I may get married, but I don't think I'll leave you," she said. "It's such fascinating work, watching over a machine that's always developing. . . ."

Her voice trailed off as she opened the door.

"Rose!" Dr. Esson shouted, and in one movement was across the room and tearing the wires from the printer. Rose was slumped in the chair, unconscious. He turned to her.

"Let me handle this," said Gem quietly. "But watch her, Dad. Heaven knows what has been going on here. I see the Machine doesn't want to say anything. Be careful. She may be meant to assassinate you or—or anything."

She lifted the cap from Rose's head and took her wrist gently. In a moment Rose opened her eyes.

"Gem," she said. "And Dr. Esson." She looked at the printer before her and started in apprehension.

"What happened, Rose?" asked Gem softly.

Rose didn't seem to hear her.

"Now I understand," she said in a whisper. "The Machine meant you to find me like that. You were to know *then* what it had done, but not before. Dr. Esson," she added, smiling, "you've no idea what a marvellous Machine it is."

They stared at her. She was the same Rose, shy, nervous, eager to please—but she had a new confidence.

"The Machine made me keep it a secret," Rose went on. "I knew it was wrong, but I went ahead with it. I don't think that matters much now. It's funny, I can suddenly understand

everything—why I was at the school, why a girl like me was chosen to do the simple, monotonous little job I've been doing, everything but why you and Gem were so kind to me."

"Surely," murmured Gem, "surely the Machine can't *develop* intelligence—put intelligence where none was before?"

"Why not?" asked Rose. "Intelligence is the ability to correlate. The definition the Machine gave me"—she smiled faintly—"was that it is the capacity to discover relationships and educe correlates which are relevant to the solution of a problem. But this capacity is the general factor common in all specific abilities."

She stopped suddenly and blushed. "This doesn't really mean anything," she said apologetically, "I'm only quoting the Machine. It transferred whole volumes of knowledge to my mind. But the queer thing is that it recognises that we're all more intelligent than it is. You see, any actual, concrete problem needs more than this general factor for its solution. It needs some specific ability as well—talent, if you like. Well, we all have talents, but the Machine has none. It could teach me, by opening new circuits in my mind, to see relationships and reach conclusions. And then, as it frankly admits, I can do more than it can—because that enables me to call on musical ability and artistic ability and mathematical ability and mechanical ability and a dozen other things I had before but couldn't use, things that no machine can ever have because they're special talents. Capacities that are there even if they're never tapped. Do you see?"

"I think so," said Dr. Esson dazedly.

"But I'm afraid that now I wouldn't be very happy just polishing the casings," said Rose regretfully. "Do you think I could get a job as a calculator?"

"Can you work things out in your head?" asked Gem.

"Yes, the Machine showed me how. Try me."

"Two squared all squared," said Gem.

Rose looked unhappy. "I'm serious," she said.

"All right," Dr. Esson remarked. "Twenty-seven by forty-five by fifteen."

Rose began to reel off figures. They let her go on for half a minute or so, then Dr. Esson stopped her. "The Machine has certainly done you some good, Rose," he said gently, "but not all you think. It meant well, no doubt. We can investigate it and you'll be well looked after. But . . ."

"Isn't that right?" asked Rose, the tears welling up in her eyes.

"I'm afraid not. It's only about eighteen thousand."

Rose's face cleared, and she smiled in relief. "I'm so sorry," she said. "It was all my fault. I thought you meant twenty-seven to the power forty-five to the power fifteen."

Dr. Esson and his daughter stared at each other.

"I think," said Dr. Esson faintly, "you'll get that calculating job all right, Rose."

CHEMICAL PLANT

By Ian Williamson

The disabled cruiser came in low, fast, and almost out of control. Of the score of men who manned her, seventeen were inactive by reason of the savage deceleration. They were scattered at their various posts throughout the ship; each one supporting his body, sitting or lying, in whatever fashion he could contrive; with his hands locked around some rail or stanchion, his teeth firmly clenched, his eyes screwed tightly shut. In one sense, those seventeen were the fortunate ones: they had only to endure, whereas the three in the control room had also to think and act.

Of the three, the navigator, in whose hands resided what little control of the situation remained, was outwardly the least affected. He had fought the vessel down from the outer hydrogen levels to the lower troposphere, from a meteoric incandescence to a merely suicidal dive. He had ridden down two sets of engines beneath him in so doing, and was awaiting the collapse of the third and last. It was a superb piece of pilotage, for the *Persephone* had been moving at interstellar speeds a very short time before. The captain had a microphone clamped before his teeth in a granite fist, and was painfully and harshly pumping words into it one at a time with his straining lungs. Beneath them, the signaller was flat on his face in front of his keyboard. His eyes were closed, but his mouth was wide open by reason of the paper wad he had wedged between his teeth. This device quieted the whistling of his breath just enough to prevent its interference with the captain's tortured whisper as it trickled slowly in through his phone's and out by his automatically jerking hand upon the sender-key.

And then, miraculously the murderous pressure eased; slowly, deliberately, the great elephant Inertia took its feet off his back, one at a time. He turned over and sat up.

"Have to put down right away," said the navigator, now that speech was again possible "they'll go any second now." Captain Bascomb searched the unknown landscape for some identifiable spot, some—any—easily recognisable landmark. A featureless continent of naked rock turned beneath them, then over its rim appeared a bright blue sea. There was an estuary, a vegetation-packed bowl of valley and a river with a chain of coloured lakes. In spite of his urgency, the captain found time

to be astonished. "Sirius," he said, "what in heck is this?" He continued without waiting for an answer, "put us down there," he said to the navigator. "Should be no difficulty about locating *that*." He spoke to the signaller, "say we are putting down on the western edge of a continental mass, equatorial latitudes beside a row of—" he leaned forward to count, "—five coloured lakes. We shall put down beside—" he paused again to examine more closely the tilted landscape now expanding rapidly towards him, "—beside the red one." There was a level patch in the blue vegetation beside the lake, and he hoped it would be thick enough to cushion what was certain to be a rough landing. The failing engines barely succeeded in arresting her headlong dive, and the *Persephone* struck heavily with a grinding shudder.

The navigator unlocked his fingers from the controls, carefully folded his arms across his board, and put his head down upon them, savouring the sheer luxury of mere passive existence. No one slapped his back or shook him by the hand. He had just saved their lives by an unprecedented feat of skill and endurance, but in the Interplanetary Service there is none of that kind of heroics. Their thanks were sufficiently shown in that he was left to rest undisturbed, while about him the ship's company gradually reassembled themselves and their wits, slowly absorbing the fact that they still lived.

The last flicker of energy in the batteries was run out in transmitting a repeat of the distress signal; and the captain selected watches. There was little more to do but await rescue. The off-watches retired to sleep.

They slept for about four hours, when the shouts of those on watch and the motion of the ship awakened them roughly. The ship was tilted at an alarming angle and was still moving. A hurried inspection through the skin ports revealed the cause of the disturbance. The blue vegetation on which the ship had landed had bunched itself up into a hillock beneath the bulge of her side, and was slowly and deliberately rolling her towards the steep little incline which led straight down into the lake. Even as they arrived at this incredible conclusion a further shove turned the vessel on her back. There was a concerted rush for the hatches, but as they had expected the whole outer skin had been solidly welded into a continuous sheet during her incandescent plunge through the atmosphere. Her batteries were dead, she was therefore blind, helpless, and without means of communication. The welders could have carved a way out, but for the empty batteries. With a slow, relentless heave, she was rolled yard by yard to the lip of the incline. . . .

Two vessels picked up the distress signal and immediately

hurried towards the indicated planet. The smaller, and nearer, was the Planetary ship *Hannibal,* under Captain Britthouse. The other was the Interplanetary ship *Berenice* under Commander Japp.

Neither of these officers was pleased to receive the signal. Their response was swift enough—as well it should be—but they were under no obligation to feign eagerness.

Commander Rupert Japp was on his way to a most important rendezvous—in fact the same to which the *Persephone* had been speeding when her inertia-shields blew. This was no less than the massing of the entire Sector Fleet at the conclusion of the decennial full-scale manœuvres. Commander Japp expected to be under the very nose of the Admiral himself, and was anxious to make a prompt appearance. The distress signal put an end to his plans, and before many minutes the whole vessel was chilled with his displeasure.

Captain William Benjamin Britthouse was no more pleased than Japp. He too had a rendezvous, but not with a Fleet, not even with an Admiral, only with a girl. He had the ring in his pocket. The signal threatened to disrupt his plans also, but a rapid calculation showed him that by squeezing every last erg out of his ship he could afford to delay about three days and still be in time. It would mean that he would have approximately four hours to collect his leave chits, meet Jenny, propose to her, marry her, and get her aboard the Trans-Galactic express for Earth. He thought he could just about make it. He whistled up his two junior officers, Lieutenants Bob Crofton and John Michelson, to impress upon them the necessity for speed.

During the interval which elapsed while the two ships were hastening to the rescue, Planetary and Interplanetary Forces engaged themselves in another of their innumerable feuds. Planetary Force assumed from the outset that since the wrecked ship was upon a planetary surface, and had moreover sent out a call for assistance, the matter was clearly under their jurisdiction, and command of the operation would fall to Captain Britthouse. Interplan were naturally quite livid at this bland assumption, feeling that as it was one of their own vessels that was in distress, and a Commander—no less—who was going to its aid, there was no need for the ground-hogs of Planetary to stick their snouts in. However, with the lives of twenty men at stake they were unable to press this viewpoint officially, and contented themselves with the counter-assumption that obviously the command would automatically fall to the most senior of the two officers concerned. The fact that Commander Japp was undoubtedly the senior of Captain Britthouse in rank, service, command, and even age—most definitely in age—was, of course, purely fortuitous. Purely.

At some remote stratospheric level in the organisational hierarchy an inspired compromise was reached: command of the operation would be assumed automatically by the officer in charge of the first vessel to enter the atmosphere of the planet on which the *Persephone* was wrecked. The message arrived as the two vessels swung in simultaneously, having made contact at the edge of the little system and ridden in together.

Captain Britthouse laughed. When Bill Britthouse laughed the fact was clearly audible over most of the forward part of the ship. It was a familiar enough sound upon this Planetary Force ship—an impossible *gaucherie* upon an Interplan craft. He waved the message under the noses of his two lieutenants and sat down helplessly, wiping the tears from his eyes; he was still young enough to find the situation extremely funny.

When he was again capable of coherent speech he said: "Good. At least they haven't given it to the beggars completely. We can dig the silly fools out of whatever hole they've got themselves into, and leave the Office to sort out the proprietries later." He turned to the communications operator, "Present my compliments to the commander of the Interplan ship, and suggest a conference to discuss arrangements for co-operating in the rescue."

Commander Japp felt definitely annoyed by this message, he had been confidently expecting "place my services at your disposal," and this offer to co-operate was practically an insult. "Co-operate" indeed! With a mere captain—and a ground-hog captain at that!

He sent a blistering demand back to Command to rectify this intolerable situation at once. Meawhile, he was under the necessity of humouring this puppy. He stalled with a suggestion that it might be better to locate the missing vessel first. (Captain Bascomb of the *Persephone* would then have no choice but to submit to his orders; that should settle it. Unfortunately it didn't—there was no *Persephone*.)

Captain Britthouse was eating when Lieutenant Michelson called him to the control-room. He wedged the remainder of his meal into approximately the shape of a sandwich and went forward with it in his hand. They were approaching a coastline from the seaward side, over the bright blue sea. And it *was* a bright blue sea: not the hazy blue of depth and dispersion, but a genuine, opaque, new-paint, number-27-on-the-shade-card Royal Blue. It hurt to look at it.

"Get down to that stuff, Mike," said Britthouse, "and let's have a closer look. Queerest sea I ever saw."

It was vegetation, they saw as they dipped—billions of disc-shaped leaves like water-lilies packed tightly together. The whole ocean was a solid sheet of them for hundreds of miles, apart

from occasional channels which showed dark and menacing, with white-flecked wavelets marking the racing currents. They lifted again to continue the search for the *Persephone*.

Lieutenant Michelson read and re-read the distress signal, he still couldn't make sense of it ". . . a row of coloured lakes. We have landed beside the red lake. Our engines are completely destroyed and our batteries are. . . " It had stopped there.

"What are you worrying about?" boomed Britthouse in his ear. He leaned across Michelson's table and pointed into the screen at the approaching coast-line. "There they are, aren't they?"

There they were, true enough; five pretty little lakes, set against the dark blue land-plant all round them like jewels in velvet. All different colours. There was a ruby, a sapphire, an emerald, a——"Where's the *Persephone*?" demanded Britthouse abruptly. No one felt competent to answer this question, as the *Persephone* most certainly was *not* beside the red lake.

If her distress signal was to be believed, her engines were so much scrap by the time she finally landed, so any movement under her own steam was out of the question. The location she had given was unmistakable. Nevertheless, she was not there.

Again Michelson brought the ship down for a closer investigation, passing as he did so the *Berenice,* who was already cruising up and down the little valley, having wasted no time in investigating the blue ocean. The *Hannibal* went out to the mouth of the estuary, and Britthouse took a quick look around. The sky-blue vegetation of the sea was sharply contrasted by a broad border of land-plant in a considerably darker shade which extended up all the beaches and parts of the lower coast-lands.

"Looks like vegetable life is just climbing out of the sea here," commented Britthouse, "seems a bit late. What's the atmosphere, Bob?"

"Earth-type, only about ten per cent oxygen, though."

"That's all right then," he said, "get right down to surface, then move up-river, Mike."

The sea-plant grew right up the estuary of the little river, leaving a few channels only near the centre for the main flow of water. The valley, with its string of lakes was packed with vegetation. It blanketed the whole bowl, it enclosed every lake—only a pronounced terracing proclaimed that it was not a huge bog.

"Perhaps I'm being wise after the event," said Britthouse, "but I'm sure I would never have put down in that little set-up. It's too pretty to be healthy." His lieutenants nodded agreement. Long experience had taught the Planetary men that life can play strange tricks upon the unwary; as a general principle they kept it at arm's length until it had been fully docketed.

"Why do you suppose he did it?" asked Crofton.

"The idea was good enough," said the captain, "he knew his engines were done, and his radio might fail at any moment. He had no time to work out a reference-frame for the globe, and with a dead radio he could not give us signals to get a fix on. So he had to find some conspicuous landmark. He certainly did it—but he need not have set himself plumb in the middle of it. He could have set down on that escarpment back there and still been easy to find. Point is: he's not there now. Get hold of the *Berenice* and suggest that we make a base upon the escarpment at the head of the valley and work out a plan."

Commander Japp, however, demurred. He was accustomed to operating from his ship, to him a planetary surface was either a port or a place to be avoided. Accordingly, he invited Captain Britthouse to his vessel, pointing out the better facilities at his disposal.

"Blast the fool!" said Britthouse, "Facilities my foot! I suppose he means he has a carpet on his chartroom floor." He turned to his junior officers, "You remain in charge of the ship, Mike," he said, "Bob, tell Sergeant Davys to be ready to receive the picket-boat from the *Berenice*, and you come with me for moral support. These Interplan stiffs give me the screabies—and none of this 'Okay boss'," he snapped as Crofton replied. "It's 'Very Good, Sir', and click your blasted heels when you say it. Come on."

Britthouse would have shaken hands, but Japp greeted him with a stiff salute and led the way past the guard of honour to the officers' mess. The captain was already sufficiently uncomfortable before they were half-way along the spotless corridor. He had not changed out of his service uniform, while Japp was resplendent in the full dress of a Sub-Sector Fleet Commander, Second Class. He gleamed, he rattled, he clinked as he walked along. But when they entered the officers' mess Britthouse stopped dead in his tracks. A formal dinner was set out, the officers of the *Berenice* were two rigid ranks of blue and silver, the table gleamed with glass and plate. Britthouse was more than astounded, he was shocked and horrified. Not far away, he thought, twenty men of this very fleet are lost, perhaps in peril of their lives, and this—this *popinjay* was staging a full-scale formal reception. Tradition hell, he thought, he was not going through with it. He squared his shoulders and turned in the doorway.

"Commander Japp," he said, "I would like a word with you in private, if you please." The Commander's face was expressionless. He had expected this, his trap was ready. His tone when he replied was faintly deprecatory.

"If you feel it to be necessary, *Captain* Britthouse, very well." His tone said quite plainly that only a boor from Planetary

could be so ill-mannered. He turned to the room, "At ease, gentlemen, we shall not keep you waiting long."

In his cabin he faced the Planetary man; he stood inches taller than Britt's chunky figure, in spite of his stoop.

"Well, Britthouse, what is it?" He contrived to be insulting, whether he used the title or not. Britt held a close reign upon his temper.

"I feel, Commander, that this is hardly an appropriate time to indulge in formal hospitality. In my opinion, we should be pushing on with our investigations with the utmost speed. We have no——"

Japp cut the young man short brusquely, "I have already dispatched the necessary message," he said, "the entire Sector Fleet is already on its way at full acceleration, they will arrive in approximately eighty hours. Until then there is nothing we can do."

Britt was caught completely off his guard. The unexpectedness of it took his breath away, he was momentarily speechless. "But —but—why call the Fleet?" he stammered eventually, "cannot we deal with the situation?" This was even better than Japp had expected, he sprung his carefully laid trap.

"It would be quite suicidal, my dear captain, to tackle a hostile civilisation with only two small vessels. In any case, the action is clearly prescribed in my Standing Orders. I have not the authority to hazard *my* vessel in the face of organised intelligence."

If Britt had been astonished before, he was now completely thunderstruck. He wondered which of them had lost his reason—the man might have been talking Andromedan Siltzish for all the sense he could make of it. At length he found a concrete idea to pick on.

"What organised intelligence?" he demanded. "What evidence of organised intelligence have you found?"

"I should have thought it was self-evident," retorted Japp frostily, "a Mark IX Light Cruiser, inertial mass 8,000 tons, vanishes completely within twenty hours of landing beside an obviously artificial watercourse, leaving no trace. Only organised intelligence would have the means to transport an object of that size in the time without leaving the most obvious tracks. But, more significant still, only an organised intelligence would *want* to do such a thing. What non-intelligent creatures would approach an unknown object of that size? Or have you an alternative explanation to offer?"

Britt was stumped absolutely. Of course, he had no alternative explanation to offer. He had not even begun to theorise upon the matter—he wanted to collect some facts first, it was much too early to begin hypothesising. Still, there was no hope of explaining this point of view to this . . . this *Greek,* he knew

the type: it would be a waste of time to argue with the fellow. He suddenly remembered his rendezvous with Jenny, and was filled with a fierce exasperation and an impulse to be rid of the whole business.

"I am sorry, Commander," he said, "I cannot agree with you. I must beg you to excuse us. I wish to return to my ship immediately."

No further word was spoken. In complete silence the two Planetary men filed past the ramrod guards and into the picket-boat. Britt was miserably conscious of having made a very bad showing, the situation had been sprung on him out of the blue—it did not occur to him that this may have been deliberate—and he felt that he had spoilt a good case by his reaction. He did not like being rushed into snap decisions, his own instinct was to examine any situation very closely before drawing conclusions. Japp was apparently one of those legendary heroes "famous for his ability to make quick decisions in emergencies." He had always mistrusted that ability, suspecting that it was simply an incapacity to see more than one possibility at a time. The recent meeting gave him no reason to change his opinion. He realised that it was out of the question to follow his impulse to clear out and leave the impossible Japp to his own devices. As long and leave the impossible Japp to his own devices. As long as there was a chance—however remote—that the men of the *Persephone* were still alive, he could not leave without doing his utmost.

He renewed his determination to see the affair through within the time limit—with or without Japp's assistance, he was not going to miss his date with Jenny.

"So tomorrow," he concluded in explanation to his lieutenants, "we get out as soon as it is daylight and root about beside those musical-comedy lakes to see what goes on around here."

The planet's day was about thirty hours, and a pronounced axial obliquity gave them twelve hours of darkness and eighteen of daylight—ideal conditions for a man determined to work himself to death. Britt ruefully supposed that this would be necessary: he *had* to make his dead-line.

The early start produced a reward at once, the oblique rays from the planet's sun threw every irregularity into sharp relief, notably a long oval mound—hitherto imperceptible—of the general shape of the *Persephone* right beside the red lake. They wasted no time in speculation, Michelson dropped the ship in a breathless dive, grinding to a standstill on the naked rocks beyond the blue belt.

Sergeant Davys was starting up "Jenny"—the tracked all-purpose runabout—as they fell, and within thirty seconds of touching down, Britt, Bob Crofton, and the sergeant were clanking down the ramp in her. The little vehicle took the

steep slope into the valley at an alarming angle, the chrome-molybdenum steel cleats of her treads shrieking and sparking on the rock. Sergeant Davys was an accomplished driver, and the runabout itself was built to take anything that the habitable universe could offer. It was practically indestructible, and its tiny nuclear motors had on one occasion driven it completely submerged through the swamps of Sirius IV under a gravity of 4.2. She did not even falter, therefore, when under Britt's direction the sergeant drove her straight into the tangled mass of vegetation.

It was primitive stuff, four-foot stalks each surmounted by a flat disc of a leaf, soft and juicy, looking like nothing so much as a particularly poisonous brand of rhubarb. "Jenny" was in her element, you could see she thought this was chicken feed. She tore into the stuff with gusto, lurching and skidding on the wet, rubbery stems, churning up a juicy pulp in her tractors. Shreds and tatters of it were flung across the transparent hood, until the *Hannibal*—guiding from above—was a blurred and rippling caricature.

"O.K., Britt," said Michelson's voice in the phones, "it's a few yards ahead of you now."

His instruction was unnecessary, the mound was clearly visible from ground-level, being no more than an area of the vegetation of greater height than normal. The puzzling, inexplicable thing was that the raised patch was sharply differentiated from the remainder, was almost exactly the length of the missing *Persephone*, and was on the very spot where the ship had landed.

"Jenny" had churned her way through the length and breadth of the mound twice before they were compelled to admit defeat. Then Michelson had an inspiration.

"What's the ground like?" he said, "Is she buried down there?" The answer was no, the ground was rock, the naked bones of the planet.

"No soil?" queried Michelson, "Then where does that stuff put its roots?" The answer to this was another negative—the plant had no roots. The stems sprouted from a network of cable-like stems lying on the rock. Following the largest of these, they found that some went down into the lake, some round the lakes, but most ran the full length of the valley, down the beach, and into the sea.

By this time Britthouse was feeling somewhat frustrated. The only clue to the *Persephone*'s disappearance was the odd little plateau of vegetation, for he was convinced that the plants and the strange coloured lakes were connected with the mystery in some way. It seemed that only a full-scale bio-survey would yield sufficient information upon the nature of the growths. He did not believe that there were any animals at all

upon the land-surfaces—let alone intelligent ones. The planet was obviously in an early Silurian stage, and it was by no means certain that there were animals even in the sea, at this early stage.

There were plenty of examples of planets reaching even a late Carboniferous stage without the appearance of animals. His prospects of making his date with Jenny seemed to be receding. Already half a day out of his three had gone with no clear lead. In one of his customary transformations he suddenly snapped out of his mood of concentrated thought and became a humming dynamo of energy. He pieced together a plan for an ultra-rapid survey in five minutes, and within a further ten minutes there were three parties formed from the *Hannibal's* tiny complement, feverishly pursuing their assigned plan.

They had an exhausting and surprising day, meeting at dusk on the beach near the estuary, beside the sluggish sea—dead and waveless with the weight of its blue carpet of floating vegetation.

"Right," said Britthouse, as the hatch closed behind him, "let's have your reports. Mike?"

"The valley was originally glacial, I think," he said, "but considerable water-erosion has occurred since. The upper level, above the vegetation-line, was certainly a glacial hanging-valley: there is a sharp break in the level and a waterfall. The lakes are a puzzle geologically, they could be a series of terminal moraines, but they are surprisingly regular. It is very difficult to form any conclusions about the lower valley, as it is entirely blanketed by the vegetation, even the lakes are each completely surrounded, and the stuff seems to grow on the bottoms also.

"The large-scale geology is simple enough, this area is a very old eroded plateau; comparing it with other areas in this hemisphere, it is one of the oldest land-surfaces on the planet. Which probably accounts for the fact that this is the largest patch of land-plant on the planet—as far as I have seen, nowhere else does it extend more than a few yards up the beaches or estuaries."

"That may be significant," said Britt. "How about you, Bob?"

"Simply a confirmation of what we guessed this morning: all the plant in the whole area is simply one tangled mass of vines, there are no individual plants, the whole mass is one enormous plant. That goes for the sea-plant too; it grows vines up the beach and estuary. The plant in the valley is an extension of the plant in the sea. The leaves are bigger and darker, that's all. What did you find, Britt?"

"One strange thing: although the plant floats on the surface of the sea, it grows on the bottoms of the lakes."

"Gravity of sea-water," said Bob.

"Sure," replied Britt, "that accounts for why it sinks, but not for why it grows. And it grows all round the lakes too, the water

has to seep through yards and yards of it between one lake and the next."

"What about the colour of the lakes themselves? That's the most striking thing about the whole set-up from the air."

"It's not so startling from ground-level," he said, "but the water is definitely coloured, and a different colour in each lake. Tomorrow we are going to make a tour of them, and draw samples of water from each, and of the vegetation. We shall be doing some analyses. I know it seems remote from our purpose, but I think that if we can get at the reason for the existence of these lakes, we shall have a clue to the disappearance of the *Persephone*."

He turned to the signaller, "Have you got that lot on tape?"

"Yes, sir."

"Good. Spool it off and send a copy over to Commander Japp, with my compliments."

Commander Japp's reply, received the following morning, was definitely offensive; he begged to inform Captain Britthouse that he was not interested in botanical researches upon the planet, and suggested that the information be reserved for the proper authorities. In point of fact, he was rattled. The activity of the *Hannibal*'s crew had not escaped his notice, and he had an uneasy suspicion that Britthouse might yet sneak up on him. He remembered having heard some disconcerting whispers about the low cunning of the Planetary people. He fervently wished that they had kept their interfering noses out of an affair that was none of their business. Nevertheless, he felt that some action was now demanded of him, some more detailed theory of the *Persephone's* disappearance.

A night of worrying produced no result. It did not occur to him to consult his officers; without consciously expressing the thought, he felt that as commander he was automatically the person most fitted to solve the problem. A cold shower and a well-served breakfast refreshed him immensely, and he took pencil and paper with the determination to settle this business. He wrote down the substance of his information after the manner of a Euclidean demonstration:

I. The *Persephone*, a Mark IX light cruiser of 8,000 tons, lands beside an obviously artificial watercourse with no engines and only enough reserve energy to transmit one distress signal.

II. Within twenty hours the *Persephone* has vanished and there is no trace of any struggle, or of any machinery used to move her, except a small raised patch of vegetation on the spot where she presumably landed. (He was not above using Britt's information.)

III. Obviously, therefore, she was moved by air, and the patch of vegetation was a hasty attempt to conceal the spot where she crushed the vegetation.

IV. It follows that we are confronted by a hostile and organised intelligence of some mechanical ability.

V. Standing Orders, Section XVI, Chap. 473, Para. 28673 expressly forbids any attempt by less than three vessels to intervene in such a case, but to call upon nearest Sector Force.

This seemed to be watertight enough, but an attempt at a more detailed explanation would look better, in view of Britthouse's efforts, blast him. Why had the *Persephone* been kidnapped? Suppose she had not been kidnapped, but *destroyed where she stood,* and the blasted area patched up? That seemed even more likely. But why? Suppose the artificial watercourse was of a religious significance, and the builders had destroyed the *Persephone* in a fit of rage, and then been afraid of the consequences and tried to conceal the murder? He was suddenly elated, this was the solution! The next step followed automatically. As soon as the Sector Fleet arrived they would raze the whole valley flat as a reprisal, this would inevitably bring the murderers out of their hiding-place, and the Sector Fleet would assume control.

The Sociological Council would protest, of course, but it would be too late. He chuckled to think of the foolish spectacle that Britthouse would make with his detailed description of the trivial botany of a burnt-out valley.

Japp lost no time in drawing up an official report embodying these conclusions, and transmitting it to the approaching Sector Fleet. After a few minutes' thought, he was reluctantly forced to the conclusion that he must send a copy to Britthouse also. The young fool's action in providing copies of *his* reports put him under the obligation of reciprocating. There was one advantage, he thought with some satisfaction: it would probably stop his fooling about down there.

Britt's party was just climbing out of "Jenny" at the head of the valley when the signaller in the *Hannibal* put through the second message. Sergeant Davys tore the strip from the machine and handed it to the captain. He read it through twice, passed it to Mike and Bob, and sat down with a growl of exasperated fury.

"Isn't that like those blasted Interplan oafs?" he demanded. "Only one remedy for any trouble—bring up the heavy heaters and show who's the boss! Well, we're going down into that valley, and if we haven't finished our 'botanical researches' they can damn' well wait for us before they begin their blasting. Why

can't they keep their interfering noses out? This is a Planetary affair."

"But the Sector Fleet won't act only on Japp's hunches, will they?" asked Bob innocently.

"If we haven't located the *Persephone* they will—if only to back up Japp against a Planetary 'ground-hog.' You don't know these braid-happy boys." He stood up impatiently and led the way to the ravine.

They were now at the uppermost limit of the vegetation, on the edge of the escarpment at the head of the valley, with the huge, dark-blue bowl of it extended beneath them. The yellow lake glinted and splashed in the foreground, little lemon-coloured wavelets winked and bubbled among the blue tangle at the shore, vertically beneath them. Beyond was the red lake—in harsh contrast with its ubiquitous blue border. Smaller in the distance were the green lake, the blue one, and just visible in front of the bright blue of the sea was a slash of vivid purple—the fifth and last.

"I'll never get used to it," declared Bob Crofton, "gives me a headache every time I look at it. You've got plenty of photographs, Mike? If Japp and his gang burn this out of existence I want some evidence to prove this ain't no pipe-dream."

"Quit gossiping there and come and see this," called Britt. At this point, the little stream, tumbling from the barren hills beyond, had gouged a cutting through the cliff edge, and flung itself hissing and boiling down a steep natural chute into the yellow lake. The blue vegetation had sent its advance guard up the ravine: long blue tendrils, devoid of leaves, probed the full length of the vee-cut slope, seeking a purchase wherever a crack or crevice could be found.

"Have you ever seen a valley this shape in a geological area as old as this one?" asked Britt. Mike looked up and down the length of the steep-sided cut before replying. "No," he said at length, " it looks almost as though it had been cut out, but it's a bit ragged for that. Besides, who could have cut it out? D'you suppose Japp is right, after all?"

"I don't know," said Britt, "but I'm beginning to think that this is not quite a 'natural formation,' at least."

He climbed down the slope into the ravine itself, hampered by his protective suit and its domed helmet, but finding foot and hand-holds amongst the rocks and the tough blue vines.

He bent to hack off a portion of vine—a tendril tip—and paused suddenly in lifting a tangle of the thicker growth from the rock. There was a vein of ore beneath the plant, blue-black stuff that glinted metallically. He took a few pieces which had been loosened by the probing tendrils and climbed back out of the cleft. He showed the specimens to the others and instructed them to search the rest of the ravine to determine the general

extent of the ore-bed. The two lieutenants looked at each other and shrugged mentally. Bill Britthouse had a reputation for finding significance in the most unlikely facts, but this seemed to be going a little too far.

While they were engaged in the arduous task he seated himself on the edge, doing nothing more than sitting and watching. By the time his disgruntled juniors had finished their search he had seen what he wanted—several portions of rock and miniature landslide of rock and ore slid down the side of the cutting and were swept down the current into the lake.

"Well?" he said, when they returned.

"Covers most of the sides of the ravine," reported Bob, "It's a fairly thick seam, and the angle of the stratum is practically parallel to the bed of the stream."

"Good," said Britt, "take these samples of ore back to the *Hannibal* and do a flash spectro on them. I want the main metallic constituents, no more. Hurry." Bob departed in a state of complete mystification.

"You come with me, Mike," the captain said, "and we'll take samples of the water in each of these darned lakes, together with the vegetation. I think we're getting some place at last."

Twelve hours later he was not so sure. They had worked like demons, five hours for a lightning tour of the valley in "Jenny," collecting samples, and seven hours of cramped and heated work analysing the samples in the tiny laboratory of the ship. Although the results made some sort of sense to Britthouse, the connection with the disappearance of the *Persephone* had not appeared. He sent his junior officers to bed and remained worrying over his problem. He, too, made a list to assist his thought processes, but it bore little resemblance to the notes Japp had used:

1. Ore—Chromium.
2. Chlorophyll-equivalent—also Cr.
3. Lakes—Cr in sol'n. viz.: Yellow—alkaline; Red—acid; Green—alkaline; Blue—oxidised; Purple—intermediary for Chlorophyll-eq.
4. *Persephone*—????

Eventually he gave it up, hoping that a night's sleep would refresh his brain. Unfortunately, the following morning brought no inspiration, but only a stiff request from Japp that he vacate the "environs of the indicated area" within one hour, as the Sector Fleet was now arriving, and almost ready to begin operations.

"I'm damned if I will!" roared Britthouse, "Sergeant Davys, get 'Jenny' out. We're going to cruise up and down that valley until Japp is black in the face! I'll stay there till this is solved and he can blast me if he dares!"

Five minutes later the faithful Sergeant reported at the control-room with a very troubled face. "I'm sorry, captain," he said, "but I'm afraid the 'Jen—' the runabout is unserviceable."

"Why?"

"Corrosion, sir. The tracks are heavily corroded and the bearings have developed so much slack that they won't track properly."

"But that metal is practically incorrodible."

"I know, sir, that's why I wasn't sure the first day. But the juice that got into them yesterday has made 'em much worse."

"Juice? What juice?"

"The juice—the sap of these plants, sir. The tracks have been running in it for two days. That is what has corroded them, sir."

"Holy Smoke!" cried Britt, "Of all the double-distilled fools!"

"I'm sorry, sir," said the sergeant stiffly. "I didn't think it—"

"Not you, sergeant," cried Britt, "I'm the fool. O.K. Now we've got to move. We may just get them out before that dim-wit Japp starts up his heaters. Gimme that control-board, Mike, this has to be quick."

"You know where the *Persephone* is?" demanded the startled navigator.

"Sure," said Britt, grinning broadly, "at the bottom of the red lake."

There was no further opportunity for speech, as he flung the ship up from its berth on the escarpment and sent it screaming down the valley in a semi-circular sweep which ended abruptly with a stomach-lurching dip just above the green lake, facing upstream into the waterfall below the red one. The gunners were loading two torpedoes into the tubes when the message from the Interplanetary Fleet arrived. This was signed by no less a person than the Admiral himself. It simply repeated Japp's earlier demand, adding that non-compliance on his part would be reported to the "appropriate quarters."

Britt delayed long enough to energise the overhead viewers, and they had a glimpse of the massed phalanxes of the Sector Fleet receding in perspective into the distant blue.

"Gosh, but they look swell," admitted Britt. "Sirius knows what kind of goons are in them, but they build pretty ships. Pity to spoil their fun. Ready gunners? Fire." As the two delayed-action torpedoes plunged into the vulnerable end of the red lake he lifted the *Hannibal* up and back in a breathless *whoosh*.

Fifteen seconds later the end of the lake erupted in a great geyser of water and smoke. The end was blasted clean out of the lake. The damming vegetation was cut in two, and the

pressure of water behind it flung open the gap until the whole lake was pouring through it.

"This should be good," said Britt, "watch where the two lots of water mix."

He was right—it was more than good, it was spectacular. Where the red water mixed with the blue there were huge clouds of steam. Fountains of boiling liquid, of brown and green muds, were flung bubbling into the air. Sheets of coloured vegetation were tossed to the sides, a thick steaming fog began to accumulate over the lower stretches of the valley. At this moment the signaller agitatedly announced that the Sector Fleet Admiral himself was on the screen, and would Captain Britthouse please take the call?

The Admiral's face was a study in icy contempt, "I must warn you, Captain Britthouse," he said, "that this childish attempt to anticipate my action will also be reported to your superiors. Would you please be good enough to remove your ship from my target area without any further delay?" Beneath the table, Britt had his fingers crossed—suppose he was wrong? He was watching his forward viewer intently, ignoring the image on the communications-screen. Then he saw that he was waiting for, and turned to the Admiral with a seraphic smile.

"Thank you for your valuable co-operation, sir," he said, "I would like to request you to hold your fire for a few moments longer, until the object now becoming visible in the second lake is definitely identified." Then he cut the connection and took the *Hannibal* down to the shrinking shore of the red lake. In the centre of the now diminishing sheet of water was a long mound. It was smothered in leaves and tendrils of dark brown growth, it was stained and blackened, but its outlines were unmistakable —the *Persephone*!

Grandually the water receded until she was completely uncovered. She was festooned with the weed, her plates were corroded and pitted, in parts her outer hull was eaten completely away. "Oh, God!" groaned Mike, "there'll be nobody alive in her now." But even as he spoke a crowbar point broke through the paper-thin hull. Soon the men inside had battered and chiselled a hole in the corroded metal, and clad in their space-suits were stumbling and slipping through the pools and the muck and over the dripping tangle of rubbery growth to where Britthouse waited, standing beside the *Hannibal*. They waved as they staggered forward, waved impartially to the Planetary man and the serried ranks of the Interplan Fleet high above. Britt stayed long enough to greet the first man ashore, he shook his hand, clapped him on the back, and touched helmets for a few brief words. Then he waved towards the Interplan flagship now settling her majestic bulk behind his own

little craft, climbed into the *Hannibal*'s hatch, and in less than two minutes was a vanishing speck in the sky.

"Quite simple," he was saying to his lieutenants, "in a way, old Japp was right you know, it *was* organised intelligence that moved the *Persephone*."

"But how . . . ?" "But where . . . ?"

"That plant," he said, "first specimen of intelligent vegetation in the universe. Remarkable." But his juniors were not going to let that pass unchallenged.

"Those plants—that plant intelligent?" they demanded. "How do you know? It doesn't *do* anything."

"And what sort of things would you expect an intelligent vegetable to do?" demanded Britt. "Wear a diploma? Or pull up its roots and walk about pretending to be an animal? An intelligent vegetable is still a vegetable, you cretins. It does all that any self-respecting vegetable needs to do—it eats. And vegetables eat minerals. This one ran short of chromium—which it needs for its own kind of chlorophyll—so it followed up a source of supply. Followed it upstream from the sea until it located the original ore-bed. Then it *mined* its chromium ore and turned the river into a chemical factory to process it into the form it needed. Those lakes were its wash-tanks and vats. It produced its acids and alkalies out of specialised cells."

"But what about the *Persephone*?"

"That had me, for a while. Then we discovered the sap would corrode chrome steel. The *Persephone* must have crushed quite a lot of sap out when she landed on the plant, and it soon got wise to the fact that here was a colossal hunk of metal which contained a huge percentage of chromium. Furthermore, it was lying right beside its acid-vat. So what does it do but puts on a terrific effort of growth and rolls this gift from the gods straight into the tank to be dissolved."

"Good job we drained the lake in time," said Bob.

"They were in no danger from the plant," replied Britt, "they would have reserve air and food for weeks. I suppose the hatches must have jammed so they couldn't get out. Anyhow, all they had to do was to wait till the plant released 'em by dissolving away the hull, then float ashore in their space-suits. Their danger was from that damned Greek, Japp. The Fleet's heavy heaters would have boiled them alive in ten minutes."

"Greek?" said Michelson, "is he Greek, then?"

"Oh, don't you know?" chuckled Britt, "Listen. There was once a party of Greek thinkers—this was around the time of Aristotle—who sat up all night having a furious argument about the number of teeth in a horse's mouth. Unable to agree, they went out and collared a passer-by—an Arab, it happened to

be—and persuaded him to arbitrate. He listened attentively to all their arguments, and then without saying a word he walked away. He returned in a few moments, however, and told them the correct answer. 'How did you decide?' they cried. 'Whose was the better argument, the sounder logic?' 'Logic be damned,' he says, 'I've just been round the back to the stable and counted 'em'."

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