NEW WORLDS

· fiction of the future ·

NO 4

WORLD IN SHADOW

BY

JOHN BRODY

ONE & SIXPENCE

NEW WORLDS

A Fiction Magazine of the Future.

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Confidence . . .

The publication of this issue of *New Worlds* calls for a certain amount of justifiable pride. In more ways than one. It is an issue which few readers of the three previous editions ever expected to see—over a year has elapsed since the last one was published—and many vital factors have contributed to the general feeling that the magazine had ceased publication. Not the least being that the previous publisher had ceased business, with the obvious inference that the magazine had likewise been discontinued. To all outward appearances that was so, but behind the scenes a far different picture was being painted.

It was as long ago as 1940 that I first planned this magazine. The outbreak of war cancelled its development for six years and when it did appear in 1946, under rather precarious publishing circumstances owing to printing and paper difficulties, it meant a lot of hard work was entailed to establish it firmly. Having guided it through its teething stage, nobody was more disappointed than myself when it virtually faded before my eyes, just at a time when it was getting on its feet and being recognised as a worthwhile medium for the type of literature you and I both like and believe in.

I have been certain for a long time that there is a place for British magazine science fiction in this country without the readers having to rely entirely upon the medium of American counterparts (couched, in the main, in a style designed to suit an American reading public and not a British one). Those feelings are shared by other experts in the British fantasy field, and within a month of the official news that *New Worlds* would no longer be published by the previous owners, those experts and myself got together and formulated the plans of the Company now producing the magazine.

That makes this magazine unique, in my opinion. It means that behind this project there is the finest team of fantasy experts in the country, totalling many years of experience in one branch or another of the science fiction field, with no other motive in mind than the production of this magazine in your interests. It means that we are not bound by any publisher's requirements other than the advancement of good science fiction between our pages. It also means that we can devote all our time to those advancements.

The first thing we did was to change the size of the magazine, feeling that it would be far more popular in the handy pocket size than in the larger more cumbersome one. We also started lining up some of your favourite authors for future stories, and have introduced a new artist. Constant changes will go on from issue to issue, all designed to improve the magazine, and as soon as it is practicable we hope to enlarge the magazine with more pages. We would appreciate your comments and criticisms upon all aspects of the magazine and will endeavour to incorporate the best suggestions in future issues.

Magazine science fiction in Great Britain has had many false starts dating back over twenty years. From our viewpoint today we can easily say why they have been failures, and we are in a position to profit by the mistakes of our predecessors. The one vital factor which stands supreme is that this type of literature has been asked for by readers for years, and despite the failures by the wayside, I have every confidence that a good quality magazine such as I hope *New Worlds* to be, will fill the vital need *from an English standpoint.*

This country never has been a great magazine producing nation, yet it is, paradoxically, the cradle of modern science fiction. Contemporaries the world over point to the works of the late H. G. Wells and say that every story written since his days are but counterparts of the plots he so masterfully put together at a time when radio, television, the airplane, rockets and radar, were hardly thought of—if at all !

Since 1926 the Americans have developed science fiction in magazine form to a standard where even the youngest reader (and in some cases before a youngster can read, by way of the comic strip cartoons), can readily understand and appreciate the type of story dealing with adventure a little or even a long way in our immediate future. With the advent of the A-bomb, to quote a hackneyed phrase, the world has undoubtedly become atom conscious, mainly through fear of a disaster incomprehensible to the mind of Man. Such an invention, written about for years by authors of science fiction, has thrust a fictional future suddenly and grimly into our laps, and at the same time has opened vast vistas of hope for those who have faith in the sensibility of human nature—the hope that such a discovery as atomic power can be harnessed and controlled and made a servant of humanity instead of its executioner.

With atomic power—it may take a generation or more to see it economically harnessed—Man's age-old dream of space conquest becomes a reality instead of a pipe dream. I am positive that within our own lifetime we shall see man-carrying rockets outside the Earth's atmosphere, very probably circling the Moon, even landing upon the Moon's surface. A lot of people are going to ask what good it will do us—probably a lot of people asked the same question when the New World was discovered, or when somebody with a little more curiosity than his neighbour invented a small thing called a wheel. The answer is that Man's insatiable curiosity will ever lead him to find out *Why* ? and the sum total of those answers is surely leading him on a pathway to the stars.

Through the pages of *New Worlds* we shall stimulate the curiosity of all those who refuse to bury their heads in the sands of ignorance, by publishing stories of the future possibilities of Man's achievements. Our authors are confident they can cope with any type of story demanded from them ; we (collectively), are confident that we can continue to fill that long-felt want in the British publishing field ; and finally, I am confident that every reader who has the smallest spark of imagination and curiosity within him will agree with us and help us to further the aims and ideals we have already formulated in previous issues.

Make sure of your own copy of *New Worlds* by placing a firm order with your newsagent now ; and introduce the magazine to such friends as you think will appreciate and enjoy stories of interplanetary travel or the many other themes we shall introduce from time to time.

Between us we shall ensure that *New Worlds* will establish a position in the British publishing field hitherto unknown.

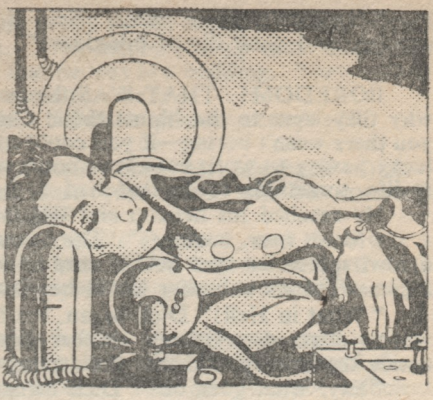
John Carnell.

WORLD IN SHADOW

By JOHN BRODY

In such a Utopian world it might be a good idea to revert to barbarism

Illustrated by DENNIS



I

DICK MAYBACH switched in the auxiliary bank, and watched the needles begin to climb. The Neon pilots glowed, and he fed more power to the circuit, hearing the hidden relays clicking as they took the load and stepped it up into the transmission lines. The blue pilot flickered warningly, and he spun the damper control to regulate output to requirements. The main line-carrier began to give out its characteristic hum, telling him that all was well for the night.

He yawned and stretched, turning to pick up his jacket that lay across the desk. In another hour he would be home, with his feet under his own table, his day's work completed satisfactorily. His day's work? Four hours facing the controls of the power-bank was hardly work, and yet it was a drain on his vitality. His father had had to work eight hours a day, but Dick could never remember the old man complaining about it; mostly he had talked about his work with a certain pride, as though research into transmission line losses were more important than his home life. Things had changed a lot since the old man died. There were no Mentasthetic Centres during his father's lifetime to offer an alternative to labour. Hell, people weren't going to spend their lives in drudgery when by signing their names to a bit of paper they could achieve unlimited, beautiful dreams. He wondered for the thousandth time why he worked even four hours a day.

Dick put on his jacket and went out of the control room. The automatics would keep the place ticking over nicely until he returned next day for routine checks and adjustments. Maybe if he didn't come back in the morning the automatics would keep the power running sweetly for another twenty-four hours. Who cared?

He slid the bronze doors and locked them. It was a perfect night, with the stars shining out of a velvet sky, and a certain coolness in the air that made a refreshing drink of it after four hours in the dry, conditioned atmosphere of the power-bank. He sighed two or three times, letting the nectar get well into his lungs; then he snapped the switch on his wrist communicator, and called his wife.

"I'm leaving now," he crisped into the tiny mike. "You can start laying the table, darling."

"Hurry, Dick," his wife answered. "I'm bored to weeping, and longing to see you."

"Anyone called?"

"No, darling. A man rang through—said he wanted to see you—but I told him you were at the power-bank, so he rang off."

"Who was it?"

"He didn't give a name. Said it was important, though. Do hurry, darling, or I shall die of boredom!"

BOREDOM! THAT WAS the trouble. Everyone was bored! That's why they went to the Mentasthetic Centres. At least the life they offered you there wasn't boring—if you could call it a life. Dick wondered if he was lucky having to work even four hours a day; at least it meant some interest in life, something to do that had to be done and wasn't just killing time.

He reached his helicop and slid into the driving seat.

"Move over, brother!" The voice came from the back of the cabin, a low, soft voice that held a core of steel. "Don't look back—and don't argue. There's a blaster six inches from your kidneys!"

"What in Hell!" Dick began, but he moved over to the far side of the seat as directed. At once another figure materialised out of the darkness beside the helicop, slid into the driving seat and began to free the controls.

"Say, what goes on?" Dick demanded.

"You'll find out, Mr. Maybach," the voice from the back seat breathed. "You're in no danger—unless you play the jack-ass. It's essential that you don't know where we take you, so I'm sorry but I'll have to blindfold you."

Dick glanced at the figure in the driving seat and saw that he had a dark kerchief tied over the bottom part of his face. Before he could see more a silk scarf was slipped over his head, drawn tight, and knotted.

"O.K. Brent, you can take her up now," the man in the back said. "Make it as fast as this bus will travel!"

The motor purred, and Dick heard the clop-clopping of the 'copter blades as they began to lift the little machine clear of the park. He reckoned that they levelled off at a thousand feet, but in which direction they were heading he had no idea.

"Perhaps you wouldn't mind telling me what this is all about?" he said angrily.

"Sorry, brother, but we're not in a position to explain anything. As I told you, you're in no danger so long as you don't play tricks. That's all!"

"But where are you taking me?"

"If I told you that, there'd be no need to blindfold you, Mr. Maybach. Now just relax and go to sleep."

The motor throbbed its way through the night, and Dick could tell that they were travelling fast. He tried to find some reason for the kidnapping, but his mind could see no further than his eyes, and he gave up in despair. The driver was a skilled airman, and handled the little helicop so that she gave of her best, ploughing steadily through the night towards an unknown destination.

Dick reckoned an hour before he heard voices again. He estimated his craft was doing about a hundred and fifty miles an hour, which gave him an extremely broad idea of where he might be.

"Watch out for the red light, Brent," the man in the back said. "Three dots and a dash."

The noise of the motor dropped, and Dick could feel the plane circling.

"There it is!" At once the motor dropped to idling speed, and the overhead gear was engaged. They dropped swiftly, and Dick counted, trying to work out the height they must have been at, but somehow without the use of his eyes he seemed hopelessly lost. The wheels touched down with the slightest of bumps and at once the motor went dead.

"Out you get, Mr. Maybach," the soft voice commanded. "Don't try to remove your mask, or I'll have to tie your hands. Here, Brent, get his other arm and help him."

WITH THE two men holding him firmly by the arms, Dick was piloted over grass for about a hundred yards. They helped him up some steps, and then he knew, by the sudden warmth, that he was in a building. They walked a few yards over a carpet, and then came to a halt.

"Good work!" a new voice said. "Did he give any trouble?"

"No, chief. Came like a lamb!"

"That's fine. Sit him down in that chair. Now, Mr. Maybach—Dick—I'm going to put out the lights, and then your mask will be removed. You're in no danger, so don't get rough."

Dick was pushed gently into a comfortable armchair, and there was a click as the lights went out. A moment later he felt fingers freeing the silk scarf over his head. It came off as easily as it had gone on, and he was able to see again.

He sat in a chair facing a glowing heater. As his eyes grew used to the faint light, he could see that there were three other chairs arranged about the heater, and each was occupied by a man. The light was not sufficient for him to pick out any details of their faces or their dress, but it did at least restore to him a little of his confidence.

"Perhaps," he said icily, "You will explain this gross infringement of the rights of an individual?"

"Certainly, Dick. You have been brought here so that I can have a talk with you. As you will understand in a moment or two, it is of vital importance that you should know neither where you are or who I am. Whether you fall in with my proposals or not, you have nothing to fear. You will be returned to your home in exactly the same, healthy condition as you left it this morning."

"My wife . . ." Dick began testily.

"Your wife has been informed that you have been delayed. She will not worry."

"All the same, it's a bit rough. Why couldn't you just ask me to call?"

"You will understand why in a moment. Now, to business. Firstly, the reason why you have been brought here. I knew your father, Anderson Maybach, extremely well—enough to admire him as one of the best products of our decaying civilisation. As his son, you appear to have inherited many of his attributes, though circumstances have not permitted you to develop them. I hope, therefore, that you will understand my point of view. Now let me ask you a question, Dick. You are in charge of the control room of the Burnside Power-bank. Could you design and supervise the building of a similar power-bank here?"

Dick laughed outright. "Don't be absurd," he said. "I could design you a control set-up, and the initial transmission line—but no more."

"You know the principle of the power-bank?"

"In rough, yes."

"How many technicians would it take to design a complete power-bank?"

"Crikey! Well, I could do the control set-up. You'd need a physicist to design the actual pile, an engineer to work out the linkages, a linesman to do the lines, a radar-man to do the automatics, an architect to design the building. That's about the lot, I'd say."

"And if I told you that, in fact, the Burnside Power-bank was designed from top to bottom, inside and out, by one man—your father—what would you say?"

"I'd say that men were different in those days."

"Exactly. And supposing I told you that at Star Field, New Mexico, they've all the parts of a space-ship, each perfectly designed and beautifully made, and yet no one can fix the thing together so that it will take off,

what would you say?"

"I'd say they needed my father."

"You'd draw no other conclusion?"

"Only that this is an age of specialisation."

"Is that an excuse?"

"Well—yes, I suppose it is."

"Now we're getting somewhere. A few more facts, Dick. Do you know that almost exactly half the adult population of the world are now either in, or waiting to go into, Mentasthetic Centres? The proportion varies in different districts. In America it's nearly seventy per cent., in China it's as low as forty, but over-all, it's fifty per cent. Do you know, Dick, who runs the Mentasthetic Centres?"

"They run themselves."

"QUITE RIGHT. Now I've got you thinking, I'm going to give you a small lecture on the state of the world today. I am an old man— one of the few old men left in the world today who have remained outside the accursed centres— and I can see over three generations. Your father, Dick, and his contemporaries, built a world of technology. They evolved machines that cut labour to a minimum, and gave to the people of the world more leisure than they had ever had before. They reckoned that men and women would use that leisure to study more, and they prophesied that the time was at hand for the conquest of the solar system and eventually the universe. The young men would go out in space-ships, to colonise the planets, fight, perhaps, the evil things that may be out there waiting for us, and increase the knowledge and the empire of intelligent man. When they had constructed all the machines that were necessary to live in comfort, they began to plan space-ships, of which the jumble of machinery at Star Field is the only result."

"So that generation handed on to the next generation a perfect world, that ran on perfect bearings. It seems now that they made too perfect a job of it, and that so far as this planet was concerned, there was nothing left to conquer. You say, Dick, that this is an age of specialisation, and you admit that that is an excuse. You're dead right. Your father would never have been content to know a part of a thing. He had to go on until he knew *all* about it. You and your fellows, on the other hand, are perfectly happy carrying out your small tasks, without ever enquiring where it is all leading. You can grasp one facet of the whole; you cannot stand back and see the whole as one thing."

"What was the result, then? The question mark has left the world, and flown to outer space. Answer me this one, Dick. What is the purpose of the World Security Police?"

"To keep order, prevent crime, and administer the law," Dick answered mechanically.

"But there is no disorder, there is no crime, Dick, and law lost its old meaning fifty years back. Yet the W.S.P. still exist in exactly the same numbers as they did when crime and riots were everyday affairs. You see, nobody had ever questioned their existence. If there were some master-mind sitting up top like an old-fashioned dictator, using the W.S.P. to keep him where he was, I could understand it. But there isn't a dictator—there isn't even anyone who wants to be a dictator—and yet the W.S.P. exists, arresting people for having 'seditious beliefs' and subjecting them to the brain-sucker on the slightest provocation, and for no purpose at all. We have all the machinery of terror, and no hand guiding it."

He paused for a moment, and Dick tried to get some idea of who or what he was. But the glow of the heater gave out a deceptive light, so that

he could see no more than a lean face, deep-set eyes and a powerful chin.

"Now I come to the Mentasthetic Centres," the man went on. "When Crawford discovered Mentasthenia twenty years back, people regarded it as a fine thing, an escape for pain-racked people, a relief for the weary. In the first year of their opening, his centres treated no more than two or three hundred cases. Twenty years ago there were still enough mentally active people in the world to dampen the spread of a dangerous cult. But the world was too perfect, and people were growing bored. Yes, Dick, bored. That is the enemy of the world. Their lives were deadly dull, and every day was an effort to get through. Suddenly they discovered Mentasthenia. A comfortable divan, the slightest of operations, and then you relax into a dream world, full of excitements and thrills. No wonder the bored millions flocked to the centres, signing on for a five year dream, a ten year dream, and then a life of dreams. More and more people began to choose the dream as an alternative to the boring reality. The Mentasthetic Centres multiplied, enlarged, became the most important thing in the world."

"Again I looked for a purpose. Was there some financial genius, or group of power-drunk maniacs controlling these centres, luring people into their dark rooms with promises of happy dream-lives? Did this controlling power hope to achieve world-domination through the drug-like effect of Mentasthenia? I looked for this secret plot, and I found—nothing! Just that! Crawford opened the first few centres, and formed a committee to run them. The thing has spread like wildfire, and local committees have built their own centres and installed the brain-dulling apparatus. But do you know the strangest thing about it? These committees have always been the first patients in the centres, so that when they have lain down, the centres have run themselves! Just as the W.S.P. goes on and on, without purpose or guiding hand, so the Mentasthetic Centres go and on without direction or control!"

"BUT WHERE is all this leading?" Dick said wearily. "What's it got to do with me, anyway?"

"It may have nothing to do with you, Dick. On the other hand, it may have a lot. Let me recapitulate. We are living in a perfect world, where labour is almost unnecessary. A few men such as you tend the power-banks that supply the world with power. A few more tend the hydroponic beds to provide food. A few tend the Mentasthetic Centres, and see that the correct quantities of chemicals are fed into the blood-streams of the patients. But you and the others who work don't really have to work. You could, if you wished, join the vast army of the bored. And if you did, in due course you would go to a centre and cease to live. In this perfect world, enterprise has lost its meaning. Nobody fights, because there's nothing to fight against. Nobody invents, because there's nothing to invent—at least nothing that can make this world more perfect. You tend your machine, but you never ask why it works. The man in the hydroponic beds feeds chemicals to the plants, but he never enquires what they are. Nobody has any enterprise, nobody asks questions, nobody looks below the surface of things. Above all, *nobody asks where mankind is going*!"

Dick yawned. The heat of the fire and the drone of the voice made him feel sleepy.

"Please come to the point," he said abruptly. "I'm very tired and I want to get home to my wife."

"All right, Dick. The point is this. Unless something is done now and at once, in twenty years from now this planet will be devoid of life. Childbearing has practically ceased, more and more people are choosing the easy life of dreams to that of reality, less and less people are spending their

days in fruitful labour."

"And what do you propose doing?" Dick said wearily.

"We—there are a number of us who feel as I do—we propose to blast civilisation wide open. We plan to throw, in a matter of hours, human progress back two hundred years. We intend to give mankind a new start by giving him a chance to struggle. If it makes the same mistake twice, then we have failed. But I don't think it will!"

"And just exactly how are you going to achieve this enormous retrograde step?"

"That I cannot, for the moment, reveal, Dick. But what I do want to know is, are you with us?"

"Why me?"

"Firstly, because you're the son of your father. Secondly, because you're a clever technician, by the modern, poor standards. And thirdly, because I'm convinced that you have the inner moral fibres that make you deplore the modern state of the world."

"Well, Mister," Dick said slowly. "You've asked me a straight question, and I'll give you a straight answer. I'll have nothing to do with your plans, whatever they may be."

"I'm disappointed, Dick. I'm afraid I'll have to tell you something rather unpleasant to persuade you. You love your wife very much, I believe?"

"Leave my wife out of this!" Dick snarled.

"That is impossible. You see, she went to Mentasthetic Centre No. 1408 a week ago, and put her name down for admission at the end of this week!"

"YOU DIRTY, rotten liar!" Dick yelled jumping to his feet. At once strong hands came out of the darkness and forced him back into the armchair. "You lying swine!" he screamed. "I'll kill you for this!"

The voice droned on, unperturbed. "It is no lie, Dick. You can see for yourself. The registers are quite open to inspection. You'll find her name inscribed there. After all, she's only human, and bored to tears, poor girl. What *is* there for her to do all day? You're at the power-bank for five or six hours, and even when you're at home, you know how slowly the time passes. After all, you can't make love all the time!"

"If what you say is true," Dick said slowly, and through clenched teeth. "If it's true, and she has put her name on the register, then by God I'm with you, no matter what you plan and where it may lead."

"I thought you'd see reason," the voice said happily. "I'm glad you're going to be one of us, Dick, for your father's sake. I know which side of the fence he'd be. Anyway, I'll send you home now, and you can check the facts. Tomorrow, when you've thought it over, call me on frequency 29 at two-thirty. It's a mobile frequency and can't be traced. I'll have a talk with you and tell you the next step."

"I can go now?" Dick muttered.

"I'm afraid we shall have to go through that blindfolding business again. It is essential you should know as little as possible about us. If the W.S.P. get on to you, they'll suck all the information out of you in a jiffy, and this plan is too important to get into their hands. As it is, they know something's afoot, and in their strange, purposeless way they're trying to break us up."

"O.K." Dick said resignedly. "Let me go now."

Almost at once the scarf descended over his eyes, and he felt hands assisting him to his feet and leading him out to the helicopter.

II

DICK MAYBACH glowered at the control panel, and fingered the knobs as though he hated them. It had been a hell of a two days, starting with his enforced visit to the mysterious rendezvous and ending with the arrival of the W.S.P. patrol. In the middle somewhere there was his bust-up with Veronica, culminating in a lot of cruel things being shouted between two people who really loved each other. Veronica admitted that she had put her name down at the Mentasthetic Centre, explaining that she only intended to carry out the test period of a week. Dick pleaded with her, pointing out that Mentasthenia resembled opium, in that it was almost impossible to give it up once it had been sampled. But she persisted; so many of her friends had submitted to the deadly mental embrace, and she was determined to taste the beauties of the induced dreams. They had argued until sunrise, and then Dick had flown to the power-bank, trembling with rage and fear.

He had called the mysterious philosopher on frequency 29, promising his aid to the full in any direction that might be ordered. He had been told to do nothing, and he had fretted with impatience at the lack of something definite to do.

A green Neon pilot glowed briefly on the panel. Dick jerked himself out of his lethargy, and carried out the routine movements that ensured a steady and powerful flow of current to the transmission lines. He watched the needles flicker across the dials, heard the relays clicking, and cursed technology.

Some shadow of the lecture by the mysterious man crossed his mind What did he know of the machine behind the panels? How far could he go in constructing a similar machine? Almost without thinking, he pulled up the metal trapdoor set in the floor and clawed his way down the ladder to the motor-room.

Behrens was bending over a small table, busy with a file on a piece of copper tube.

"Behrens," Dick said. "Could you take over my job?"

Behrens looked up quickly and a flash of fear greyed his face.

"What's the matter, Dick?" he said quickly. "Feeling ill?"

"I said, can you take over?"

Behrens scowled. "Reckon I could keep the power up all right—provided nothing went wrong. But if the relays went, or the automatics developed belly-ache, I'd be foxed."

"Yet you're a qualified physicist?"

"Sure, but my job's down here, Dick. I'm not supposed to go fiddling around with the control panel."

"I see," Dick said. "Well, let's get round to knowing each other. You tell me about the guts of the power-bank, and I'll initiate you into the secrets of the control panel?"

"What's biting you, kid," Behrens said rudely. "I left tech. school ten years ago. I'm not starting night school again."

"O.K. I'll keep my secrets, but what about you telling me yours?"

"You want to know the why and the wherefore of the power-bank?"

"Yes."

"Then brother, you'd better start learning, 'cos it took me five years to master my technical degree."

"Hell, I don't want to know all the lurid details. Just show me how it works, and why."

BEHRENS WAVED at the twenty-foot cylinder of burnished magnesium alloy. "Inside there," he said with the air of a professor, "We have a replica of the sun. First we destroy an atom of carbon, giving out immense

heat. The heat is lead off and fed into the converters. We take the shattered remains of the carbon atom and build it up again to its former proud state. No sooner than it gets there, we destroy it again. The released heat goes through the Maybach chamber, named after your proud father, where its energy is stripped from it, collected, filtered and fed to the motors. After that, brother, it passes upstairs to you."

"It sounds too simple," Dick said. "Now I want a few details."

Behrens warmed to his task. "Come over here," he said, leading Dick to a table. "I can explain better what goes on inside the old balloon with the aid of a few diagrams. Now, here. . . ."

An hour later Dick climbed back to the control chamber, his head buzzing with facts and figures. Behrens had stripped the atomic motor in theory, sparing Dick no explanations, hurrying through equations, formulæ, calculations, leaving the control-man lumbering along ages behind. Nevertheless, Dick had grasped the essentials of the motor, and had clarified much of the vague mist of knowledge that had existed in his mind. At least, he thought, he could keep Behrens' end of the business running for a day or two, and that was something.

He set the automatics for the night, and checked the graph of day consumption. Requirements were still falling off, in a gradual, uneasy gradient. There were peak loads, of course, but even they were showing sure, if small, signs of decrease. The immense power consumed by the Mentasthetic Centres was not counterbalancing the falling off in home consumption, and that was an unarguable fact.

He slipped on his jacket and went outside, bumping into the sentinel. He had almost forgotten about the W.S.P. that had taken over guard duties at the power-bank, and the sight of the thick-set man in the black and gold of the W.S.P. came as something of a shock.

"Hi, Mister," the guard said. "Finished up fer the night?"

"Yes." Dick was reluctant to talk to a blackcoat.

"Nice job you techs. have. You on a four-hour day?"

"'bout that, I suppose."

"Me, I'm working eight-hour shifts. T'aint right!"

"Why don't you go 'sleepy-byes'?" Dick asked, using the slang term for the Centres.

"I tried, bud, but the guy at the centre tol' me I wasn't suitable. Said me skull was too thick to take the rays."

Dick looked at the man's square, heavy head, and decided that was probably true. "Why are you guarding this place, anyway?" he asked.

"Don't ask me, mister," the guard said. "Orders from above. They say as some crazy loon might want to bust the power-banks sideways, though I fer one cain't see anyone could be crazy as that!"

Dick laughed. "Well, I'll be getting along," he said. "Cheerio!"

THE MAN WAVED to him as he crossed to his helicop. He slid into the driving seat, put her up to a thousand feet and headed south towards home. Veronica wouldn't be there, certainly, but home called him for all its probable loneliness.

"O.K. Mr. Maybach," the soft voice came out of the back. "Keep her going on that bearing for the time being."

"You again?" Dick said.

"Yes. The chief wants another little talk with you, brother, only this time you don't need blinkers." The man climbed over the back of the seat and slid into the empty place beside Dick. "Keep her as she is until you see the 48/96 Beacon. Then put her 30° east, and hold that course until I spot the come-in signal."

"D'you possess a name?" Dick said pleasantly.

"Call me Swartz, Mr. Maybach. It's as good as any other name."

Dick held his course until he spotted the column of red light from Beacon 48/96. He put the stick over, and edged her on to the new bearing.

"How far, Swartz?" he asked.

"Maybe half an hour, Maybach."

"What are you in the outfit for?"

"Ask no questions, Maybach, and you'll get no lies."

The man lit a cigarette, and by the glare of a lighter Dick caught a glimpse of Swartz's face, a fat, genial face, with slab cheeks and a big mobile mouth. Then the lighter went out, and the fat man sank back into his seat.

"There she is!" he said suddenly, ten minutes later. Far below them a pin-point of red light flickered; three dots and a dash. "O.K. Maybach, put her down as near that light as you can remember!"

Dick did as he was told, letting the big prop throb at half revs as she went down, taking the weight the whole way.

"It's good landing," Swartz observed. "Plenty of field."

A moment later they touched down like a feather. Immediately a figure appeared at the side of the car.

"Maybach?"

"Yes?"

"Good. Come on! And you Swartz!"

The three men left the little helicop and headed across the grass towards a dark clump that turned out to be fir trees. They followed a metal-strip path and came suddenly on a house. It was a low-built, concrete unit-construction place, cheap and handy, and obviously used only as a meeting place.

This time, Dick walked into a well-illuminated room, in which three more men were standing. He recognised at once the lecturer of the first night; a tall, thin man with a sallow complexion and an age-scarred face.

"Good evening, Dick," the man said, advancing upon the newcomer with outstretched hand. "I'll introduce myself. I'm Henderson—you may have heard your father mention me. This is Ivanov—and this Chi-Lu."

DICK SHOOK HANDS all round. Ivanov was an enormous man, a giant in human clothing, a man of saturnine complexion and glittering eyes who smoked a pipe of suitable large dimensions. Chi-Lu, on the other hand, was a small Chinaman, dressed neatly, immaculately groomed. Dick remembered Henderson vaguely. His father had mentioned the name often, though Dick had difficulty in placing the context.

"I think I ought to tell you something right off," Dick said hastily. "The W.S.P. are on to your conspiracy. They've placed a guard on the power-bank, and when I asked the sentinel why he was there, he spoke of some 'crazy guy' who wanted to bust the place up."

"That's only to be expected," Henderson said cheerfully. "Our organisation is already world wide, and somebody's bound to have squeaked. Still, we've taken every precaution, so that the W.S.P. can know very little of what's going on. Come on, let's sit down, gentlemen."

They took their places about the heater, and Swartz stood on guard by the door, with Brent on the other side combing the night sky for intruders.

"Now, Chi-Lu," Henderson said. "What have you to report?"

The Chinaman spoke perfect English, far more perfect than was possible for a native. "The preparations in the South-East Asia District are now complete," he said. "We await the signal that will rid the world of the spider of sloth that threatens to enmesh it."

"Excellent! There are no hitches?"

"None. Our organisation is perfect and our agents are to be trusted to the death."

"Fine. Now Ivanov? What of Central and Northern Asia?"

The giant removed his pipe from between his flashing teeth. "Steady progress," he boomed. "We are infiltrating trusted men into power-banks as fast as we can. My boss says we can cut loose within three weeks without fail!"

"Any stumbling blocks?"

"I have a list here of stations that will require 'special treatment'." He handed a sheet of mettofoil to Henderson.

"So far so good," the old man said. "I have received ambassadors from all the other Districts during the last four days, and I can say that everything is going according to plan. We are almost in a position to fix a day and a time."

"I'm still in the dark," Dick complained. "What is going to happen on the day?"

"Business first, Dick. Now gentlemen, I think you can safely return to your Districts and report that the code word will be sent out within the next seven days. That means, of course, that action will be taken exactly fourteen days after receipt of the code word. So far as your list goes, Ivanov, I shall put my experts on to working out special arrangements. Now, I think that's everything."

Five minutes later Dick and Henderson were alone. A distant roaring of jet motors spoke of the departure of Ivanov and Chi-Lu back to their Districts.

"Well, Dick, I can spill the beans," Henderson said, sinking back in his chair. "By the way, have you dissuaded your wife from her suicidal course?"

"No!" Dick said grimly. "She's determined to go through with it."

"A pity. Still we may have time to stop her. However, that is of small moment when the whole world is tottering. To put it bluntly, Dick, supposing you wanted to completely disorganise the machinery of civilisation, how would you go about it?"

"The Lord only knows, sir. Poison the hydroponic beds, I suppose."

"Too much pain and loss of life. Have another guess?"

"Well, you could cut the transmission lines."

"They could be repaired in an hour."

"Umph!" Dick thought it over. "What about the power-banks?"

"That's better. Knock out the power-banks, and in a flash you stop power all over the world. Stop power, and the façade of civilisation will collapse!"

"It's a tall order!"

"Is it, though? Think a bit about the power grid of the world. There are ten main atomic plants—one in each District. There are one hundred subsidiaries—ten to a District. Yours is a subsidiary, Dick."

"That's all very well, sir, but I'd hate to have the job of knocking out a main atomic plant. They're lousy with W.S.P.s."

"IT'S NOT SO difficult. The trouble with you young technicians is that you don't know what goes on outside your own little department. Take your subsidiary, for instance. You've got feeder lines into the main mesh, and you've got auxiliary lines coming in from the main plant to build up the fields in your Maybach chamber. Your own power-bank can't take that additional load. Now the simplest way of busting up a main atomic plant would be to put a disruptor bomb right in the middle of it—only that's impossible because you'd never get it past the W.S.P. But supposing you

took the whole output of your power-bank, and fed it back into the auxiliaries from the main atomic plant?"

"The transmission lines would never carry it!"

"Your father did a good job on those transmission lines, Dick. They'd carry the load all right—and a hundred times over."

"Then the contacts would blow!"

"Agreed, but if the power is put in with enough snap, it'll jump the contacts and fuse the whole box of tricks. Then it'll go on and bust the main atomic plant wide open."

"It might," Dick mused. "But it's a chance."

"No it isn't. Remember the main atomic plant blow-up in Mariana two years back? They put that down to the inefficiency of the technician. But is wasn't! I was planning even then, and that was a test case. Now twenty years ago the big heads would have got together and produced a new device that would prevent a repetition, only this time there weren't any big heads, and the little heads said 'never mind, it won't happen again'!"

"Yes, sir, but the Mariana blow-up was quickly repaired."

"Sure, because there were nine other main plants still functioning, and the power was there to smelt new alloys and produce the materials to repair the plant. This time there won't be any alternative main plants to supply the vital power that would be required to get things going again. The main plans will be out, so there won't be anything to feed from the auxiliaries to the Maybach chambers in the subsidiaries. The result—total lack of power and total collapse!"

"Where do I come in?" Dick asked.

"Your station at Burnside's going to bust open the District main plant at Bowater. In case you fail, two other subsidiaries in the district will be doing the same thing. One of you will do the trick."

"I suppose it can be done," Dick said doubtfully.

"It must be done, Dick. The alternative is a dead planet swimming in the void throughout eternity! If we succeed, it will mean years of hard work, privation, famine perhaps, but eventually it will mean man rejuvenated, going on to the conquest of the universe!"

"What about the millions of people in the Mentasthetic Centres?"

"Many will die, Dick, but that means no more than a sudden, sharp end to their dreams for they are dead already. Some will survive, no doubt, and live with you to see the new age of mankind."

"It's a grim choice, sir."

"It's the choice between world suicide and world regeneration."

"I can see that now, sir, and you can count on me to the limit."

"Good lad, Dick. Your father was a fine man, but I doubt that he ever did anything finer for mankind than you will do if you blast the Bowater main plant wide open."

"And I'll get more instructions from you later, sir?"

"You will. You're in an easy position, and there's nothing difficult about this District. But we've had a lot of trouble getting things arranged in some Districts. There are minor structural differences in some plants, and it's meant all sorts of different arrangements. In one district the only thing we can do is to send in a squad with an atomic disruptor to blast the plant. As you can understand, that's going to be no cake-walk."

"You're not worrying about the W.S.P.?"

"Yes and no. They'll have to work fast if they're going to provide effective opposition to the organisation now. But I've talked too much, Dick. Away with you, lad. I'll see you again before the balloon goes up. Good night and God bless you."

DICK FLEW BACK to his home, aiming on Beacon 48/96 and then taking his customary bearing. Dawn was creasing the velvet of the eastern sky when he touched down on the tarmac of his flat roof, and the stars were dim in the lightening vault of the heavens. Dick thought about Henderson, and the choice that Henderson insisted upon. Both ways offered a dark future, but the one ended in nothingness, while the other promised a new world.

He thought of the famine, terror, rioting, disease, barbarism that would follow the collapse of the power grid, the decimation of the world population, the extinction of the countless million patients in the Mentasthetic Centres. Maybe Henderson was wrong; maybe the other course was right. If cells of living, vital men could group themselves together under such as Henderson, there might be no need for the drastic action that was contemplated.

Dick unlocked the door of his house, and went in. In the half-light of dawn, a white square gleamed against the polished top of the oak table. He picked it up, slit the paper, pulled out the inner sheet with nerveless fingers.

"*I'm sorry, Darling,*" he read. "*But I've got to see what all my friends are doing. Doctor Melhuish has agreed to take me in for a week, and after that, darling, I shall return to you invigorated, my curiosity satisfied, ready to make you happy again. All my love, Veronica.*"

III

THE MENTASTHETIC Centre of Burnside County was built on the of the old County Hospital. It was an enormous building of white stone, modelled on the Parthenon though considerably larger, standing in a circular, cleared space of several thousand acres of perfect lawn. On one side of the building, though at a discreet distance, was a long runway upon which there stood half a dozen long-range jet-craft; nearer the building was a small helicopter tarmac that was in continual use.

Dick put his helicop down on the centre of the tarmac, engaged the horizontal drive, and ran her into a vacant section of the parking line. Then he made his way as fast as he could to the main entrance of the Centre. Within the portico he came upon a small office, with a white-clad nurse sitting behind a marble-topped table.

"I wish to see Dr. Kassel," he said.

"Your name and business please?"

"Dick Maybach—about my wife, Veronica Maybach."

"One minute please."

The nurse left the office through a sliding bronze door in one corner. A moment later she returned.

"Will you come this way, please," she said.

Dr. Kassel's room had been designed and furnished by a master. The walls were of moulded copper, patterned to give an over-all restfulness. The lighting was diffused, mingling peacefully with the curves and shadows of the copper, and the soft outlines of the furniture. Dr. Kassel himself sat behind a graceful, though functional desk, and at his right hand was a control cabinet.

"Ah, Mr. Maybach," he said, welcoming the young man with a handshake. "Your wife has just joined us."

"That's what I wanted to see you about, Doctor," Dick said grimly. "I want her jerked out of her trance right away."

"Inadvisable, my dear fellow, even if it were possible!"

"What d'you mean?" Dick refused to reciprocate the doctor's heartiness.

"I mean that it is extremely harmful to the patient to be—er, jerked, I think you said—out of her sleep before her set period is up."

"I tell you, Dr. Kassel, I want my wife back!"

"And I tell you, Mr. Maybach, that it is impossible to reunite you with her until her period of seven days is over."

Dick kicked the carpet with short, impatient movements of his foot. "How long must I wait?" he growled.

"She has been put on a seven day cycle," Dr. Kassel said. "She has another six days to run before she returns to us."

"I still don't see why. . . ."

"My dear fellow, have you ever had one of those dreams which has ended with the sensation of falling from an immense height? You have? And you have always woken before you reached the end of your fall, eh? If we were to bring your wife back before her cycle has run through, she would get a similar experience, only it would be ten, a hundred times worse, and it would probably cause her to be somewhat mentally deranged when she awoke. Then there would be a strong sense of frustration if she lost her dream world before she had completed its cycle. Together, Mr. Maybach, these two effects might cause serious and permanent mental affliction."

"Can I see her, then?"

"Certainly, my dear chap. Have you ever been round a Centre before?"

"Never."

"Then I shall take the liberty of showing you over the Burnside Centre. It is, I may say, one of the largest and most modern centres in the world. We have no less than eighty thousand patients here, Mr. Maybach!"

"Eighty thousand?"

"An incredible figure? I suppose it must seem so, when you consider that the population of the County is only one hundred and fifty thousand. But we can take more, here, many more. But come with me, and I will show you!"

THEY ENTERED a small lift in the corner of the doctor's room, and ascended rapidly to the very topmost floor of the building. They stepped from the lift into what appeared to be a long laboratory. Half a dozen white-coated men attended at a number of benches. Dr. Kassel led the way to a large tank from which a great number of thin pipes drained away.

"This is one of the two hundred feeder tanks," the doctor explained. "The feeding fluid is automatically mixed in that battery over there, is led to this tank as a reservoir, and then descends via those small pipes to the patients."

"The feeding fluid?"

"Yes. The patients, naturally require feeding. We have produced a pure chemical food than can sustain and nourish the body indefinitely. It is fed to the patient by direct entry into an artery. But you will see that in a moment."

The next room they entered was the record room, in which two or three dozen robots sorted and arranged details of every patient in the Centre. Beyond that were a number of workshops for the repair of the apparatus.

The whole of the next floor was given over to the complicated layout of the Crawford Mentasthenia machinery. Dick was amazed at the complexity of the apparatus, the great wave-generators, the finely devised transmission circuits, the automatics that controlled the wave-output to the patients. In particular, he was surprised to find that the whole set-up was robot-controlled, so that once it had been set working, no human hand was needed to keep it running.

"And now the dear patients," Dr. Kassel said. "As we go down, let me explain a little of the principle of Mentasthenia, as discovered by that great pioneer, Crawford. As you know, induced sleep is no recent discovery. It began to be used in the cure of complex mental afflictions early in the last century. After the Third World War, when mental disease became so widespread, some advance had to be made on the old-fashioned methods of inducement, and Crawford began to experiment with his method of inducing the sleep by blending into the brain wave-patterns of the patient, wave-patterns of his own devising. For a long time progress was slow, until he succeeded in so dominating the wave-patterns of the patient that he could take all the strain of the mental disease out of the patient's brain. The patient would spend a month or more in what amounted to a state of suspended animation. But Crawford was not content with this result. He devised a means whereby the wave-pattern in the patient's brain could be induced to follow outside inducements, so that the patient would experience dreams; dreams that could be regulated to counter any inherent aberrations. Now, of course, only pleasant dreams are induced, though if we wished we could give every patient in the Centre a succession of the most horrible nightmares. And here is Ward No. 1."

AS THE DOCTOR slid back the door, Dick gasped. As far as he could see into the distance, were divans, hundreds and hundreds of them, spaced at two-foot intervals throughout the whole length and breadth of the building, and upon every divan was a recumbent figure, with a white sheet draped over the torso. It reminded him of a gigantic morgue, a horrible place of death.

"We have twenty wards such as this," Dr. Kassel went on. "Each will hold five thousand patients. This particular ward contains short-term patients. The divans are automatically controlled, and as each patient nears the end of his or her cycle, they move down towards a door at the far end. As the patient, at the end of the period, begins to return to consciousness, he passes through a chamber at the far end. Nurses are present to assist the patient on their return, and the feeder and waste tubes are removed, the patient bathes, dresses and goes out into the world again."

"And do they return?"

"Only about .05% fail to return within a week, I'm glad to say. Once they have tasted the joys of Mentasthenia, they are reluctant to return to the boredom of the outside world."

He lead Dick down a cleared space between the divans, to the one on which Veronica lay. Dick stared at her entranced, for she was more beautiful than he had believed. Her face was filled with radiant peace, and sometimes a trace of a little smile flickered about her lips; her golden hair was coiled neatly upon the pillow, so that it seemed as though she were resting her head upon liquid gold. Above her forehead were poised the twin plates of the Crawford Inducer, and from the white shroud that covered her emerged the twin feeder pipes.

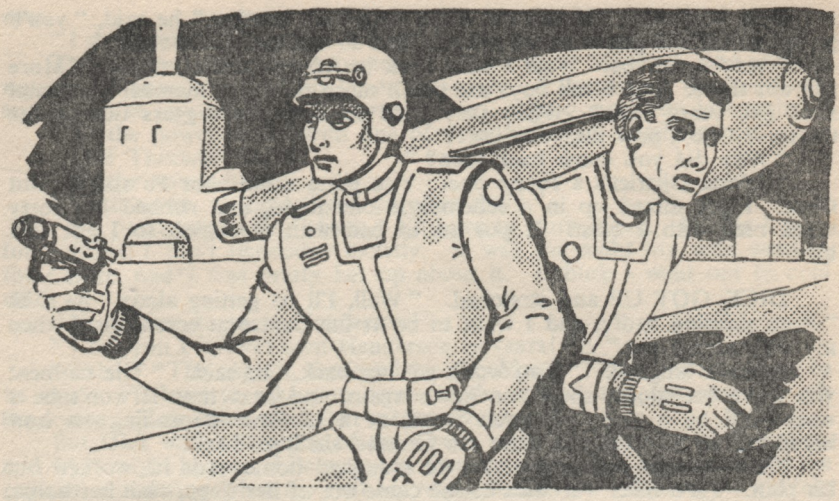
Dick kissed her lightly on the forehead. He felt immeasurably sad, for something told him that he would never see his beloved wife again. He had surrendered her to the monster, and the monster would never give her up once it had taken her into its dream-world.

"When will she recover consciousness?" he asked.

"Next Thursday, at seven-thirty precisely, Mr. Maybach. Perhaps you would like to be here—it can be arranged. But, I must be off, my dear chap. If you will come with me . . ."

BEHRENS CLIMBED up from the motor room.

"Hi, Dick," he said, settling down in a chair. "Hear your wife's gone



'sleepy-byes.' Mine went two years ago."

"Did she come back?"

"Did she Hell! Once they've tasted Mentasthenia you never get 'em back. I'd go myself, only . . ."

"Only what?"

"Only I found I loved that little motor downstairs more than I thought. But I suppose I shall go in the end; everyone does."

He took out a cigarette and lit it. "Did you hear that story from Star Field, New Mexico? Well, I'll tell you. They've been trying to build a spaceship there for years, but somehow they never got round to getting all the parts together. It seems now that some old chap showed up there recently, and got the thing working for them. And do you know what happened—and here's the laugh!"

"Get on with it!"

"Well, amongst other things, they'd picked a volunteer crew to take the bus to the moon, or Mars. Now having got the bus ship-shape, they turn round to put the crew it. And do you know what? The whole perishing outfit had got bored with waiting and gone 'sleepy-byes'!"

"But couldn't they get another crew?"

"Seems there ain't the flow of volunteers there used to be in the old days."

"What about you and me, Behrens? We've nothing here to keep us."

Behrens laughed. "Ten years ago I'd have gone like a shot, Dickie, but now? I don't think so."

There was a tap on the door, and the W.S.P. sentinel came in.

"Howdy, techs," he said genially. He was a thick-set coarse man, with an ugly, fat scar-marked face. "Would you be having a fag?"

"How long are you boys reckoning on sticking around?" Behrens asked.

The man sat himself down at the control table. "Don't ask me," he said. "The captain says there may be trouble, and until he changes his mind, I'm here!"

"What sort of trouble?" Dick queried.

"Some guy might try to get in with a little suitcase loaded with plutonium." The man patted the little blaster at his waist. "Just let me see him!"

Dick laughed. "If you cut loose with that, brother," he said, "you'll go up, so will the guy with the suitcase, and so will the power-bank."

"Maybe, maybe. Wish I were back in Africa District, though. More fun out there. The black boys are much more riotous. 'member the Natal riots five years back? When they tried to keep the niggers out of the Centres? Boy, now that was fun!"

"Why did you come back then?"

"Africa District's a funny one. You gotta mind your Ps and Qs out there. I got mixed up in a schemozzle one night, and rubbed out forty black men with a blast. It put me in bad with the chief, so I got sent here."

DICK GOT UP and stretched. "Well, I'll be getting along," he said. "Been sleeping badly, and I want to be at the Centre at seven-thirty when my wife comes out."

Behrens laughed. "You won't get her back," he said. "The moment you leave her alone, she'll run down again, and next time it won't be a week—it'll be a year, or seven years, or a lifetime—depending on how bored she is! So long as there are Centres, she'll go back."

Dick thought differently. As he ploughed homewards he worked out his plan. He'd meet Veronica as she came out of her sleep, rush her home, and then tie her up, if necessary. He'd be rough, hurt her, perhaps, but he would keep her out of harm's way until Henderson's scheme worked, and there were no Centres for her to go back to. Veronica was not going back! That was definite.

He put the helicop down by the side of his house. There would be just time for a cold meal and a bottle before he went down to Burnside.

He slipped his key into the lock, walked into the living-room, and switched on the light.

"Good evening, Mr. Maybach," a hard voice rasped. "You're early!"

Dick looked down the projection end of a blaster, and above it, the black and gold uniform of a captain in the World Security Police!

IV

"SIT DOWN, Maybach," the W.S.P. man said. "My name's Styles—Captain Ned Styles."

"By what right do you break into my house and threaten me with a blaster?" Dick said indignantly. "I thought you fellows were supposed to keep the law, not break it!"

"Sure, Maybach, but you know the set-up. Complain, if you like, but is anyone interested? You'll waste your breath trying to invoke some ancient statute that was forgotten ten years back."

"What do you want?" Dick growled.

"Just to ask you a few questions, Maybach. I'm from the Anti-Sedition Section and I thought maybe you could help me in a small matter."

"So what?"

"Ever heard of an old fogey called Henderson?"

"He was a friend of my father's, but I thought he'd died years back."

"You haven't seen him lately?"

"I haven't seen him since my father died."

"Oh? I'd got the idea maybe you'd seen him recently—in the last few weeks?"

"Ridiculous!"

"Just as you say, Maybach. We'll come back to that later. By the way, what are your views of Mentasthenia?"

It was on the point of Dick's tongue to blurt out his hatred of the social drug; he checked himself with an effort, and stared back into Styles'

eyes.

"I don't know," he said. "What do you think, Captain?"

The evasion angered the captain. "See here, Maybach," he rasped, waving the muzzle end of his blaster savagely. "I'm asking the questions, and if you've any sense you'll answer them. Where were you last night?"

"At the power-bank—with one of your bull-dogs watching me."

"Last Thursday night?"

"At the power-bank."

"Until seven. Where d'you go after that?"

"It's nearly seven days' back. I'll have to work it out. Maybe I went for a flight, I can't remember exactly. It was the night my wife went to the Centre, and I was pretty het up about it. I think I went out to cool off."

"You went to meet Henderson!"

"I tell you I haven't seen Henderson in years!"

"Bah!" The captain shrugged his shoulders. "Since you're going to be smart, I'll have to take you down to the station and put you through the screen. You know what that means, Maybach?"

But Dick wasn't thinking of the screen. He was thinking of Veronica, and what might happen if he were not there to meet her. He stared past the captain, wondering what the hell he was going to do. Behind the captain the curtain bulged, fluttered, and was still.

"O.K. Maybach, we'll take you down the station. My helicop's just round the corner. Get moving, brother!"

The machine was a patrol helicop, with three uniformed figures in the buggy-back. Dick had no chance to argue, and the wild idea of breaking away, stood no chance, for he would be unable to gain possession of Veronica and he would probably get a shot from the blaster to rip his guts out into the bargain.

The white stone building of the W.S.P. was a blaze of light and activity.

"Tell me, Captain," Dick asked on the spur of the moment, "do you ever get any of your men going to the Centres?"

Captain Styles laughed. "We get too good a life outside," he said. "Anyway, most of them ain't suitable for patients. Come on, Maybach, let's give you a dose of the screen."

He was hustled into a lift, and then jerked roughly into a room. It was bare but for a desk and a control panel.

"Get the chair, Red," Styles barked. A moment later it was wheeled in, a model that was a cross between a dentist's and the ancient electric chairs of the old days still preserved in museums.

"Now, Maybach, I'll give you one more chance to talk. If you don't, we'll screen you, and you know what that means. That little baby over there will suck your brain emptier than an eggshell. When you get out of the chair, we'll have a complete record of everything you've thought and done over the last six months, and on top of that you'll be as much use as a drooling child of two or three years old."

"I still don't know what you want," Dick said.

"You do, but you're playing possum. We've been watching you for months. We know Henderson contacted you a week or two back, and you've seen him since. We know you're in the Henderson conspiracy to the back teeth. We've had a stool pigeon in the Henderson outfit for a long time now, and as soon as we know exactly what he's going to do, and when, we'll pull in the whole bunch. Now, Maybach, are you going to . . ."

THE LIGHTS went out so suddenly that it seemed as though there had been an explosion. Dick leapt sideways, in case Styles should cut loose

with his blaster, and cannoned into someone.

"Maybach?" a voice grunted in his ear. "Come on, quick, I'm getting you out of here."

A strong hand gripped his arm and yanked him towards the door. Dick cracked his head on the metal as he stumbled out. Styles was swearing at the top of his voice within, and there was shouting and running feet outside.

"In here, quick," the voice ordered, pulling Dick through another door. "Feel this! It's a W.S.P. great-coat. Put it on—and here's a cap. Right, now come on, let's get going. It's a chance in a thousand, but either you go out alive, or you stay here, dead!"

The possessor of the voice knew his way about this building well; he lead Dick along a corridor, pulled him stumbling down a flight of stairs, and then another. Lights were beginning to appear, paper torches, cigarette lighters. Somebody help a lamp over Dick's head for a moment, saw the uniform coat, and then ran off.

"Now for it!" The voice was urgent. "Keep your head up, kid!"

They emerged from the darkened building into the brilliantly-lit aeropark. A sentinel by the door stared for a moment at Dick, and then saluted. The man beside him gripped Dick's arm again and began to urge him across the tarmac. Suddenly there was a bellow from behind.

"Stand to!" Styles' voice bawled. "Stop those two men! Get 'em quick!"

The man beside Dick spun on his heel. There was the rasping crack of a blaster, the searing of the lethal ray through the air, and then Styles was a smouldering heap on the tarmac.

"That's torn it," Dick's rescuer said. "Now we really have to high-tail it. Run, you blighter, run."

Breathless, they reached the shelter of a jet-craft, fumbled at the door, and crowded inside. A blaster cracked, setting fire to the machine alongside, but already they were lifting, the bow coming up, the stern spraying flame into the ground. Another crack, and another, but the tubes were building up, and the earth was receding with tiny dots of figures running about amid the arc-lights. The man levelled off at five thousand, set a westerly course, and opened up all the main driver jets.

"They'll be after us with everything they can get into the air," he said, glancing back towards the tarmac and the blazing ship. "Still, this bus'll take a lot of beating, though. Wish we had a helicop. They're slower, but a hell of a sight harder to follow since they've got no bloody flames sticking out of their behinds!"

Dick relaxed and lit a cigarette.

"Who are you?" he asked, staring at the man's uniform of a W.S.P. officer, his lean, handsome face, his flashing eyes.

The man laughed. "Guess the name you'd know me by is Walt Henderson—you've met my old man, I think. I'd another name in the W.S.P., but that's over, thank goodness. Captain Styles was so pleased he'd worked an informer into my pa's outfit he never looked for the fifty or more men my pa's worked into his outfit."

"It was lucky you were around," Dick observed.

"Yes and no. Mostly good judgement. I'd an idea Styles was on to you ever since a fellow called Behrens sent in a report that you were getting interested in departments outside your own. Tonight pa called me and told me he had to see you urgently. When I got up to the house, I saw Styles putting you through your paces. I knew you wouldn't talk, so you were certain to be screened. I slipped back to the station, and worked up a pretext to get into the examination room. I'd tipped off another man there to feed back our auxiliary plant into the main circuit as soon as you

went into the examination room, taking a chance of getting you out when the contacts blew. It was easier than I expected."

Behind them Dick could see a dozen red glows in the sky as ships of all calibres joined in the chase.

"I'll have to take a chance," Henderson said. "Hold tight!"

Suddenly he slacked off the overhead tubes, fed power to the lower stabilisers, and as the head lifted, he poured everything he'd got into the main tubes. The jetcraft turned for a moment into a rocket, and went up vertically, leaving a train of star-dust behind as it fought and conquered gravity, lurched and then began to climb at supersonic speed.

DICK BLACKED out for a moment, came to to see Henderson fighting the controls in an effort to hold the bucking ship on its vertical course. He looked down and saw the glowing sterns of the other ships circling and then lifting. But their jetcraft was already twenty thousand feet up, and gaining altitude faster every minute.

"I'll take her to eighty thousand," Henderson said, "and if any of those beggars can follow us after that, they give the W.S.P. better machines than I expected!"

An hour later they were still at eighty thousand feet, and over the Atlantic. Henderson decided that they had shaken off the pursuit, and that it would be safe to come down to statutory levels.

"The radar stations will be throbbing all right!" he said, "but they're about as efficient as the rest of the W.S.P. outfit. We should be able to sneak in between Cape Pendlebury and Mariston."

"You don't think much of the W.S.P.?" Dick asked.

"Oh, they're perfect—just as everything else is perfect in this world of ours. The snag is, they're without a head. All the great police forces of the world have had living, demanding heads, dictators, police-chiefs, what you will. The Gestapo of Hitler would not have lasted five minutes without Himmler or Kaltenbrunner at the controls. But W.S.P. is a headless body, purposeless, aimless. Sure, they go on in the old way, tracking down sedition, arresting rioters, breaking up organisations of a national character. But all the time you're conscious of a tram running on lines. Now if there was a head, a police-chief running the W.S.P. for his own ends, or the ends of a corporal master, his presence would vitalise the whole bunch from top to bottom. I know it's difficult to understand, but there it is. Like everything else in the world today, the W.S.P. is decaying gradually."

They levelled off at ten thousand feet, and ran in over the rocky west coast without let or hindrance. Half an hour later they touched down on a private strip ten miles east of Hindersford. Henderson at once took Dick into the small, well-concealed house that lay almost completely buried in rockeries and shrubberies.

"Thank God you're safe, Dick," the old man said, wringing the technician violently by the hand. "I thought anything might happen when the W.S.P. netted you."

"I'm afraid if it hadn't been for your son the whole business would have come out. They were going to screen me, and you know what would have happened then. Still, your son arrived in the nick of time, though I'm not sure how much the W.S.P. know."

"I underestimated them," the old man said bitterly. "They know very nearly enough to check the whole affair. I've had to put zero hour forward, Dick. It's at midnight tomorrow. That gives us about twenty-one hours."

"My wife . . ." Dick said suddenly, putting into words something that had been occupying his mind ever since Captain Styles had taken him to the station. "My wife came out of the Centre last night. I must get hold

of her at once before . . ."

"Impossible!" both the Hendersons said together. "If you go within five miles of Burnside the W.S.P. will pick you up," young Henderson concluded.

"But if I don't, she'll go back again."

"Tell you what, Dick," Henderson senior said. "I'll send Swartz to get her. He's the most reliable man we have. He can take off at once, locate her, and bring her here. How will that do, lad?"

"You're sure he's reliable?"

"Quite sure. He'll get her for you. Now we must discuss plans. The world-wide action by W.S.P. has set everything topsy-turvy, but by a number of last-minute alterations we can make the thing work. Strangely enough, the only main atomic plant that looks like giving trouble is the one in this District—the Bowater one. We had it all lined up for three stations, including yours at Burnside, to feed back the juice that was going to bust it. Well, Burnside's out, since you're a marked man, and the other two have let us down."

"How?"

"At one, the W.S.P. screened the tech we had installed. The poor kid didn't know much, but they sucked his brain as empty as an old eggshell. At the other station, the tech concluded a mutual agreement with his wife and they both went into a Mentasthetic Centre."

"Well, that makes things difficult," Dick reflected. "It'll have to be Burnside."

"I don't see how it can be done. You're a marked man, Dick. Directly you appear, they'll net you."

"Wait a minute. Supposing we put our money on the fact that they won't—at least not for a while. Supposing the W.S.P. man at the power-bank is the same dicky-bird who was there before. I could blarney my way past him, and I'd only need a few minutes to do the job."

"Supposing it's a new and brighter patrolman? Supposing there are half a dozen patrolmen?"

"Then I say let's take blasters and shoot our way in, sir."

"It's a hell of a risk!"

"Yes, but if we don't feed back to Bowater, one main atomic plant will be left in action, and according to you, that's enough to ruin the scheme."

"That's true. One plant might keep some sort of power flowing through the grid—enough to provide power to mend the others."

"Well, I'll have a dab at Burnside, sir. I'll need two or three men with me, though."

"Good lad! That's the way I'd hoped you'd see it. You can take Brent, and Prendergast, and my son. Work out the scheme with them, and then come and tell me."

IT WAS WELL on into morning before Dick and the others had worked out a practical plan for getting into Burnside. They carried out two rehearsals, marking out a replica of the power-bank on the tarmac with chalk, and went through every step and each alternative until they were absolutely clear in their own minds as to what was to be done.

"Nothing left now," Henderson said. "I'm for getting a bit of shut-eye. We'll need our wits about us tonight!"

"Sleep?" Dick said wearily. "I shall never sleep again until my wife's safe with me."

"You've heard nothing yet, Dick?"

"Swartz will call me at twelve. Until then I suppose the best thing I can do is to rest my body, since I can't rest my mind."

On a bed in a darkened room, he relaxed, trying vainly to ease his mind. Veronica would be all right. She wouldn't go straight back to the Centre. He knew her; she'd call up all her friends—those that still remained awake—and tell them of her experiences. Then Swartz would catch up with her, and whether or not she wanted to go with him, she would! After that, things would be easy. She wouldn't be able to go back to the Centre, for the Centre just wouldn't be functioning. All the more reason, he thought, for destroying the main plant by hook or by crook.

At twelve he called Swartz on his wrist communicator.

"Yes, Mr. Maybach?" the soft voice answered him.

"Have you got her, man?"

"Sorry sir. She's not at your home, and she's not gone back to the Centre. But I'll find her, sir."

Heart thumping, Dick gave him a list of likely addresses, and told him to call directly he located her. Thank God, he thought, she hasn't gone back to the Centre—and to her death!

IT WAS DARK, and the four men standing about the helicop were impatiently smoking cigarettes.

"Nothing from Swartz?" Henderson asked.

"Nothing," Dick said. "Nothing except that she hasn't returned to the Centre, for which I'm thankful. I don't care where she is, so long as she isn't stretched out on one of those divans, waiting for death."

"Cheer up, Dick. She'll be all right?"

"Lord, I hope so. What's the time?"

"Ten-thirty. We'd better get cracking."

They climbed into the helicop. Henderson was wearing his uniform; it was to play a part in the carefully-rehearsed plan of attack. Dick took off, keeping low, and heading for the guiding light of Beacon 48/96. There he turned, passing over the scattered lights of Burnside City. He came in slowly over the power-bank, circling first so that the other three could get some idea of the general run of the building. Then he put her down neatly in one corner of the little park. Nobody disturbed them, and they had twenty minutes to wait until the zero hour.

"Who d'you think's the stool-pigeon in your father's outfit?" Dick asked Henderson.

"It's difficult to say," Henderson said. "Short of screening the whole bunch, and reducing them to imbeciles in the process, we can't find out. Whoever it is, they don't know a great deal or otherwise the W.S.P. would have swooped months ago."

"I can't think why they haven't," Dick said. "After all, on the face of things, they could have picked up your father any time."

"I think they planned deeper than that. In the absence of knowing anything definite, they probably preferred to let him run on, in the hope of getting the tip in time to net the whole world-wide organisation."

"They could have screened your father?"

"Not on your life! Pa would have killed himself long before they could get round to screening him. There are others who would have taken his place."

"What are you going to do after the blow-up?" Dick asked.

"My father's got a little place built up in the pinewoods. He's had a lab built, and all sorts of plant put in. We shall retire there, and form an island of culture in a sea of barbarism. It'll be the same in all Districts. Groups of men who will form the nuclei of the new civilisation that must come."

"Am I—and my wife—on your visiting list?"

"Naturally. Anyone who has worked with us, and a lot who haven't,

will be required. In time these islands will plant colonies, and so the knowledge will spread until the whole world is on its feet again. My father's determined to see space flight before he dies. It's a sort of bug with him, Dick. He's over eighty now, but if he must live to a hundred and fifty he'll tread the decks of a spaceship before he dies."

"We should have done it years ago," Dick said. "We've had the knowledge and the power, but not the vital force that makes men go out and conquer new worlds. Mentasthenia has drained the world of vitality."

"That's all finished. It's time we were moving. Are we all set, lads?"

The four men disembarked from the helicop, lit cigarettes, and began to stroll leisurely towards the flood-lit entrance to the power-bank. As they approached the sentinel came out and levelled his blaster. Dick recognised the thick-set coarse man who had been there on his last visit.

"Halt!" the gruff voice commanded. "What in blazes are you running your neck into a noose for, Maybach?"

Henderson went on alone. "I'm Captain Henderson, W.S.P.," he announced. "I've brought Maybach here to collect certain documents."

"Sorry, Cap'n, but I've me orders. No one, not even captains, are allowed to enter the building."

"Don't be absurd. Do you want to see my orders? I've got them in writing, you know."

"Sorry, Cap'n. Any other time, perhaps, but not tonight, see."

"Look here," Henderson began angrily. "If you obstruct me in the course of my duty, I'll get you bounced right out of the service. Now stand aside and put that blaster down."

DICK HAD carefully worked his way forward until he stood alongside Henderson. He smiled sadly at the militant W.S.P. man.

"He's right, buddy," he said. "I don't want to see you get into trouble. I did a lot of talking up at the station and so they sent Captain Henderson down with me to get some papers. Come on, let's get it over. I want my supper."

"So you talked, Maybach," the man said uncertainly. "Maybe you can tell me what it's all about."

"Later. I'll be coming back tomorrow to take over duty again, and I'll explain all about it then."

The man put up his blaster. "Maybe I ought to call th' officer," he said. "My orders are clear. Still, I suppose a few moments inside—that's all you'll want, isn't it . . . ?"

At that moment Behrens emerged from the door, and stared in astonishment at Dick and Henderson. For timeless seconds, nobody moved. Then Behrens acted, swiftly, his face twisted with a sudden paroxysm of hatred. He grabbed the blaster from the patrolman and started to bring it to his shoulder. At the same moment, Brent, standing just behind Dick, cut loose with his own blaster, sending a searing bunch of rays slap into the two figures by the door. Behrens screamed, as the metal blaster in his hand fused, but his scream died away as he sagged at the knees and fell, smouldering and charred, across the twitching body of the patrolman.

"Round one!" Henderson yelled. "Come on boys. Inside, quick!"

The bronze doors were still hot from the discharge of the blaster, and Dick burnt his hands as he pushed them back. Inside, he ran to the control room, with Henderson on his heels, while the other two broke the glass of windows and prepared to fight off any intruders.

"We'll have to get the cables from below," Dick yelled, tugging at the trapdoor that led to the motor room. He tumbled down the vertical ladder, with Henderson almost standing on his hands, regained his balance on the metal floor, and began to search for cable, big and strong enough

to take the whole of the load from the power-bank. He pulled open a cupboard, and saw, with a whoop of joy, a coil of thick copper-weave hawser.

"That's the baby!" he said. "We can cut it down here and carry the bits up."

Behrens' bench had an automatic cutter, and with nimble fingers, Dick fed the thick hawser into the teeth, cutting four sections each two yards long. Deftly he turned the ends, welding them in with a touch of the power feed.

"Up the stairs with them!" he said.

It was a difficult job, though, hauling the heavy, unmanageable sections of copper weave through the trapdoor, and when they still had one left to bring up, Brent burst into the room.

"Hey, Chief!" he cried. "Helicop just pulled in with a squad of patrolmen. What action?"

"Keep 'em at a distance, Brent," Henderson cracked over his shoulder as he toiled at the wire. "Whatever happens, keep 'em off for ten minutes. After that, we'll go out and meet 'em hand to hand!"

Brent went back to his station, and a moment later they heard the crack of a blaster. Their fortress was doubly difficult to attack, for the W.S.P. were unhappy about using blasters on it for fear of damaging the machinery inside. Nevertheless, they brought up some hand-picked sharp-shooters, who promptly engaged Brent and Prendergast in a shooting match.

At last Dick had the four sections on the floor of the control room. It only remained to connect them up, feeding the output circuit of the power-bank back into the auxiliary circuit of the main atomic plant. Dick and Henderson man-handled the sections into position, lifting them to the big terminals on the board, closing the automatic grips, tying the dangling loop clear of earth-return with strips of plastic.

"Good!" Dick said, standing back and admiring his handiwork. "That'll bust the main plant sky-high!"

"O.K. Dick. It's five minutes to midnight! I'll just . . ."

Brent tumbled into the room. "What d'you think?" he cried. "They've sent an ambassador to talk terms. And who do you think it is, eh?"

"Who?"

"Swartz!"

"Holy Mackerel!" Henderson yelled. "So he was the dirty stool-pigeon, was he, the clever swine!"

DICK SAID nothing, but his heart had suddenly gone icily cold. Until now it had been a glorious adventure, and it looked like being a big success. Veronica was forgotten—after all, Swartz was looking after her; and Swartz had said she wasn't at the Centre. But now?

He followed Henderson into the lobby of the power-bank, climbing on a chair to look from one of the shattered windows. Swartz was standing with a W.S.P. officer in the centre of the arc-lights.

"Hi, there, Mr. Maybach?" Swartz yelled. "Tell him I want a word with him!"

"I'm here," Dick said. "Shoot your mouth, stool-pigeon."

Swartz laughed. "You should tell that old buzzard Henderson to hand out more meal tickets and less glory-talk!" he shouted. "Reckoning on busting up the power-bank, Mr. Maybach?"

"So what?"

"Only your ever-loving wife's down at the Centre, Mr. Maybach. Been there twenty-four hours, now, Mr. Maybach. Sweet dreams about her little hubby. If you bust the power-bank, your little wife's likely to die when the power supply fails. An' if she don't die, which I think she will, she'll be

crazy as a loon!"

"What are your terms, Swartz?" Dick asked.

"Come outta there peacable, and the W.S.P. will let you go free—and your wife'll be alive, if a little dreamy."

Henderson tugged at Dick's sleeve. "It's a minute to twelve," he said in a low voice.

Dick followed him back to the control room, and stared at the instrument panel.

"I can't do it!" he said suddenly. "I can't murder my wife."

"You've got to," Henderson cried. "You're the only one who knows which are the switches. You've got to, Dick, for the sake of mankind."

Dick put up a hand towards the control panel, and he saw Veronica's face framed in the output dial; Veronica sleeping, her face peaceful resting on its cushion of golden hair. Veronica, and all the days they had spent together, the laughter and the tears, the struggles and the victories. He saw their house, with every object in it marking some small personal success their garden, tended by Veronica.

"Dick, you must go through with it," Henderson pleaded hoarsely. "Think of your father."

Yes, his father. His father would have done it, would have gone ahead no matter what the personal cost if humanity was to benefit. But then his father was of different metal; they were men then, burning with the inner fire that spoke of the conquest of the universe. Dick knew he lacked the strength of moral fibre that such an act called for. He knew he could not do it, knew that he was not man enough to put mankind before Veronica.

Suddenly power surged over him, making his temples throb, his wrists tingle, a power that made him see everything in a new light. By God, he said. I can do it. I can do anything. I can pull that switch, I can destroy half the human beings on the earth, because I know that I am right, that old Henderson and all his crazy gang are right, that into their hands has been put the future of the race, the race that has been destined to reach out through space and couple the very stars to their chariot wheels. The race *shall* win through!

The switch pulled easily and with an audible snap the power began to build up, the inch-thick cables glowing cherry-red and then white, elongating, drooping floorwards as the plastics melted. Dick feared they would give under the strain, but they held, while beneath his feet the purr of the Maybach chamber rose to a frenzied roar.

"And that's that," Henderson said. "Only those ignorant W.S.P. blockheads to deal with now, Dick."

Dick laughed, a bitter, dry laugh. "Nothing can check us now," he said. "We shall go on and on, building and building, but this time on foundations that go right down to the centre of the good earth."

He spoke the truth. They walked out of the bronze doors, blasters ready, but the W.S.P.s stood back, almost afraid, staring at them dumbly as though they were gods. No move was made to obstruct them, no blaster raised its muzzle from the ground. They gained the helicop and took off.

"How do you feel, Dick?" Henderson said.

"Strange. As though I'd a million volts inside me, as though I could reach right up there to the stars and pull Venus into my pocket."

"I feel the same," Henderson muttered. "Filled with awe at the wonder of it all. Look, Dick, the lights have gone out down there. When they come up again, Dick, it'll be a finer world they shine on."

Dick looked down, and clear in the moonlight he saw the white stone of the Parthenon-like Mentasthetic Centre. In his heart he said farewell to Veronica, and farewell to all the things that had died with her. Then he turned his eyes to the north, and the helicop sped through the night towards the future.

THE END

THE CIREESIANS

By NORMAN LAZENBY

As a mistake in evolution it didn't turn out so badly—but it took a long time

Illustrated by WHITE

THE SUN HAD risen and the sweltering day, some one hundred million years ago, was ready to drop like a second's tick into senseless time when the beasts of the stinking jungle roared through gaping jaws. All along the vast, jungle-fringed sandy bay of the lake reptilian creatures snarled at the shadow which fell on the bay.

The shadow was a mile long and was caused by a metal ship which landed on the bay. A thousand men stood by their stations as the ship settled as lightly as an eggshell. In the holds a noisome cargo writhed and moaned.

Captain Talu sighed and gave orders to his hundred sub-captains. He was a pink little human and his features were delicate and characterless under a huge forehead. Like all men of the officer caste he had been born of human parents. The remainder of the ship's crew were beings whose lives and natures had embryonic beginnings in laboratories. Captain Talu hardly stirred from the telepathic screen. A wave of colours, from flaming red to ghostly swirls, flowed over the screen and registered through Captain Talu's eyes to his brain. From the telepathic screen he could visualise every activity on the ship, and from the thin metal band which circled his bald head his silent thoughts went out to his sub-captains.

"Disembark the cargo. There is no need to hurry, but before this planet turns again we shall leave for Cirees and our dear families."

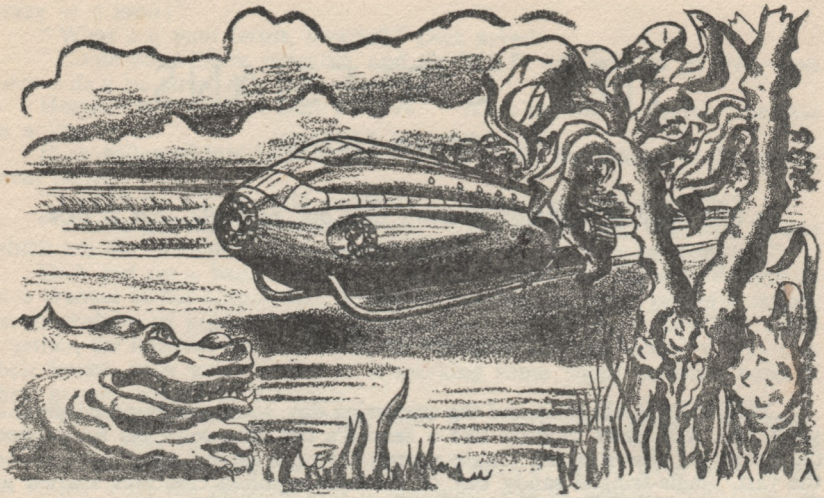
Sub-Captain Sa To Foll Tamarand received the telepathic message and the dread in his heart tugged at his innermost beliefs.

Tamarand was young. He had the same round pink face and large skull which characterised the humans from Cirees. Like the others from the incredibly distant planet, his body was smallish but completely free from physical defects. He had been born on a disease-free world and his constitution knew nothing of malignant germs. But Sa Tamarand's soul was sorely troubled.

He had talked it over with Soll Dring, the only officer who would understand and not report him, for Dring was his friend.

"My Dring, we think we're doing our duty by dumping the creatures on this God-forsaken world, among this nightmare animal life, but surely that is but half our duty?"

Dring listened, courteously refraining from using his telepathic power, for to use the power in social contacts was an unforgivable abuse. He replied in speech.



"The Bureau has decided, my Tamarand. Cirees made the brutes and our Order decrees that all life is inviolable. The brutes cannot stay on Cirees, but this planet is extraordinarily suitable as a home for them. Were it not for the fetid endless jungle and reptilian life, it would approximate closely to Cirees, and you know that of all the systems we have explored few support life so luxuriantly as this world. Why, the very air is thick with insects and the mammoths amaze me with their variety. Have you not watched the jungle through the Projector, my Tamarand?"

"I have seen everything," choked Tamarand. "I have not slept at nights because of my thoughts. I tell you my mind is sick when I think that the brutes will be left without guidance on this horrifying world. For the Bureau to talk of life being sacred is merely hypocrisy when they know the brutes will be at the mercy of the reptiles."

"But, after all, they are brutes," said Dring uncomfortably.

"Yes, they are brutes, and all because of a mad whim of Laboratoryman Sever. They should be men, my Dring. I have watched them—oh, for hours, revolting hours! I think and think of ways to help them, for there are times when I see strange resemblances in their brute manners. I have thought of one way, my Dring."

Dring said gently: "What is it, my Tamarand?"

"I can stay on this planet to help them. With some weapons and food, I could work to alleviate the mischief caused by Sever."

SOLL DRING stared into his friend's limpid eyes, saw the conviction expressed there and was silent. Presently he said: "You could forget this, if you return to Cirees. You must really try. You cannot exile yourself for the rest of your life on this ghastly world. It is primeval and repellent. Human beings could never live here. It is a breeding-pit of monsters."

Sa Tamarand smiled faintly.

"You exaggerate, my Dring. Humans can live anywhere. I could not return to Cirees and be haunted for the rest of my life with a sense of having failed. If I slip away from my convictions I shall be a wretched shadow of a man. If I—"

"If you stay here," interposed Dring harshly, "you will never see a man again. If you do not perish with the brutes, you will go mad. How can you, one man, help the brutes? But you will not be allowed to stay

behind."

Tamarand's face was white. Sweat glistened on his smooth cheeks. He placed one hand upon Dring's arm.

"You will not report me?"

Dring struggled with his dismay, his inward shame that he could not offer his companionship to the missionary.

"I will make no report," he said.

Tamarand plunged on, as if speaking his thoughts sealed his decision.

"I shall hide some weapons and food in the jungle. It will be easy for me to leave the ship just before Captain Talu gives orders to leave this world."

"World!" repeated Dring sadly. "It is earth—stark Earth!"

SA TO FOLL TAMARAND watched the unloading of the brutes. They shambled down the gangway with continuous, rumbling snarls, their big hairy bodies lurching from side to side as their ugly muscular limbs carried them to the new world. The females carried offspring on their backs, and the males pushed savagely to the sandy shore. Tamarand watched one run with ungainly strides into the jungle and within a second return to the beach hugging to his broad chest a threshing snake. The brute coughed triumphantly, even as the reptile coiled round his neck, and then the brute tore it to pieces with his hands.

Tamarand realised that this world was in many ways suited to the brutes. On Cirees savage wild life had ceased to exist. The placid, idyllic planet could not give habitation to the brutes, no matter how they were corralled.

If Sever had not been idealistic, if the Laboratory had not been in his sole charge for a long period, if the man's purpose had been suspected, the brutes would never have been created. Nearly six hundred travesties of man's likeness had been created in the sub-laboratory over which Sever had sole charge. His work done, Sever had died at the hands of the monsters he had created, and then the Bureau had sent civil guards to round up the brutes.

Never before, in all Cireesian history and in the known story of other explored Systems, had anything approximating to the human being been known. Grotesque animals were common, life forms could be deadly, stupid or beneficial to the human race, but in any case animal life of any description was rare except on Cirees and the recently discovered planet of the tiny remote system of nine planets and their sun. Cirees was populated by the Human Being, and his origin, lost in the haze of incredible antiquity, was generally accepted as miraculous. Cireesian science had progressed. They had ships which spanned space. Their laboratories could create humans and a perennial filthy joke was to suggest that man was an animal.

There was nothing physically resembling man until Sever tampered with some chemical operations and produced six hundred ghastly brutes instead of another quota of Cireesians.

Cirees was horrified. It was as if a human mother had given birth to an unnamable creature. Cirees was accustomed to adults walking out from the laboratories, complete with conditioned, knowledgeable minds, even though the superior caste were born of human parents, but the brutes from Sever's laboratory shocked the people. It was profanity, and worse, for the brutes had to live. To kill was against the Order of Cirees.

The little planet with its rich, stinking breed of a million crawling insects and savage reptilian creatures, was the obvious world in which to dump the brutes. Brutes for a brute world. With due solemnity, Sever's travesties were sentenced to transportation for eternity.

" Brutes in whom there is the spark of man," thought Tamarand when he first saw them. Instantly he could not stem his pity for them. He was the missionary seeing the tamable. He was the man who went among the lepers.

He thought he could tame them, control them. He could teach them something, protect them from the giant reptiles so long as his weapons functioned. He would take up the task which Cirees neglected.

He made his plans. A ray gun would be invaluable, for the fuel would last for fifty years and the ray could burn a solid object in seconds.

The weapons had been made for interstellar exploratory work, for weapons on Cirees were unknown, and even so, the guns were mostly used to frighten alien animals. If he had to kill the reptiles, he would be transgressing against the Order, but—and Tamarand's lips parted in a smile —on this earthian world the Order would surely be void.

He planned to take some compressed foods. Sufficient to last a lifetime could be carried in a small pack, but, as a vegetarian, the planet offered plenty of food, though some of the brilliant fruits were probably poisonous.

THE BRUTES were thronging the beach, foraging and fighting. Startling scenes took place when a hideous dinosaur blundered out of the slime-thickened lake. The reptile ran woodenly, killing some of the brutes by its bulk and then crashed into the jungle.

Tamarand stared, gripping the rail.

The Cireesian ship left Earth sixteen hours after landing, leaving on the shores of the tidal lake the first simian stock and a civilised man tortured by conscience. Sa Tamarand, hiding behind some rocks in the jungle, watched the ship rise slowly, filling the sky in his sight from right to left. At ten thousand feet it accelerated and vanished in a twinkling.

He came slowly down to the sandy beach and stopped to stare at the brutes. Long before he had noted one big shambling fellow who had assumed leadership of the pack. The brute stood head and shoulders above Tamarand, and his heavy, low-browed skull and repellent snout-like jaw were purely bestial. The brute's arms hung loosely, muscularly. It was incredible that his embryo had been identical with an intelligent human's.

It was this factor which had stirred Tamarand's intellectual pity. He was haunted by the idea that within the brutes smouldered some human spark.

The leader ran along the beach, snarling his enjoyment of freedom. He snatched at a half-buried stick and shambled along, club upraised.

Tamarand seized the opportunity to approach, and his mind probed the brute's. The brute's radiations were crude, like blasts of hot air, causing revulsion within Tamarand's telepathic brain. He steeled himself and sought for control over the brute's elementary thought. Within seconds it was easy. He could check the brute's lusts at any given moment and impart orders. The orders would be only vaguely understood or acted upon, for the receiving brain was inadequate. He came close to the brute leader, stared into its fierce red-rimmed eyes. Giving lust-blocking orders and action-impelling ideas was absolutely effortless.

Through the leader Tamarand sought protection from the other brutes until such time they would take him for granted. He had no doubt this would happen.

Through the leader, whom he had mentally named Rog, he placed orders for the pack to assemble. Many of the brutes had disappeared into the jungle, and some had explored and reappeared on the lake shore. Rog lumbered round from Tamarand and roared balefully, even reluctantly. Slowly, and in confused disorder, the brutes converged to the beach, snarling,

coughing and grunting and stood stupidly. Some had bloody wounds and some had encountered carrion and stank accordingly. Tamarand inclined his pink head, assessing and checking any murderous lusts among the welter of radiations his mind picked up. He stood close to Rog, and then willed the leader to move forward at the head of the pack.

Clumsily the pack took logical shape. Tamarand walked with Rog, unafraid and his aims clear as sunlight. At the moment he intended to find the most suitable part of the jungle and found a colony. Later he would attempt to train and civilise the man-like brutes, teach them to build and work, to store food, and provide shelters. He would make near-men out of these rejects from Cirees.

And yet the vision awed him. The brutes were sunk in an abyssmal animal mould. Their faltering stupid motions could never be as man's. For as long as records lived, Cireesians had been gifted beings, flesh certainly but in virtue and thought akin to god.

Before the day was done Tamarand's life work had started. He found an ideal grove of giant nut-bearing trees not far from the lake and ordered the tribe to settle there. For himself he built a leafy home high in a tree, considering that this was the best method of protection from the wild life on the ground. He showed Rog his work, trying hard to instil the conception of shelter into the brute's mind, but Rog's only reaction was to fumble in stupid imitation of the man who was now master.

Sa To Foll Tamarand lived and died one hundred million years ago, and within a few years of his death the brutes forgot the superficial tricks he had taught them. Their strongest instinct was for survival and for a million years the species subordinated everything else to this desperate need.

There were vast climatic changes and violent geographical convulsions resulting in crucial migrations of the tribe. Despite aeons of changes the Cireesian brutes increased in numbers, branching into distant lands, evolving into distinct species.

The species saw the reptiles vanish and helped in no small measure by smashing their eggs until the huge vegetarians and flesh-eaters dwindled to extinction. Over the millions of years descent from the main family tree trickled into a dozen developments, and some in the line of descent became so adapted to certain environments that evolution ceased. But others slowly learnt to specialise, finding crude manipulative skills.

The specialists outstripped those in whom evolution had ceased. But eighty million years were needed to achieve the aims of Tamarand, the Cireesian.

One day a man lit a fire and did not run away. Another timeless day a man placed his load upon a runway of rollers.

In the forest those in whom evolution had ceased grunted as they climbed trees.

Thereafter progress was fast. Within twenty million years man had moved from tampering with fire to flying through space to chart Systems so vast they defied reason.

HUGH PENNOL had spent twenty years as astrogator on the survey ship *Rigel* and realised quite well he was like a madman examining the desert sand particles with a magnifying glass. Well, the job could not fizzle out, at least.

On this expedition to the Lesser Doriad Cloud there had been three new acquisitions to the crew. He felt more and more an old-timer. Two of the newcomers alleviated this feeling—Pedson was an engineer of seven years' experience, and Robbel, the new radio officer, could talk of Outer Systems if shop-talk was needed.

It was Phillip Rodney who made Pennol feel old. The youngster's

enthusiasm caused Pennol to wonder if *he* had ever been that way. Phillip was a doctor, and Pennol thought he had a lot to learn.

A perfunctory survey of the Lesser Doriad Cloud had disclosed its dimensions at one hundred forty billion cubic light years, containing approximately seven million suns. Skipper Maltby felt he would like to land and stretch his legs and the newly-made records showed that one hundred planets were capable of supporting life, but even so he did not pick one out with a pin.

He was naturally attracted to the largest sun and then to its biggest planet. The sun was a huge pale disk, vaster than Sol, but weaker. The planet was no bigger than Earth, but still it was larger than its neighbouring twelve sisters and it possessed an atmosphere of Earthian density, if the *Rigel's* projector currents were not lying.

Skipper Maltby felt it would suffice for the purpose, and landed the survey ship for no other reason.

They landed near a city after flying over thousands of miles of green undulating earth. They had discerned a huge tideless sea, but not the slightest sign of a mountain. Singleton, the *Rigel's* biologist, sending out soundings by projector current, collected a fair amount of perfunctory data concerning the planet. It was a forestless world, with a scanty flora and fauna, a world of imperceptible air-currents that moved idly across endless plains. There were no equatorial belts or icy poles, but Singleton discovered the presence of deserts.

"A dying world," announced Singleton, and added: "There appears to be a singular absence of the life urge."

Singleton was a little dried-up man who looked as though he was rapidly fossilising, and, oddly enough, his only interest was Life.

It was Singleton's theory that the life urge was really uncommon in the outer systems, and he had facts to prove it. On Earth Life was so rich as to be pestilential, and it was being quickly realised that Earth was unique.

Out of the hundred habitable planets of the Lesser Doriad Cloud there would be astonishing variations in the standard of Life evolution. Humanoid life had yet to be discovered, and although the charting of the hundred planets had been necessarily perfunctory, Singleton had categorised most of the planets by means of his projector soundings. Ten planets were silent barren worlds with surging winds and life was probably mammalian. Another sixteen of the planets were still in the grip of a million-year-span of evolution, and only the seas were populous and with only very elementary forms of amœbas. Perhaps full twenty of the worlds were dying and in them strange animal forms were driven to desperate adaptations. There were a number of weird planets where rain begat monstrous growths and life was neither plant nor animal. Others were radioactive worlds, where terrible insects held sway and the potentiality of humanoid life was nil for a billion years.

Not one planet betrayed the slightest evidence of the rich, balanced life of Earth and the habitable planets were like a hundred green peas in a sack of ten million black ones.

THE CITY was silent, glittering and unique. If there were other cities they were hidden from sight, for Singleton's soundings could find no trace of them.

"A city!" breathed Singleton. "Only humanoid life could build a city."

They stared through the ports at the towers and domes. In the sunlight they seemed clean, eternal and—silent. Pennol sucked matter-of-factly at his pipe and said suddenly:

"The city is dead. Bet you that's it! We can't find another city because they've been erased. Well, if it is a million-to-one chance of finding another planet like Earth, it is a billion-to-one chance of finding an Earthian planet with parallel evolution."

Singleton did not argue. Phillip Rodney was standing close by, his blue eyes shining with enthusiasm in his boyish face.

"We simply must explore," he said. "We cannot be content until we are sure of everything concerning this city."

Singleton nodded in agreement, but Pennol smiled wryly, reflecting that the ship was on mass survey and had a programme to carry out.

Nevertheless they landed, and while Skipper Maltby stretched his legs, Pennol, Singleton and Phillip Rodney walked into the city.

The air seemed somewhat thin, but its effects were negligible, except that they entered the city in high spirits. It was soon obvious that the city was patterned like a wheel with broad avenues leading like spokes to the hub. Silence lay like daylight on snow. It was real and splendid. The men's shoes sounded softly. The avenue they trod was not a road, but a handsome metal pavement that led to the hub.

The hub was inescapable, and when the men arrived there they stood before a vast round temple.

It was round, simple and smooth, devoid of all ornamentation. It seemed to be seamless, and the walls gleamed as if they were a blend of many delicate metals.

They had entered no other building, but it seemed natural to enter this temple. They walked up gleaming stairs, through a dark, doorless passage and emerged into a vast hall glowing with pale phosphorescence. It was a wonderful hall filled with luminous globes that clung bat-like to the roof. The three men stared at the pale helio orbs, clinging in hundreds like motionless balloons pressing against the roof. Standing in the phosphorescent glow, Pennol suddenly realised the cavernous temple was without windows.

"What are they—Singleton—bats?" Pennol ejaculated.

His exclamation was voluntary. He knew Singleton could only guess.

"We are Gods," said a soft alien voice.

Pennol's hand froze, holding his pipe a quarter inch from his mouth. The voice had sounded in his ears, and yet he could have sworn the words had not travelled by sound waves. In his mind and ears the voice was real, if he discounted its gentle, foreign inflexion, and yet there was that curious suggestion of telepathy.

His teeth clamped on his pipe.

"Did you hear anything?" he asked casually, turning to Phillip and Singleton.

"I heard a voice," jerked Singleton.

Phillip's face was softly helio. "I heard it, too."

"We are Gods," said the voice. "You are human beings."

Hugh Pennol stared into the clustering orbs, sensing that they were the only manifestation of life. He battled with the incredible, the limitations of the human mind which always had to be moulded to accept the unexplainable. Was it possible that the voice, uttering logical English words, was emitted in some telepathic form by these luminous globes?

"You are humans descended from brutes," said the voice.

"That is true," said Pennol, and was shocked to find he had made answer to this alien voice that sounded *within* his mind.

"And we are Gods," said the voice smugly. "You are like the humans from Celuleen."

"Humans . . . Celuleen . . ." repeated Pennol. "Do you mean there are humans on this planet?"

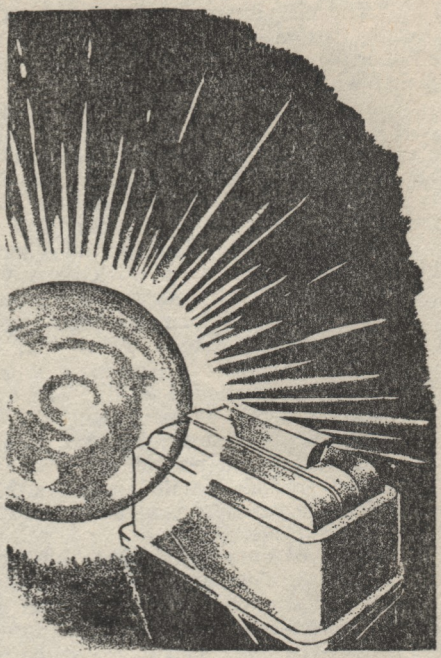
"Oh, no. The humans live on Celuleen, a planet of our sun. You will find Celuleen in the sixth orbit from the sun. The humans are very much like you, but they are not so hairy, for you are descended from brutes. You will find them very interesting. They have limited intelligence, like yourselves, and their crude metabolism demands food and other requirements of a coarse mechanism. If you take your ship to Celuleen, you will be very welcome."

"Thank you," said Pennol.

"Remember it is the sixth in orbit," said the voice anxiously.

"I'll remember," Pennol paused and asked: "Did the humans from Celuleen make this city? It has every evidence of humanoid craftsmanship."

"They made the city," admitted the voice. "It was a long time ago. Long, long ago, and we Gods have memories longer than the warp to the other side of space, and we have forgotten those days."



SILENCE FELL, so thick an insect's wings would have shattered it. Pennol felt the dream-like quality of it all drug his mind. He felt that he alone had heard the voice. Who else could hear a voice that spoke only in one's head?

Phillip Rodney said excitedly: "Ask them just how they came to be Gods, Pennol. This is most extraordinary. I feel I must know all about these creatures—how are they Gods? How can they know so much? How long have they lived? Why did the humans make them a city and when? How—"

"Steady, steady," admonished Pennol. He squinted down at his pipe bowl, was about to speak when:

"We *are* Gods. We know everything there is to know, so what are we if we are not Gods? We do not work, we do not eat. We are long-lived and reproduce our kind by pure thought. The poor humans of Celuleen are groping in a laddered pit of a million years. You who are hairy humans will never climb from the pit."

Pennol's lips twitched in very human amusement.

"Perhaps we do not desire to be as you," he said.

Phillip Rodney's voice said agitatedly: "I say, Pennol, you mustn't say such things. If this is true we have found beings which symbolise everything for which the human race strives. They have completed the search for knowledge, if they know everything. Imagine it, Pennol, if all knowledge is theirs, then there is *nothing* they do not know. Men work for the crudities of life—eating, shelter, comforts. The Gods are free from that."

Pennol looked narrowly round the helio-hazed hall.

"God help us if these pale luminosities symbolise the ultimate desires of the human race. Man glories in his crudities, because the life urge is crude. Think about it a little longer, Phillip. When life ceases to be crude, life will perish. If it is crude to eat and drink and get drunk, then I'm crude—and alive."

"I can't say I believe you," breathed Phillip.

"Why these very Gods are dying!" challenged Pennol. "Pure thought perhaps, but they are dying. Come on, let's get out of here and go to see the humans at Celuleen."

"Remember it is the planet on the sixth orbit," sighed the telepathic voice.

"I don't suppose I'll forget," grinned Pennol.

They walked into the metalled avenue. Phillip Rodney seemed curiously upset. The youngster's cheeks held an unnatural flush, his eyes were filled with dreams.

"You know, Pennol, I cannot get those Beings out of my mind. I—I wonder if you understand! They seem helpless and yet somehow untouchable. If only I could absorb a tenth of their knowledge. Pennol, there are so many things in the world we should *understand*!"

Pennol grasped his arm.

"Phillip—no one knows where man originated and no one knows his destination. Think about them, if you wish, but forget it when it becomes unhealthy. At the moment, we're charting galaxies. We're specialists. We haven't time to stop and stare."

Dry, wizened Singleton was occupied with his thoughts, but his was the unemotional preoccupation of the expert.

Hugh Pennol saw his words had little effect, and he gave his attention to his pipe.

They walked through the dreaming city to the ship. Skipper Maltby listened passively, told Pennol to prepare charts to the planet of the sixth orbit.

"Humans, eh?" he grunted. "Well, after your tale, I'm halfway to believing it."

THE CREW of the *Rigel* went to their respective stations, and Skipper Maltby lifted the ship from the planet. He had enjoyed his walk, and the sight of real grass reminded him of the farm he intended to buy some day.

Hugh Pennol was busy for an appreciable time checking and preparing a warp to Celuleen, for the planet was two hundred million miles away and the *Rigel* would have to be charted to avoid the pale sun. They sighed away from the Gods' planet and then tore a hole in the sky on a space warp to Celuleen.

A pale ghostly Phillip Rodney accompanied the crew of the survey ship. He stayed hidden in his cabin a lot, apparently dreaming and mooning, and upon the infrequent occasions when Pennol met him he looked curiously at the youngster, deciding he needed a doctor's attention. Phillip Rodney seemed positively ill, a pallid image, hardly speaking. During the six-hour flight he took the only meal served in his cabin.

Pennol would have gone to him, but he was busy with the landing on Celuleen. The *Rigel* sank lower to the planet and finally squatted its utilitarian shape on hard rock.

Singleton was busy with his soundings. The little man was disgusted, perplexed. Gods or no Gods, his projector never lied even if it had limitations. But it was not beyond the projector's limitations to ascertain that the planet was a barren, airless hunk of rock, similar to a million other planets whose aspect to the life urge had been negative for a billion years.

As the ship landed, Phillip Rodney disappeared.

PHILLIP RODNEY was once more in the temple. The Gods glowed enticingly. He could feel his eyes and forehead aching as the Gods searched his brain. He stumbled down the vast temple and finally subsided weakly upon the metal floor, a sprawling animal upon whom looked down the ultimate life-form. The Gods were a life-form. They were pure thought clothed in a nebulous tissue. Life motionless, because the highest achievement of Life is thought. The Gods were a phosphorescent cerebrum and at the same time a denial that flesh alone can spawn thought.

"We've brought you here," said the voice gently, "because we need you. We have made a stupendous mistake."

"Why am I here?" Phillip spoke with difficulty.

"To help us. We bade you leave your ship before the craft took off. So that the ship would arrive at the planet of the sixth orbit, we projected by electronc waves of pure thought a three dimensional image of your body and character. Thus your friends would land on the planet."

"But why send my friends away? I—I assure you we are ready to help you." He sat up, forcing coherent thoughts through his aching brain, wondering why he felt so ill.

"No, oh no. Your friends would not help us. Only we can help ourselves. That is why we had to send them to the planet of the sixth orbit. They will find no humans there and when they try to leave they will find the radioactive ore of the planet has attacked their bodies even through the metal hull of their ship. The ship's perspective instruments will fail to act, such is the peculiarity of the radioactive ore. The men will perish."

"But that is ghastly!"

"It is unfortunate," admitted the voice. "But we have had to adjust our conception of moralities. Once—but never mind. We need you, Phillip, because only you are suitable for our purpose. You are idealistic and the other men were blasé. Do not think we have picked you at random. There have been other ships near the Cloud, but the character of the men was not desirable. Your captain landed on our planet because we influenced him through electronic pure thought which is a higher form than telepathy."

Phillip almost forgot his sense of intolerable strain in a burst of earnestness.

"I wish I did not feel so ill, but I'll help you all I can if you try to remove my friends from their danger!"

For a second he thought the helio globes were fantastically childish, but in another second the thought was whipped from his mind.

"You feel ill because we are examining your potentialities, and your flesh is weak. Your friends will be beyond all help now. You have been resting in our temple for a fair duration because your human body will need rest to stand the future strain. The planet upon which your friends lie is old and was never fertile because of the insidious radioactivity, though lately we have not bothered to transmit explanatory thought waves to these planets. The universe is dying. Forgive us, but we have a right to your body."

"A right!" echoed Phillip stupidly.

"Yes, long ago your brute ancestors were protected by one of us during a vital period of environmental change."

Phillip furrowed his brows in an effort to follow the reasoning.

"I—I don't understand," he said.

There was almost a sigh in the answering voice.

"Tamarand was an idealist. He was responsible for the origin of the Earthian humans, for without him the brutes would have succumbed to

the reptiles. Tamarand dedicated his life to the brutes, little realising that only evolution could accomplish the miracle. But no matter. Tamarand has been dust one hundred million years."

"You say that Tamarand was one of you," said Phillip stubbornly. "You mention brutes . . . reptiles . . . one hundred million years ago! What do you mean? I would like you to explain, though my head aches."

"That is because your brain is still under examination," said the voice. "Yes, Tamarand was one of us and we were like him, but that was one hundred million years ago—if we must use that simple term of measurement."

"Was Tamarand a God?"

"Oh, no. Indeed no! That was one hundred million years ago! Tamarand was a human and perhaps a little more developed than you."

Phillip clung grimly to the thread.

"You mean—you—your statement means that you were human beings one hundred million years ago!"

"Exactly."

PHILLIP BEGAN to laugh a little crazily. The helio globes whirled nightmarishly before his eyes, but he knew his eyes and the ache in his brain was at fault.

Then the ache suddenly lifted, like a miraculous cure. The bat-like orbs were hanging in calm clusters, like glowing bulbs at a magnificent ball.

"But it's impossible to believe! Granted you have an amazing power of thought and no doubt long-lasting life, yet you are so completely dissimilar from human life."

With the pain gone, he felt challenging and desperately earnest.

"Do you doubt the logic?" sighed the voice. "Are you not aware of your own evolution? Your first begetter, apart from the Laboratoryman, was a brute with primeval lusts and thought faculties at nil. You are capable of philosophy and science. You are incapable of solving the greatest science—the science of Life. But perhaps you will eventually, and be like us. When you are capable of creating life, you will be capable of remoulding your physical shape. Remember, we were like you in many respects one hundred million years ago."

Phillip shrank instinctively.

"Perhaps we do not want to be like you!"

Very gently the voice said surprisingly:

"That is a very interesting statement and shows that the Earthian humans differ from us of one hundred million years ago. It is the germ of crudity within you. We Gods want to re-capture that crudity. When we were humans, at the dawn of investigations into Life, we banished crudity. We can see now that was an error. We can see that small error evolved into a stupendous mistake lasting æons down to this moment when we are Gods of Life and Thought but helpless, motionless. We are pools of pure thought needing the reviving fibres of crude humans."

"You mean you want to return to our shape?" Phillip struggled to his feet like a man emerging from a grave.

"Exactly. That is why we have retained you on this planet. We intend to use you. We will infest your body and then reproduce from you, rapidly and with incredible variation, a new being who will be a biological combination of your two sexes."

Phillip shrank down the hall, but the voice travelled with him.

"We are entitled to you," said the voice almost plaintively. "Tamarand gave his life to your race; we need you. It is the swing of the pendulum. Please rest. It is useless for you to attempt leaving this temple, for we will not allow it."

"You have killed my friends. You cannot do what you like with me!"

choked Phillip. In that moment he was simply a frightened youngster in whom had collapsed all attempts to cope with bewildering theories.

He leaned against an inverted pillar which hung like a pointed finger from the roof to within three feet of the floor, and under the significant finger of metal lay a tiny gleaming casket.

Phillip sank to the floor again. The throb, throb of his head had returned with even greater agony and, moaning, he sat upon a corner of the casket.

"In your world that would amount to sacrilege," said the voice of the Gods soothingly, "for the casket contains the written records of our race, but we are not bigots."

"Let me out!" Phillip summoned all his manhood, tried to rise and rush from the temple. But he felt as though the thin air was inflexible steel, moulded to him, pressing down. He could not rise.

"It will be more merciful if we commence our processes," sighed the voice.

A CRACKLING sound of furious electrical discharges sounded in the temple, and it was an appreciable time before the dazed Phillip realised the sound was made by guns emitting electronic force fields. The temple was full of darting sparks of high voltage and incredibly low amperage. They leaped, sparkled and crackled, providing a blinding display.

Someone grabbed Phillip's hand even as many of the helio orbs dimmed and faded. Phillip felt a momentary lightening of the burden in his brain. His limbs moved. Still blinded by the clouds of myriad, darting discharges he remembered the casket. His brain was alert enough to know that this was rescue. A friend had grabbed his hand. Phillip bent down, before the other could haul him away, and picked up the casket.

It seemed the next moment he was running through the streets of the dreaming city beside other men, and they were the centre of a cloud of sparkling, crackling electronic force fields. Then he remembered climbing into the *Rigel*.

He had probably fainted, for when he revived he noted the vibration of the ship and Pennol, Maltby and Singleton staring at him. Singleton was fondling the casket.

"How did you get away from the radioactive planet?" he asked them faintly.

They were puzzled and he explained the Gods' story.

"I think the Gods nodded there," said Pennol when Phillip had finished. "As they let slip—they had not bothered with exploratory work by projected thoughts for a long time. If the planet was radioactive, we saw no sign of it. I think the radioactivity must have faded long ago. The Gods should have been more careful."

"I can't think how you knew I was in the temple," swallowed Phillip.

"Well, it was a good guess," said Pennol, smiling. "Singleton gave us the theory that it was not you who accompanied the *Rigel* to the one-time radioactive planet. Singleton began some calculations about those pale luminosities who call themselves Gods. He reckoned they were basically electronic. He calculated that everything—atomic power and everything—has two simple bases, one being a negative component and the other positive. The helio orbs were therefore pure electronic thought with a positive and negative, speaking simply. Singleton got out the guns, altered them on the journey back to the Gods' planet. You know they are electric guns devised to destroy vegetation on some of the wider and weirder planets, but Singleton altered them so that they gave off a fat force field of low amperage and high voltage. The tiny amperage rendered the discharges harmless to us mere humans but Singleton calculated the luminosities would

feel them. He was right, I think. Those helio orbs went *phut* one after another, though there may be some left."

"I should have thought the Gods would know your preparations," muttered Phillip.

"Perhaps we're smarter than the Gods because we're so crude," said Pennol. "Anyway, right from the start Singleton got the engineers to shunt a terrific belt of energy right round the *Rigel*. It did queer things to the instruments, but apparently we could think without revealing our thoughts to the Gods."

"You say the Gods claim to be the residue of a race of humans?" questioned Singleton.

Phillip repeated some of the main facts of his story. Skipper Maltby stared dubiously.

"Sure you didn't imagine all this?" he grunted.

"I am telling you all I heard," said Phillip virtuously. "Those beings are the ultimate issue of a race of humans who lived one hundred million years ago, and we are a branch of the race. Perhaps our race may evolve in one hundred million years' time to something like the Gods."

"Not us. We're too animalish," said the skipper, and he wandered off.

"Well, if any of the orbs survive in the temple, they'll have to be investigated some day," said Singleton. "Even if your remarkable story cannot be proved, Rodney"—he coughed—"the beings are extraordinary creatures."

Singleton opened the casket. Phillip spent some time in silent indignation while the *Rigel* bored through space. Singleton came to Phillip some two hours later.

"Did the Gods ever mention the name of their planet?"

"I don't remember any name—"

"I've been doing some translations of a flexible metal scroll which was inside the casket," said Singleton, "and the record bears out your extraordinary story. I had just translated what must be the planet's name when the inscription suddenly faded completely." Singleton stared with beady eyes in a wrinkled face. "Undoubtedly some of the orbs survive and they've used their uncanny power to wipe out the record. We haven't the slightest evidence to substantiate our story and we'll be laughed at unless we return for more evidence."

Phillip shuddered.

"Anyway, I think I translated the ancient name of the planet correctly," said Singleton.

"What was the name?" asked Phillip.

"Cirees. Musical name, isn't it? Cirees. I must record it."

THE END

THE SHAPE OF SHIPS TO COME

By ARTHUR C. CLARKE, B .Sc.

In this thought-provoking article, Mr. Clarke explodes some long-standing myths regarding the shape of spaceships that will one day burn their way across the heavens. The theory of today and the fact of tomorrow may be so far apart that we might not recognise a spaceship if we saw one.

SPACESHIPS come in all shapes and sizes—according to the science-fiction writer. Some are spherical, some ellipsoidal, a few cylindrical, while the advent of the Flying Saucer has made the thin, flat disc popular in some quarters. The commonest variety of spaceship, however, still remains what has been aptly christened the " sleek and deadly " model, with its pointed prow, its long, flowing streamline, and the cluster of rocket tubes at the rear. Usually, though not always, a trio or quartet of fins completes the resemblance of an aerial bomb; and occasionally stubby wings may be observed amidships.

At first sight, the giant rockets which appeared in World War II would seem to have justified this particular design. To the science-fiction reader, V.2 had a very familiar appearance. It needed only the addition of a few lines of port-holes along the sides, and Mars or Saturn in the background, to have been perfectly at home on the cover of any science-fiction magazine. But when we look more closely into the matter, and consider what is already known of rocket engineering and conditions in space, we can no longer be so confident of this particular forecast.

We can certainly assume that spaceships will be rocket propelled. There is not the slightest scientific basis for gravity screens, repulsion fields, and all the other gadgets employed by fictional space-travellers. Some of these (such as Wells' ' Cavorite ') can be shown to be impossible: others may arise in the distant future. But for a long time to come the rocket, or some modification of it, will be the only means of propulsion in space.

A rocket-ship has one characteristic which is perfectly obvious, but which has been ignored by countless science-fiction artists. *Rocket motors can only provide thrust or lift along the line in which they point.* Yet how often have we seen vast ships racing horizontally over exotic landscapes with their motors blasting them forwards, but providing them with no *vertical* support at all? (The cover of NEW WORLDS No. 3 was an excellent example of this.)

SOME authors have realised this difficulty, and have tried to support their spaceships on vertical " underjets ". The simplicity of the idea is attractive—but not to the engineer who knows something of the rate at which rocket motors burn their fuel. Another solution has been to give the spaceship wings so that it can support itself like an aeroplane. This is a possible solution, on atmosphere-enveloped planets such as Earth or Venus, but it has one very severe disadvantage. It would work with small spaceships, but it would be quite impracticable with ships of any size, as rather simple logic will show.

Suppose we have a spaceship with wings on which it can skim happily through the stratosphere. (Such a machine might be about as large as a medium-sized airliner of today.) Now suppose that, retaining the same proportions, we increase its size by a factor of ten—which would still make it look quite modest beside some of the spaceships encountered in fiction!

Its weight would then be multiplied by a thousand, but the area and therefore the lifting power of the wings would be multiplied by only a hundred. The wings could thus support only a tenth of the weight, and would therefore be completely inadequate.

The argument is somewhat over-simplified, but the general trend is correct. The same law, operating in the biological field, gives the elephant only a fraction of the agility of the mouse, and would prevent any animal very much larger than the elephant from even walking at all.

The same reasoning shows that the fins on a rocket such as V.2 would be quite useless on a thousand-ton spaceship, even if they were 'scaled-up' in exactly the same proportion. They had little influence on V.2, incidentally, during its leisurely ascent through the lower atmosphere, but only came into operation during the return.

THERE seems little doubt that the first spaceships *are* going to be big, weighing perhaps a thousand tons or more, simply because the fuel requirements for even the lunar voyage are so enormous. This is assuming that they use atomic energy: they would have to weigh *scores* of thousands of tons if they didn't. So wings and fins would be expensive luxuries, serving no useful purpose. All steering and control would have to be done by the rocket motors themselves.

The next thing to go is that beautiful sleek streamline. A spaceship is, after all, a SPACEship. Even a rocket such as V.2, which spent a good part of its trajectory inside the atmosphere, was not very greatly affected by air resistance. A spaceship would spend most of its life in an almost perfect vacuum, and as the initial ascent from Earth would be quite slow a reasonably streamlined nose might in many cases be quite sufficient. The body itself need have no streamlining at all.

This argument might seem to favour the spherical ship. As is well known, the sphere is a very convenient shape because it gives maximum volume, and hence storage space, for minimum surface area. (Raindrops discovered this a long time ago.) The spherical ship is probably the second most popular in science-fiction, and an ambitious model of one received much publicity at the "Britain Can Make It" Exhibition in 1946. There are, however, very good reasons indeed for thinking that such a shape would be impracticable, at least when nuclear energy is applied for propulsion in the ways we can imagine today. One of the less engaging characteristics of atomic energy units is that they emit vast quantities of highly lethal radiations. Heavy shielding would therefore be necessary to protect the crew. The weight of shielding would be greatly reduced if it was only required *on one side* of the motor, and not all around it. This makes it very probable that atomically propelled spaceships will be long and thin rather than short and fat, with the crew chamber at one end and the motors at the other. In this way the entire length of the fuel tanks would also give additional protection. When this important matter of shielding is remembered, the sphere would seem to be the worst possible shape for a spaceship.

On the other hand, a spaceship must not be *too* long and thin or it will be unmanœuvrable. So, as is usual in such cases, a compromise would be necessary.

ARE we now in a position to decide what the spaceship of the next century will look like? Well, hardly. The "aerial locomotives" drawn by imaginative Victorian artists should warn us that such prophecy is a dangerous trade with a very high mortality rate. And in this case the problem is complicated by the fact that spaceships may very well fall into two quite distinct and very dissimilar classes.

THE SHAPE OF SHIPS TO COME

Theoretical studies make it more and more probable that interplanetary journeys will be carried out in two stages. The departure from Earth demands a machine capable of lifting great weights against a powerful gravitational field; but once in space, only very low powers would be needed. We want, in other words, fleet ocean greyhounds and stocky, short-range tugs. To combine both characteristics into one ship would be—if we may change the metaphor again—like breeding carthorses that could win the Derby.

The "tugs" might be fairly small, powerful rocket-ships, possibly with wings to assist them on their glide back into the atmosphere, when they would be very lightly loaded. Their job would be to carry fuel and payload up to the real spaceships, which would circle the Earth in free orbits, like artificial moons, at heights of a few hundred miles—not too far away, but beyond the limits of the atmosphere.

These ships would be built in space, and would never touch the surface of any world. Their atomic rockets could give them a gentle but sustained acceleration, so that though they could never lift themselves directly against a gravitational field such as the Earth's, they could build up very great velocities in free space. When they reached the planet of destination, they would become satellites again, and would be met by that world's short-range orbital "tugs".

The first ship to go to another world might have to take a little "tug" with it to make the landing. It could then be left circling in an orbit round the planet for the use of future expeditions.

These ships might be quite unlike any so far conceived in science-fiction, if such a thing is possible. It is difficult to say what their design would be, since the factors determining it are still largely undiscovered. Our private guess, as at this time of writing, is that they might be dumb-bell shaped, consisting of two unequal spheres joined by a fairly long connecting cylinder or rod. The larger sphere would contain crew, cargo and fuel. The smaller would hold the atomic engines and their remote controls, as well as the essential radiation shielding. When it was "coasting" freely, as it would normally be, the ship might rotate rapidly about its centre of mass to provide artificial gravity for the crew by centrifugal force. It would then look strikingly like the classical model of the hydrogen atom; but it would look strikingly unlike the classical model (early 20th Century) of a spaceship.

A man of the 19th Century, if he saw a picture of a modern airliner, would realise what it was almost immediately. It is a curious and disconcerting thought that even an ardent science-fiction reader, well known to be the highest form of contemporary life, might completely fail to recognise a spaceship if he encountered one.

THE END

FANTASY ON TELEVISION

DURING February the BBC televised the Robert Barr production of H. G. Wells' "The Time Machine." It was their most ambitious project to date and was an excellent example of good acting, clever set-designing and well-timed trick photography.

Readers should watch out for announcements of Mr. Barr's other fantasy ideas—he wants to produce a television play depicting a trip to the Moon by spaceship, based on the records of the British Interplanetary Society, and another showing the fall of Atlantis, the "lost" continent.

EDGE OF NIGHT

By JOHN K. AIKEN

It took three insignificant people out of differing Times to help the last Man on Earth solve his problem

Illustrated by DENNIS

I

WITH THE first glimmer of consciousness he became aware that he was walking; steadily mounting a gentle slope, with a freshly-scented breeze in his face. And that was strange—because surely he wasn't on leave? Surely—if asleep—he should be asleep in his cabin?

Momentarily the sweet cool breeze strengthened, and the dream-quality slipped finally from Kent Grierson's thoughts. He opened his eyes and looked about him.

For the first instant the immensity, the sheer fantastic impossibility of his surroundings took his whole attention. The broad glass-smooth jade-green ramp on which he was walking, sweeping up in a great curve round the flanking wall of azure crystal to his left; the luminously green roof overhead; the violet sky out to his right, star-spangled in spite of the obvious daylight with its curiously orange tinge: the total absence of horizon beyond. . .

From the first subconsciously knowing that they were with him, he became consciously aware of the two companions who climbed silently beside him. A small, slight girl in nurse's uniform, her hair coiled neatly about her ears; small, firm features, dark, expressive eyes—her expression sad but resolute, perplexed but not bewildered. And a ragged, fair-haired urchin, unkempt, his face streaked with black, but nonetheless giving the liveliest impression of humour, tolerance, and strength of mind. Both seemed unaware of his presence beside them.

Frantically Grierson tried to remember: to recall his last conscious actions. As if from the depths of a half-forgotten nightmare came a jumble of inchoate memories: the almost continuous concussions of explosions, far and very near; lights flickering and dimming, then altogether extinguished to leave a hideous palpable darkness, warm and chlorine-scented, then returning fitfully. And then?

His first thought on waking returned more forcefully. *Whatever* had been his last activity, this scene was totally foreign, totally outside his experience, expectations, imagination even; literally *unearthly*. This he *knew*. And these companions—this composed girl, this tough little brat? He looked again at the girl, and suddenly she was conscious of his gaze, and looking gravely at him.

Her voice, he thought, matched her appearance. It was soft and deep and, somehow, strong.

"We thought we shouldn't wake you—it's enough of a shock as it is."

"What . . . where . . .?" He checked himself. "Take it that I know nothing."

THE THREE had, by common consent, stopped walking. Still the cool breeze, as if from downland, drifted across Grierson's brow. Still the incredible, lovely scene was real about him.

"We know no more than you. Ten minutes ago we found ourselves here—or rather, half a mile down the slope from here. It's a spiral, as far as I can tell, winding up round a huge column." She waved a hand towards the blue inner wall. "You were with us then, but you were asleep, walking unconsciously with your eyes shut. Bill, here, said it wouldn't do to wake you suddenly, and I think he was right." She smiled down at the boy, who grinned back, gap-toothed.

"But what—Good God!" He *remembered*! It *was* his past life that he recalled, and no nightmare. The first day of a patrol: they'd sighted an enemy convoy, and made an attack on a cruiser—then the depth-charges, hundreds of them it had seemed, no sooner were they on an even keel than another shattering concussion would roll them over once more—a crash from the direction of the engine-room, shouts, the lights—and now?

"If I'm—awake—if I'm really here, and you are real," he began, and paused at the boy's wide smile.

"*I'm* 'ere all right, sir—glad to be wiv yer, 'fit comes to that."

"Then," went on Grierson slowly, "I think perhaps we must have died—this must be—"

The girl's eyes were wide. "What makes you think—?"

"I was in command of a submarine—Mediterranean. We made an attack on a convoy, and they started depth-charging us. The last thing I remember is the lights going out—I think."

Voiceless, she turned to the boy, who spoke with a tremor in his voice.

"Coo—if we're *dead* then I—I didn't save 'er after all—thought I'd 'a' got 'er dahn in time." A tear appeared on the side of his nose, but he dashed it away and spoke gruffly. "Yes, reckon we're dead all right, if that's the wiy it was wiv you, sir. I was in the blitz, I was—Bethnal. Just gettin' our kid—Maureen, that is—just gettin' 'er dahn under the stairs after the sireens 'ad gone, when I 'eard a big 'un start comin' our wiy. So I picks 'er up—can't 'ardly lift 'er ordinary, but this time she seems like a fevver—an'—an' if 'tweren't for all this," he waved a hand, "I'd 'a' reckoned I done it, too. But that big 'un must 'a' got us after all, the wiy I see it." He paused, thoughtful. "But then—why ain't she 'ere too?"

Grierson turned back to the girl. "And you—Miss . . . er . . .?"

She was very pale, and spoke abstractedly. "Mrs. Hawnes—but call me Laura, please. I told Bill to, but he's too shy . . ." She collected herself. "No—it *can't* be. I *can't* have failed him like that. It was Jim—my husband—back from Dunkirk, brought to my hospital by chance—they said there was a shadow of hope for him, meaning none really, and I *vowed* I'd save him. And then when the crisis came—" Her hands fluttered, a gesture almost of helplessness, obviously unfamiliar to her. Then her voice was firm again. "No. I was perfectly well. There were no air raids. We *can't* be dead. Anyway, it wouldn't be like this."

"How do you know?" asked Grierson seriously. "This is like nothing I have ever even imagined."

SHE SHOOK her head, a neat decisive movement. And then, "It's strange, but no stranger than all this, that I can't *exactly* remember when I—when I left—it's as if I'd fallen asleep. And yet I was so *concentratedly*

awake."

"It seems that we all were," said Grierson. "Very well, then—we'll take it that we aren't dead. Then what's happened to us? Where are we? What are we going to do?" He spoke rather impatiently. He was wondering how the G38 was faring without her commander.

Bill grinned. He seemed now, of the three, to accept the situation the most composedly. "Dunno. Dunno. Dunno," he said, and then added, "Glad I did get Maureen dahn all right."

"I meant," said Grierson to Laura, more calmly, "that you seemed at least to have a policy of action to the extent of going one way rather than the other."

"That was decided for us," she said. "I suppose we've come about a turn and a half up the spiral from where we started, which was where the ramp itself started. There was no way down."

Grierson suddenly realised that he had not yet looked over the edge of the ramp, and he walked over and did so. It had not occurred to him that they might be very far above the ground, or that there might be no ground. But, apart from the glassy sweep of the lower turn of the ramp, there was nothing to be seen except, a long way below, a grey-pearl sea of clouds, shading off in the distance into the deeper colour of the sky.

Thoughtfully he returned to the others. "Was there any view from the lower end?" he asked.

"Clouds," said Laura, "and the blue column," she waved towards the great central pillar, "coming up out of them, miles below."

"No aircraft or anything?"

She shook her head. "You're worried about your command, aren't you?"

"Of course."

"Well, I—I'm frightfully worried about Jim, too. He may be—dead, he may even have died at the very moment—if that means anything, now. But somehow it seems to me that *this* is more important than us, our troubles, the world we've left. It's so utterly strange and lovely—frightening perhaps—but with a *purpose* behind it, I'm sure—" She stopped, clasped her hands, gazing up at the gold-green glow of the roof. "D'you think there's a sun up there?" she asked.

Grierson spoke shortly. "I can't be so detached. I want to get back. I've a job to do. A job which might make just that difference to the course of the war."

"Seems to me, sir," put in Bill, respectfully but firmly, "that there ain't no manner of use lookin' at it like that. We're *'ere*—we dunno 'ow we come, 'cept something must 'a' put us 'ere, and we can't go till they let us. So make the best of it's what I say."

"That's all very well. But we *aren't* making the best of it. We aren't doing anything—except walk."

"You know, you're contradicting yourself," said Laura, her eyes smiling at him. "As Bill says, *someone* brought us here, and, seeing that we'd no choice but to walk—upwards—that must have been what they intended for us. Unless you'd consider sitting down and bursting into tears."

Grierson smiled wryly. "Sorry," he said "You've more right to be upset than I have. I've a good crew. They'll manage, if things can be managed. And perhaps you—*were* indispensable."

"No. I'm not going to look at it like that. It might spoil the rest of my life, if I let it grow."

II

AS GRIERSON turned to recommence the climb, he felt a warm admiration for his two companions in this fantastic affair. An admiration which had by no means lessened when, after a climb which he estimated at two miles, they stopped for a moment to rest.

Bill, his face pinched, white and tired, could still grin at Laura.

"One thing," he said. "Twon't 'alf be a lot quicker goin' back. Think of slidin' dahn all this—beat the White City any day! Like what the Chink said abaht slidin' in the snow—'Whizz! Walkee milee!'"

Laura laughed, an exquisite sound. "What about the jump-off at the bottom?" she said.

"There now—an' I left me 'chute be'ind! 'Ave to walk after all!"

Grierson kept silent. He had had little to do with women or children during his lifetime, and the art of light conversation was one with which he had never much bothered. His talk was apt to deal with fundamentals, and directly; and seldom before had he felt the need of any other.

As they started the ascent once more he said, "Both of you seem somehow to think that we're off the Earth altogether. Why?"

"D'jever see anything like this on Earth, sir?" asked Bill, serious but for the slightest twinkle lurking about his tough little face. "You couldn't miss it easy, even if you was in London an' it in San Francisco."

Grierson smiled. "True," he said, and fell silent again, half listening to the chatter of the other two. He realised, suddenly, that they were apprehensive, talking to keep their spirits up. Quite apart from the question of what the future might hold, there was the question of what it might not hold—food and water, for example. He himself was more or less used to such uncertainties. But these two—still, they'd been in the war. Nonetheless, he badly wanted to thump the boy on the shoulders; still more, to put an arm about the girl's waist and tell her there was nothing to worry about. Not that she'd thank me for that, he told himself.

A thought struck him, almost paralysing in its implications. Why had it not occurred to him sooner? He barely noticed Laura's look of surprise at his sudden interruption.

"What date did you say it was when you—started?" he asked.

"June 5th."

"Nineteen-forty?"

"Of course."

Bill was startled. "But, Miss Laura—" he began.

Grierson broke in. "And you, Bill?"

"Blitz-time—September 12th." His irrepressible grin broke out. "Where've you been all this time, Miss Laura?"

She was deathly pale now. "So three months have gone, while I was—asleep. I suppose I'd better not hope."

"I'd better say at once," said Grierson, "that the date when I—left—was August 5th—nineteen-forty-two."

The two were silent, staring at him. After a moment Bill said, "Couple of proper sleeping beauties, ain't we?"

Grierson shook his head. "It's all completely incredible. But at least we're nearing the top, I think. See how much stronger the light above is, now. And the ramp's narrowing." Still looking up, he walked out to the edge of the ramp, trying to see up over the edge of the next turn, to what might lie above.

"I say, do be careful," said Laura anxiously. "We don't know where the ground is, but it's a fearful way down. I hate heights."

"Do you? I don't mind 'em. Used to love climbing when I was a kid—Skye, and the Dolomites. Only thing I can't do with is being shut in—

underground railways and things."

She looked at him surprisedly. "Then—forgive me—why on earth did you—?"

"Oh, I thought I'd better have a go at squashing it. If you can stand a sub you can stand anything of that kind."

"D'you go in much for mortifying yourself?"

As Grierson considered this, Bill broke in impatiently.

"Can you see the top, sir?"

Grierson was jerked out of his brief reverie. To the girl he said "I'll think about that. It's important." And then, "We're nearly there—wherever that is. A cul-de-sac, of an inverted kind, I should think. There's nothing beyond the next turn."

WHEN THEY had climbed a little further, they came out from the shadow of the ramp into a queer orange sunlight. Directly overhead was the small amber sun, whose warmth they could but faintly feel, although in the shadow of the ramp it had not been chilly. Above them, the last turn of the ramp narrowed swiftly in until it vanished into the column at the point where the column itself terminated in a sharp edge.

All three quickened their pace, forgetting weariness and uncertainty. Each felt that above, there where the ramp ended, must lie the explanation of this fantasy into which they had been plunged. In silence they hastened round the last turn, closing in to the column in single file as their path narrowed to a mere ledge, until at last Grierson could vault up over the blue rim and hand up Laura, who unashamedly closed her eyes against the dizzying outward sweep of the lower turns of the ramp. Bill scrambled up unaided; and they had come to the top.

A circular plateau of deep blue, polished but not quite plane, as the wavering orange reflections of the sun showed. They realised now that the column must have been much larger than they had supposed, for its cross-section, even here at its smallest, was all of a hundred yards across. Below was the outward-flaring ramp, tier upon spiral tier to the lowest and broadest turn, jade-pale against the pearly impenetrable clouds.

In the centre of the miniature plateau was an ordinary chair. And on the chair sat an old man.

All three, attempting to describe him afterwards, found this quite impossible. For one thing, they could not agree over the simplest details and in fact they soon realised that each had seen him quite differently. Just as, in trying to recall his words, they found each other so singularly unhelpful. They had simply not heard the same words.

They agreed, simply and finally, that he was the most wonderful-looking person they had ever seen. There was about those features an indescribable subtlety, a strength, a humour, a wisdom, a detachment, a perception, which held them rapt.

They had hardly noticed that they had drawn near to him, were now standing, silent, before him.

"So you have come to help me," he said, or something equivalent. "And that is good of you. For I know well that you each have great troubles of your own."

His voice matched his personality. Laura said afterwards that it was like an organ. Grierson said it put him in mind of the winds in the Coolins. Bill said he didn't think even Jack Train could imitate it.

Grierson said "No credit's due to us. We had no choice in coming here, wherever this is. And if we had been given a choice, I cannot say that we would have taken it."

A soft interjection from Laura. "I think we would."

"I know," said the old man. "And I agree with Laura. Had there been—time," (an odd hesitation) "I would have put the choice before you. As it was, I brought you perforce."

"Seems to me, guvnor," said Bill "you'd 'ave saved time, if that's what you wanted, 'f you'd brought us straight 'ere, 'stead of giving us a bit of the old Brighton walk up that corkscrew of yours."

THE OLD man was smiling, and with his smile the sun seemed to shine more brightly, the blue-orange glow of the plateau to be lovelier. "It was time not wasted," he said. "I wished to find out a little about my recruits, and to give them time to ponder. I watched you and listened to you as you climbed."

Brushing aside the implications of this, Grierson said, with a recurrence of his impatience, "Well, here we are, at all events. Are you going to tell us where and why?"

"And who you are?" put in Laura, quietly.

"You are on Earth," said the old man, and paused. And then, "But at a time roughly a thousand million years later than your time."

"Ah!" said Laura.

"No wonder we didn't reckernize it," said Bill. "What we can see, I mean."

Both seemed to accept this staggering statement without difficulty.

"But—how?" began Grierson. It was not so much that he disbelieved. But the whole thing was beyond him, tremendous, ungraspable. So many questions crowded into his mind that he stopped, tongue-tied.

"I will tell you as much as I can. Time is short."

A mutter from Bill. ". . . been long enough makin' up your mind to send for us. . . ."

"First, as to Laura's question. I am Man—all that is left of him."

"The last man?"

"In a way—but in a way, too, I am all men. This body you see is a mere figment, a material projection which I made for you because a voice speaking from the air, or a thought speaking in your mind, must have added even more to your bewilderment."

"You are just—a mind?" asked Laura, breathless.

"I am the fusion of the minds of the last race of man—the ultimate development of man, if you like; except that I continue to develop, I'm glad to say. And I have a body—the whole beautiful Earth is my body, now—" He waved a hand, pointing downwards, and the azure floor on which they stood was suddenly colourless, transparent, non-existent: they were standing, it seemed, on air, gazing down on a sea of clouds which in turn thinned and vanished to show the Earth itself. A gasp of wonderment broke from all three.

The Earth was much smaller now. For, from their five miles or so elevation, they could clearly see its curvature. But it was the rich, lovely colours, the patterning of silver sea with coral and blue islands, the deep emerald of forests, if forests they were, the gold and grey sands—if sands they were that the strange silver sea washed upon; it was these that held them spellbound.

III

DIMLY, Grierson could hear Man's voice. "—in the course of millenia, the elements of which Earth is made gradually built into denser, subtler ones. Atomic numbers a hundred times as great as those you know—" Then another question rose into his mind, and the vision was gone.

"What is the reality of all this?" he asked. "You say you—that body is not real, you make this pillar transparent at will—"

The old man smiled. "What is reality, Kent Grierson?" he demanded. "That world is my body, and it obeys me. Here, in this 'human' body, and in this aerodrome that I have made for you"—a glance of awed enquiry from Bill—"you see material things, their reality as great as that of any other matter. The matter of my body is absolutely under my control—here. As to the rest of the Universe—" He paused, his face clouded, and it seemed as if a cold, sinister wind blew in from the depths of space, across the plateau whose colour was suddenly, strangely, less intense and living.

"Man and all he stands for is in danger," he said. "And I have brought you from your own danger, across the ages, to help him."

"But why, from all the minds at your choice, choose us, three infants, comparatively?" asked Laura.

"Because you come from the last age of struggle. After your time, human progress was ordered. There were no crises to overcome. The human spirit grew, unfettered, until when it faced its greatest crisis, it—I—could not surmount it unaided. So I selected from the past, from the last Age of Crisis, those minds most fitted for the task."

"An' you couldn't do any better than me, guvnor?" said Bill. "These other two are all right, you can tell that just to look at 'em, you picked good 'uns—but me—" He looked down at himself. Laura moved across and took his hand.

"And we," broke in Grierson, "you think we can do something that you, with all your powers, cannot?"

"I believe so. There is much I cannot do. Physically I cannot leave this sphere. My thoughts cannot act at a distance without a material instrumentality. Material fragments despatched I cannot control mentally even at ranges within the Solar System. But I must tell you of the danger, of your task.

"There have always been, in the Universe, two types of mind, mutually antagonistic, their ideologies fundamentally irreconcilable. At your time the minds of most races had impulses of both types, and at any period in the history of such a race the dominant type was regarded as 'good,' the other, 'bad.' But as the various races developed, one or other type sooner or later triumphed absolutely. At a time appreciably earlier than that of the triumph of what you would call 'good' in humanity, at the end of your Age of Crisis, a race in a far-off galaxy had turned in the opposite direction, and had become, to our way of thinking, utterly bad. As time went on this race prospered and conquered, overran its neighbours and spread its black culture through the whole of that galaxy. Meanwhile Man, the only intelligent life to survive in this galaxy, had taken his final turning, and eventually he achieved mental unity, in producing myself."

He broke off, and gazed down as if musingly at the glassy floor. And thereupon a kaleidoscope of images appeared in its depths, an unimaginably complex and beautiful representation of a thought-stream; a myriad scenes from the rich past—or future—of humanity.

Man went on speaking slowly. Sometimes, as if he forgot his audience, his voice became merely a silent, compelling thought in their minds; then it would again take on the added reality of sound.

"But by then this other race had long since arrived at mental unity in its own world. It had become a Black Mind of enormous power, and there were island Black Minds spread about its galaxy wherever its hideous empire had extended. Still it grew, and with the aid of its widespread satellites it researched into such things as the projection of mind from a distance into inanimate matters, budding-off, as it were, into other systems, until the whole

of that galaxy was a monstrous brood of evil minds—" Again he broke off for a moment.

" Then it became aware of me."

THE PLATEAU had paled to a dull, neutral grey, its gleam gone. Man now seemed unbelievably old and tired, as he sat there. Bill and Laura, motionless before him, were white as death, and Grierson himself felt an almost intolerable load of despair creep upon his heart as the silence lengthened. If indeed, he asked himself, this is all true, if this monstrous doom hangs over Man's future, what can *we* do to avert it?

When Man resumed, he spoke quietly, almost abstractedly. " Of course, from the point of view of the Black Mind, my existence is just as intolerable, my outlook just as alien, as are its own to me. And naturally, being in possession of superior physical resources, it decided to destroy me without delay. So, not long ago, it projected a fragment of mind into the outermost planet, the black planet, Pluto, of this system, our own system. Perhaps, if I had acted instantly, I could have destroyed it in that moment, but I had lost the capacity for swift action.

" That fragment has already grown greatly. Pluto is now a true mental unit, as yet of small stature individually, but in constant communication with the central mind and thus growing very swiftly. Soon it will be powerful enough to fight me on equal terms, but it will not fight then. It will wait and grow until it can destroy me unopposed, for time means nothing to it, and it knows my comparative lack of capacity. I have not its galaxy-wide reserve of mental forces to call on for growth, and I have not its experience of the control of matter and mind at a distance, even in the absence of a hostile mind."

Silence fell. Now there seemed a grey shadow over everything, the clouds below a grim dark bowl, the plateau drab and dull.

Bill said, " When do we start, guvnor?"

The old man smiled, and life and colour came back to the scene. Grierson released Laura's hand, which he had half-unconsciously taken. Stretching out her fingers with a tiny smile, she whispered, " How the stanchions in your submarine must get twisted!"

" What I wish you to do," said Man, " is to take a ship out to the fringe of the system. You will be *en rapport* with me, and when the ship is suitably poised over Pluto I will project a beam of thought for which the giant lenses in its nose and tail will act as a condenser; some of the new heavy elements can focus thought."

Grierson's interest had been aroused at the thought of a ship. Now he broke in. " But where, sir, are we to find such a ship? "

" Ah," said the old man. " That must be thought of."

FOR A MOMENT he mused. Then his attention became fixed on a spot over towards the edge of the plateau. His eyes narrowed and brightened. How curious, reflected Grierson, that a mere simulacrum of a man, a being constructed for their benefit, should go through all the ordinary physical attributes of concentration; a microcosm of the concentration of the whole vast mentality of the Earth. A staggering thought.

A gentle breeze now blew towards the point at which Man gazed. It strengthened, became fiercer moment by moment, and yet warmer. Laura's hair was suddenly blown over her head, a surprising torrent of black which she impatiently swept out of her face by turning into the gale. Braced against its force, her figure showed a tense loveliness which gave Grierson a sudden sharp pang, part mental, part physical.

Bill made himself heard, shrilling above the roar of the wind.

"—blowing into there from all ways—"

Indeed, Grierson could see that even the clouds, far below, were now in motion, sweeping up towards them from all directions, the nearer the more rapidly. And suddenly Man's voice spoke within his mind.

"It takes much air to make even a small amount of a condensed element. I cannot make something of nothing."

Bill, open-mouthed, was now gazing at the critical spot with an intensity almost rivalling that of Man himself, as a shape began to appear there where his look was still so fiercely bent. Ghostly at first, like an image in flawed glass, yet unwavering in the steady fury of the wind that converged upon it, it quickly solidified and darkened. Details momentarily apparent within it disappeared as the walls became opaque. And throughout this time, Grierson could feel a delicate searching within his brain, as if Man were conducting an impromptu filling-in of suitable furnishings. I wonder, he thought, if she'll be like the old G38 as a result.

Abruptly the wind was still. There was no counterblast. All the excess air had been absorbed into the finished ship which now lay before them. Perhaps sixty feet long, it was conventionally enough cigar-shaped but with truncated ends. The colour was a dully-gleaming violet-black, but for the great lens at each extremity, of a polished dark-blue that might, from within, be transparent.

Again Grierson's unspoken query was answered mentally. "You will be able to see through the lenses, but it was beyond my power to make them colourless. Yourselves, and all within the ship, are quite transparent to thought and will not affect the focussing of the beam."

No one spoke. Perhaps, thought Grierson, he's conducting separate and distinct conversations with the other two on their special questions.

"One other thing," he said, aloud this time. "What will be the effect of this beam of thought?"

Man's answer was also spoken. "If it is powerful enough, it will destroy the enemy mind, and this, I believe, will leave the planet itself in a state of strain which will cause it in turn to disintegrate. Time will show."

Bill made a tentative move towards the ship. He was trembling with eagerness, and Grierson caught the end of a muttered sentence: "—make my bruvver in the R.A.F. look silly, goin' off rahnd the stars in *that*—"

"I suppose," Grierson said, looking enquiringly at Laura, "there's nothing to stop us from leaving at once."

She smiled. "I'm glad you're reconciled to it."

"Oh, I think I always was, in a way." He half-turned to where Man sat silent, and a thought came: "I will keep contact with you. I cannot tell what the Mind may do in its struggles. But when you are near to it you will be in danger from which I will not wholly be able to protect you, for until my beam is focussed the enemy will have the initiative. This I can say—attempts will be made to alter the course of the ship, to make you alter its course from that which is at present set on the controls."

IV

NO MORE was said. There were no leave-takings, but at the airlock all three paused to look back for a moment. The old man's body was slumped, a lay figure, the life apparently gone from it. With a sudden nostalgia for the homely and familiar, Grierson turned to Laura, and found comfort in her vitality. "You look much more—human with your hair all over the place," he said, and then was surprised at himself for making such a remark. The look they exchanged was interrupted by Bill, in a hurry to be off, who stepped between them and into the lock.

"Here young man," said Grierson. "Better let me go first and look round—don't want you pushing off prematurely." Still aware of Laura's steady regard, he stepped in, and after a moment she followed.

The internal structure of the ship was ridiculously simple. Forward was the control-room, the controls hardly more complex than those of an ordinary aircraft. In front of the panel were set three chairs, each a different size, facing the great blue window which was the forward lens. In the body of the ship was a large living-room, whose furnishings were indeed in an odd mixture of styles. In his first glance Grierson noticed some of the Finnish birchwood furniture of which he was very fond: a baby grand piano; a refrigerator; and an enormous and highly glossy walnut cabinet. In the stern was the engine-room, containing a small obscure-looking motor, completely cased in. Grierson's half-formed query on this met a negative reply.

"No—a knowledge of that—besides being quite useless to you, might upset your future—my past."

This stimulated to the surface an elusive thought which Grierson had been pursuing for some time. On their return, what would the effect be of all this knowledge of the future—if they did or could return to their own epoch? I suppose, he thought, the answer is that it's all so remote that it won't matter a halfpenny. It's only if he told us how to build atomic motors or who was going to win the war or something of the kind that it might really alter things—if it's possible to start a train of events that will affect one's own past? He felt curiously reluctant to put a question to Man on the subject, and Man vouchsafed nothing.

Still pensive, Grierson returned to the living-room, where Bill was ecstatically investigating the refrigerator. "Coo!" he yelled. "Every blessed thing you can't get in London! Butter, eggs, oranges—blimey, a pineapple—never 'ad one in me life!" He looked almost pathetically up at Grierson, who smiled back.

"Wade in, young 'un," he said. "Don't wait for me—I'm going to take off—if I can."

Laura followed him forward into the control-room. "You know," she said, "I might say something rather like your remark about me. You *are* more human all of a sudden. What's happened?"

Grierson paused. "What a time to bring up a complex question like that," he said. "Just a minute, till I've got us on the way."

As Man had said, a course was already set up on the control-panel. It was merely a matter of pressing a single stud to activate the motor, and

Grierson smiled quizzically as he recalled the complicated and cramped control-room of the G38.

THE SHIP (I wonder if she has a name: I wonder if she really *exists*, he thought) was smoothly in the air. The landscape dropped swiftly away below without the slightest jar or any of the sensations of pressure he had expected. Through the great blue window he could see the sun, dimmed to a queer smoky greyish colour. In the crystal windows on either side and below was a dwindling bowl of curdy clouds, spiked at its centre by the spiral-encircled column. Only an almost imperceptible flaw on the minute top surface of the column showed the chair where Man perhaps still sat.

The door from the living-room slid back, and Bill came in with a rush, a banana in either hand. "Cripes! Look at these!" he shouted. "Ain't seen one since I was so 'igh—forgotten what colour they was, I 'ad!" His attention was caught by the scene below, and he gazed solemnly at it, whitening a little. "Never felt us start," he said at last. "But 'ere we go, as the earwig said."

"I wish we could see more of the Earth—the future world," said Laura. "The little we did see was so lovely—"

Hardly had she finished speaking when the pearly-grey banks of cloud began to swirl and mingle, break up and twist into vortices, faster and faster . . . abruptly they were gone, and the whole Earth lay revealed in the sunlight.

To Grierson this was one of the crowning moments of his life. He had always had what is crudely called a pictorial sense, and the utter, verbially indescribable beauty of this sudden vision was something which was to haunt his dreams thereafter, and set him striving to some purpose, with brush and canvas, to recapture a little of its magic.

Bill waved a banana at the scene. "That's the wiy to see a plice," he said. "Get off of it, like, so's you can see all rahnd it. Not 'alf!" He vanished back into the living-room, presumably seeking more food.

Laura's smile cheered Grierson. Their personal worries seemed to have dropped into some limbo of the elsewhere, and the thought of nameless danger ahead carried with it a queer exhilaration born, he supposed, of the greatness of their cause.

"Only in music could you say that," she said. "And then only Bach."

"Afraid I know nothing of it: not a note. But I'll paint it when—if—I get back."

"Oh—do you paint? How lovely—you looked to me like—" She broke off, confused.

"Like a philistine who knew about nothing but internal combustion engines?"

"No. Like a man for whom art was a superficiality, compared with fundamentals like mathematics." She paused, and then went hastily on. "You were going to tell me what happened to change your outlook all of a sudden—what made you accept this as perhaps more real than the life we came from."

Grierson looked down at her strong small heart-shaped face, the dark hair once more neatly coiled about it, and knew blindingly what it was that had changed him. He shook his head slowly.

"I can't tell you," he said.

"You don't know?"

"No. I can't tell you," he repeated almost shortly, and turned quickly to the controls, telling himself savagely that translation through a thousand million years was not to be regarded as any kind of excuse for saying something which in the life he had left he would not have dreamed of saying.

HE WAS roused by the sudden appearance in the lens, which seemed to transmit light itself without any distortion, of a host of tiny brilliant points of light. They swelled with appalling speed to a swarm of jagged enormous chunks of metal, steel-bright with coal-black shadows in the sunlight. Before Grierson could move, they had swept about the ship and were gone.

"Geez!" breathed Bill, forsaking his native dialect in his excitement. "If that little lot 'ad missed missin' us they wouldn't 'alf 'ave 'it us!" He took a stupendous bite from a fruit tart, latest result of his foraging expeditions.

"I think we must have some kind of a protective screen," Grierson said. "They seemed almost to get out of our way."

"You are right." Man's voice spoke pleasantly within his mind. "You need not worry about the ordinary dangers of space-travel."

Space-travel at such a speed—it must be a respectable fraction of that of light, calculated Grierson—was anything but dull. The three brought their meal—Bill apparently regarding his already mountainous inlay as the merest hors d'œuvres—into the control-room to watch the celestial panorama that wheeled about them. Already the Earth, below and behind, had shrunk to the magnitude of a brilliant queerly-coloured star, and Grierson noticed without any particular surprise that its old companion the Moon was no longer circling it. Their course lay, first, towards the sun and took them close to Venus which, from being a star amongst others, grew swiftly to a bright crescent of blue-white, ever growing and filling out as they swept across its orbit and sunwards, until it became a sphere almost too bright to be directly gazed at, its colour strangely whiter than that of the sun whose light it reflected.

But by now the sun itself had become a spectacle such as to diminish any other. Perhaps, in its old age, it was lovelier even than in its prime, thought Grierson: for now the great scarlet prominences were much larger than he remembered from solar photographs, sweeping out to fully half the height of the pearly winged corona. Yet, viewed through the windows of the ship, there was neither warmth nor dazzle about it, and he could not help feeling that a number of the devices Man had installed would be extremely useful aboard the G38.

V

DURING THE next three hours the ship swung about the sun and fled outwards with gathering speed; past Mercury, dim little scorched world; through the asteroid belt; across the orbits of the two Great Planets, both unfortunately too far away to be anything of a spectacle; and then more slowly out towards the ultimate planet, their destination, black Pluto.

A tinge of apprehension had crept into the atmosphere. Grierson likened it mentally to the period before making an attack. The three spoke only occasionally, gazing forward through the lens in an attempt to mark down the dim globe that *was*, in effect, their enemy.

"Like wonderin' whether the sireen's goin' to go—an' all the time knowin' it is," Bill said.

After a few moments' silence Grierson said to Laura, "I'm sorry I was brusque."

"You were right to be, I shouldn't have asked that question," she said quietly.

Man's voice suddenly spoke in Grierson's mind, and from the simultaneous tensing of the other two he knew that it spoke in theirs also.

"The time for action is approaching, for you are now within the effective radius of the Mind. Do your utmost to ignore all manifestations and resist all irrational impulses. And I wish you to position yourselves

carefully: Grierson in the centre, for he is the strongest, Laura and Bill slightly in front on either side, and look before you, for I must use your eyes."

They took their positions without speaking. Time passed and nothing changed. They were beyond Neptune's orbit, now moving much more slowly, and still they could not see their quarry.

It was Bill who finally found it, his hand tightening in Grierson's as he pointed silently at a little dark-coloured sphere, hardly differentiable from the background of space, which lay dead ahead, in the centre of the field of view. Probably it had been visible for some time before they actually saw it. At the same moment Grierson felt an immense exaltation, a sudden surge of superhuman vision of the Cosmos, and he knew that all the power of Man's stupendous brain was surging through his own tiny one and being directed on to the great lens. This at once began to glow with a faint indescribable radiance, as the invisible but deadly beam of intense thought struck down at the distant, innocuous-seeming planet.

Almost at once came the reaction. A frightful tension invaded Grierson's mind, rising rapidly to an intolerable surge of what he described afterwards as spiritual agony, since there was no physical pain. It passed the point at which he felt he could stand no more, and then snapped off with an almost audible sound. He was himself once more, but only himself. The exaltation was gone, the connection severed. He was alone—and was there not something wrong with the air-supply? It was stuffy, stale, oxygen-deficient. And were not the walls closing in on him, forced from without by enormous pressure? Was it not becoming darker? An appalling oppression was overcoming him, and instinctively he raised his hands, pushing towards the controls.

But he felt a restraining grasp. Bill and Laura, not yet affected, were holding him back. In a moment, however, while nightmare suffocation still gained upon him, they too were attacked. Bill screamed a faint high scream: ". . . monsters!" and clawed at the air before him, but Laura, reaching across, held him back from the control-panel. And then she, in turn, whitened, shuddered, and soundlessly fell forward from her seat, hands wildly reaching in front of her.

GRIERSON made a terrific effort. His intellect, standing apart from the conflict, was assuring him that the attack was being pressed against their individual weaknesses, and that it was totally subjective. He had therefore but to ignore it for it to lose its effect. Savagely he fought to conceive about him a sphere impervious to inimical thought, and gradually his fears relaxed, his breathing eased. Firmly he pushed Laura back into her seat. He tried to smile at her, but found he had no control over his facial muscles. Bill was whimpering quietly.

It was defeat, he thought. Man's mind must have given way utterly at that instant of vast tension. And the ship was driving on towards Pluto, the enemy's power intensifying every second. It was only common sense to turn the ship about, and at least to save themselves. Though what their future might be on this time-distant, hate-haunted world—

Nonetheless he continued to fight to keep his mental control, fought while the sweat trickled down his face, fought against the little horrible suggestions, the premonitions of utter black disaster for themselves and the Universe, that crept around his shield, and tried with a firm hand-grip to convey fortitude to his companions. He kept the ship on her forward course.

He managed to snatch a glance at Laura. She was still very pale, but her face was firm-set and she gazed steadily before her. Bill, too, was sitting up now, silent and trembling only a little. We'll go down fighting,

thought Grierson with a burst of exaltation—and in that moment felt again that marvellous accession of mental power as Man's mind regained contact with his.

"My apologies—and my deep gratitude," said Man's silent voice. "For a moment the suddenness of his attack found me unprepared, and I lost you—and in that moment most human beings would have killed themselves. I chose well."

Thankfully, weakly, the three surveyed one another. And then looked back at Pluto, now a menacing ebon globe, set squarely before them against the starry backdrop. Suddenly from its centre welled a spurt of blue light. It spread, opened, and from within it rushed up a fiery sphere of incandescent orange, swelling frightfully as it came hurtling to engulf them.

"God!" cried Grierson. "That's no mental weapon—that's an actual physical fact, that thing—it'll burn us to a shred, like a fluff of cotton-wool in a blast-furnace. I wonder if Man's thought of this?"

The whole field was filled, now, by the onrushing flaming thing, and its fierce heat was beginning to penetrate even the ship's shield. But as Grierson spoke, the flow of force through his mind intensified. And the fiery sphere wavered, dimmed, and was suddenly gone.

"Yes," said Man's voice, now with a note of triumph in it. "True, it was a physical thing. But when I distracted the Mind's control of it by increasing my attack, it became unstable. He is not as advanced as I at changing matter from one stable form to another. The matter that he creates must be held in pattern by continuous mental control. Perhaps he has not felt the need to create lasting beauty."

AT THE last sentence the tone had slackened, taken on an analytical quality, and at once another ball of fire sped up towards the ship. Pluto was very close now, and in a second the great sphere was almost upon them. But Man's attention had returned, and this effort of the enemy met no more success than the previous one.

Now Grierson felt the power passing through his mind to grow and grow, and the sinister invader that used Pluto as a brain had no time for side-issues. The lens glowed ever more brightly, the tension became an almost tangible, almost audible thing about the control-room, and still the silent deadly battle raged. Grierson could not move a millimetre. He felt like a steel strand stretched to the uttermost by vast forces in equilibrium.

And then, abruptly, it was over. It was as if some mighty floodgate had opened in his mind, allowing an unimaginable rush of force to pour through it. And Pluto, upon whose vast bulk they now appeared to be falling, lazily disintegrated, first to large fragments which then quietly fell to dust and vanished.

Hardly conscious of what he did, Grierson leant forward and reset the controls according to some dimly-apprehended direction. And thereupon all three fell instantly asleep.

WHEN THEY awoke, simultaneously, the ship was coming in to a landing on Earth, on the summit of the jade-enspiralled column which Man had called their aerodrome. In what way the ship had been controlled, if control had been necessary, they never knew.

They smiled uncertainly at one another, not speaking of what they had been through. And still in silence they left the ship, and stood once more before the proud old Man.

He looked smilingly up at them. "No thanks are required between friends," he said. "And in any case, the thing you have done for Man, perhaps for the Universe, is beyond thanks." He paused for a moment, and

then, "I wish I could keep you as companions here. I think you might like to stay—and though in a way I am my own company, yours has been very good. But I have much work to do, research in preparation for the battles to come, in which I must be alone, for the way I have used to bring you can be used but once. Already the space-time continuum that is our universe is dangerously strained by your presence here, and for that reason I must send you back at once."

The words seemed to Grierson to reverberate endlessly about his mind—and behind them was an implication, an unanswered question, a question which, instinctively, he shied even from stating. In his intense preoccupation he hardly realised how much his gratitude had changed in the course of a few hours.

Laura's hand, slipped into his, roused him from his grim reverie.

"Kent dear," she said. "Don't take it so hard." She turned interrogatively to Man. "Where must we go?"

"I must return you to the exact moments from which I took you. Nothing else is possible—certainly nothing else is desirable."

"So I still may—get back Jim." Laura said. Her voice was without emotion. Suddenly, with a violence which he had not yet seen her display, she faced Grierson. "Kent," she said. "This isn't any time for concealments. We love each other?"

It was at once a question and a statement; and Grierson could only nod, speechlessly.

"Now that I know you," she went on quickly, "I know I never loved Jim. It was glamour, fascination, war-fever—any of those words will do. But he needs me. I've a duty to him, and if he lives I'll never leave him. And I must do my very utmost to see that he lives."

Again Grierson nodded.

"I mustn't—mustn't even think of his dying," she went on passionately, and then was suddenly silent, her eyes bright with tears.

Grierson broke the silence. "I'll be waiting for you, Laura darling," he said. "You've two years and more to live before you—catch me up. But for me, when I return—d'you see? It's so much easier for me—if I come out of this attack I'm in, will you write me—just one letter can't be wrong—and tell me if we can meet?"

Man interposed. "Time is short—and I must tell you that I will have to destroy, in Bill and Laura, the memory of these past hours, lest what Grierson has told you of your immediate future should upset the future of humanity itself, and with it my past and the stability of our universe."

Laura, pearly white, said faintly, "But . . . but we'll be frightfully careful not to act on our knowledge—won't we, Bill?"

Bill, not quite comprehending, nodded solemnly.

MAN SHOOK his head sadly. "It's not humanly possible," he said. "One tiny slip would be enough to set spreading the ripples which would swell to waves of disruption. After all you've done, I wish I could do more in return. But to do so would be to undo what you have done. All I can do is to leave Grierson's memory intact, for nothing he can do can affect a future so remote; and in you others, to leave the knowledge of each others' personality, in abstract. So Grierson will have to find you without your help, and recall to you this time, the germ of whose memory only will remain with you."

"If I live, that is," said Grierson dully. "Man—can you tell us the outcome of the situations from which you took us?"

"Even that I cannot do. Your return will be purely automatic, the release of the strained continuum. And your personal futures are matters

of detail too minute to be visible at such a time-distance." After a moment's pause he added, "Will you say your farewells, please? You must go now—the breaking-point is near."

Grierson, feeling his whole being wrenched violently to and fro by this impossible situation, calmed himself by a supreme effort and faced Laura. "It's up to me, then," he said "I'll pull out of my spot of trouble—and I'll find you. And if . . . if your Jim is still alive, you'll never know I've found you. I'll be just a dream-personality, a guardian angel perhaps . . ." He turned to Bill. "As for you, my lad, I'll find you too, and make sure you get the future you deserve—and that leads to the Navy, if I'm not mistaken?"

Bill's silence was wholly foreign to him. A tear rolled down his cheek, and he nodded frantically. Grierson's hand stayed on his shoulder for a moment. Then he turned back to Laura.

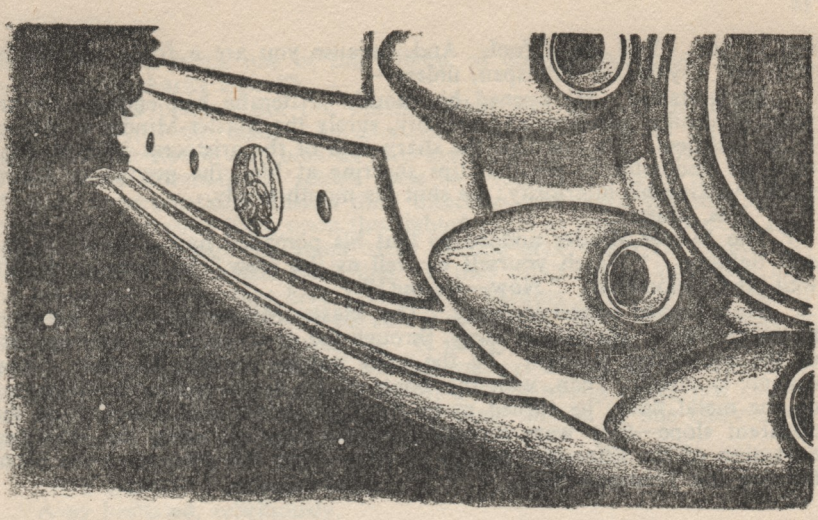
"May I kiss you once?" he said.

Herself again, she smiled her warm, magical smile. He took her in his arms.

KENT GRIERSON awoke with a jerk. Had he been knocked out? God! He couldn't have fallen *asleep* in the middle of such a business! The lights were still out. The air was warm and lifeless and smelt faintly of chlorine. Another concussion—more distant perhaps?—righted the submarine, surprisingly. Momentarily the lights flickered on, and again were extinguished.

In the noisome dark, as the explosions continued on all sides, he recalled by degrees all that had happened between eyeblink and eyeblink until it was a picture clear, distinct, and wonderful almost beyond belief. And, feeling a strand of hair coiled about his wrist, he knew that all his experience had been no dream.

THE END



THE REBELS

By E. R. JAMES

When a highly efficient world organisation runs interplanetary commerce, too much organisation may wreck the efficiency.

Illustrated by WHITE

THE Master-Minder leant back in the deep springs of his chair and drew a silk handkerchief from his sleeve to dab it daintily against his thin lips. "Svale," he said, "I think you knew very well that the crew should have been changed. Their incompetence does not matter—but the fact they are the type to be dangerously bored is a menace to our safety."

Svale, the Overseer, nodded his grey head expressionlessly. So he was up on the carpet again. Well, it was no new experience. The crews were always all right; it was the system that was wrong. And could he be expected to know in advance what men would think during a three-week space voyage? Perhaps he had known, but hadn't had the heart to send them back to the soul-destroying charity of the depressed areas.

The Master-Minder's narrow eyes glittered. "Particularly this new man," he snapped. "This young upstart, Nils Avey. A more sullen, insolent, intractable young puppy I have yet to meet. I simply cannot imagine what possessed you to sign him on!"

Svale shuffled his feet in the thick nylon carpet. The reason had been real enough, but it was not one even to be thought about in the presence of an aristocrat of the machines. The kid would have to be disciplined or they'd both be in serious trouble.

The Master-Minder reached out for the golden snuff-box upon the ebony table at his side. "Svale," he snarled, "you are like all the rest of the Redundant Class You'll never rise out of the gutter because it is

not in you. You are a fool. And, because you are a fool, this will be your last voyage for Transpan, unless—"

Svale started. He opened his mouth. After he had endured twenty years of insults, boredom and servility, surely the Master-Minder could not be so heartless. He saw that the sharp eyes of the aristocrat were gloating over his discomfiture, the thin lips sneering at him, the gesture of taking snuff mocking his inferiority: he shut his mouth firmly.

"Yes, Master."

The Master-Minder nodded so that his pomaded hair glistened in the soft lighting. "Watch yourself as well as the crew," he threatened with well-bred viciousness. "Now—get out!"

Svale bowed expressionlessly. The Master-Minder was only joking—at the moment. He backed away, through the door, on to the sloping floor of the connecting passage. To the valet waiting outside, he said: "You can go in now." Then, with the boots of his severe uniform whispering on the metal floor, he turned away from the bows and laboured up the apparent slope—they were economising in power by using the amplified attraction of the Efferenter sun as gravity—along the passage to the room housing the Transpan-guide.

HE PUSHED open the door and entered the cramped, box-like space which was more than half-filled with the locked machine cases containing the apparatus of the Transpan receiver. The taint of burnt electricity stung his nostrils. A faint humming accompanied the regular flickering of coloured lights upon the control panel.

Nils Avey started erect in his moulded chair, grasping the plastic arms, gaping around in fear.

"I— Oh, it's you." Avey relaxed. "I thought it was that fat slug, the Under-Master, come back."

"Has he been here?" asked Svale grimly.

"Yes. Threatening me."

"I see. It may interest you to know that he also reported you to the Master-Minder, so that I was summoned and have just been warned that if you do not show proper respect for discipline, both you and I will be laid off."

Avey grinned derisively. "And so you trotted along here like a well-trained robot to—to—" He mumbled something incoherently; then rubbed his hands back over his cropped hair. "I ask you—why should those two Master-Minders enjoy the best accommodation in this ship, the best food, the best in fact of every burning thing, while we. . ."

"Steady," cautioned Svale. "Remember that they alone can operate the central machine which controls every other machine in this ship. If you could do that, then you would be a Master—"

"That's propaganda—and you know it! Have I had the chance to learn? Have you? Have any of us? It's their birth—not talent—which puts them on top."

Svale flushed. The kid was right, of course, but: "You want to keep those kinds of thought to yourself," he cautioned. "Remember that I am the Overseer. If you are mutinous, it is my duty to report—"

"Overseer!" Avey flung back his head and laughed. "Go on—report me! Ha! I'd be better off dead."

"Silence! Men have been executed for saying less than that."

Avey sobered. The colour washed out of his face. He whimpered: "You—you are one of us. You wouldn't report me would you?"

Svale's frown deepened. The kid was hardly worth the risk. "You have a job," he pointed out, "and a job means money to spend. Isn't

that better than being one of the billions of unemployed living on relief in one of the charity cities?"

"Sure it's better. But not much. What sort of work is this for a man? A hyperadio station on Zumarus One sends out an intermittent signal, another station on Zumarus Two sends another signal. The apparatus in this room automatically selects these two vibrations out of the myriad of other hyperadiations, checks their direction and holds the ship on its course. At the same time, upon this lighted panel in front of me, two light impulses, one red and one green make moving arcs which are continually cutting each other on that black line. If they don't cut on the black line, the robot eye in this box here transmits a warning signal to the Master-Minder's instrument wall and he comes here and either puts it right or switches over the spare Transpanner. It makes me wonder why I am here at all. The machine is infallible without me; yet here I sit, day after day, six hours on, six off, watching the hardly-ever-go-wrong lights, just in case the never-go-wrong robot eye should, by some million to one chance, fail to function." Avey snorted and stood up.

"SIT DOWN!" snapped Svale.

Avey hesitated, rebelliously.

"Go on—sit down! I heard you out; now you listen to what I have to say."

"Why should I?"

"Sit down, man. I am not one of the Masters; like you, I am only a tiny step above the Redundant Class, but I value that step—and so should you."

Avey snorted. "I'd give ten years of my life to throw the ship off course to the Independent City upon Efferenter III. People are treated like human beings there."

"Well, you can't—no more than I can. We do not understand the machines which work this ship. It all adds up to the fact we are living in a civilisation where the men who tend the complex machines are the masters. It is only right, you must understand, that they should be masters—for without them our civilisation would crumble back to the dark ages."

"What do you think you are?" Avey's lips curled derisively. His hands trembled as he wagged them at Svale. "An elementary school teacher?"

Svale stiffened. "I am twenty years older than you, and I am serious. I am only trying to help you because . . . you resemble my only son, who is dead."

Avey sat down. "O.K., pop," he said wearily. "Lay on the sentiment."

Svale went icily cold, then scorchingly hot. His fists clenched. Anything else! The kid could have said anything else. "Why, you young fool! I'll—" With rage-reddened sight, he seized Avey's shoulders, dragging the youngster off the chair, shaking him. "I'll— I'll—" Abruptly he stopped and the haze before his sight cleared. He stepped back trembling. Hadn't lost control like that for ten years.

Avey scrambled backwards to the wall and held his arms up as though expecting a renewed attack. Svale straightened the set of his uniform. "Get up!" he ordered.

Avey jumped to his feet.

Svale motioned towards the chair. "I might have killed you," he muttered. "I may be getting old, but I wasn't put in charge of a crew entirely on the strength of my will. Remember that. Think, too, of the fact that the Master-Minder wouldn't think twice about ejecting you through an airlock into space, no questions asked."

Avey started as though hypnotised, eyes and mouth gaping.

"Yes," Svale continued. "You are . . . just such another as my son. He must have felt exactly the same as you have been feeling when he attempted to kill the Master-Minder in charge of this ship. The attempt failed, of course—for the machines incorporate devices for the protection of the Masters—and, one hour afterwards, the living body of my son was flung out into the vacuum of space. I was told that there was a stain on the outside of the ship . . ."

Avey swallowed.

Svale nodded grimly. "Take my advice, Nils Avey, and stay alive. Train yourself to be satisfied with your lot. Sooner or later the Masters will become so corrupt that they will be vulnerable to revolution, but it will not be in my life-time, though it may be in yours."

WITHOUT waiting for answer, Svale turned on his heel and padded out into the passage.

As he approached his own quarters in the rear of the ship the pulsations from the rocket blasts became stronger. Grimly he thought how free of any kind of vibration were the Masters' luxury suites in the bows.

He passed the door of the cabin he shared with the Leading Space-Diver and, at the end of the passage, against the insulated bulkhead which shut off the engine-rooms, he paused before the door leading into the crew's quarters. He felt in the mood for more trouble. The whine of the dispersion rotors sounded faintly in his ears and the metal beneath his feet shook with the slightly uneven firing of the atomic-fission chambers. He pushed open the door and stepped inside.

The mutter of conversation ceased at once. Upon the benches around the fixed metal tables, men turned to stare, some blankly, some defiantly, at him.

A big, black-bearded space-diver spat into a bucket and growled: "Yeah? Wha'd'yuh want, Mister Overseer?"

Upon one of the tables a plate and mug rattled with the incessant vibration. Svale noted that the smoke from the men's cigarettes was fouling the air.

"The Master-Minder informs me that you are dissatisfied—"

"Yeah," blackbeard interrupted. "The air-filter in here has jammed. We want-a move our gear into the No. 2 Storeroom fo'ard."

"I see," said Svale smoothly. He closed the door and strolled over to sit upon the edge of a bunk. "I'd like to move further from the engines myself. I've already suggested it, pointing out that we have an almost empty storeroom. But it seems that there is a sample of a new atomic fuel in the No. 2 Storeroom. It is newly manufactured Uranium Isotope being taken to Zumarus, and it is so unstable that the Master-Minder says it must remain where it is—as far as possible from the atomic engines here in the rear."

Several small groups began to argue together in undertones. Blackbeard spat into the bucket. "Have you seen the stuff?"

"No," admitted Svale, "but it is on the store list." He knew that this grouse was only a symptom of the general feeling, and added: "Is there anything else?"

The furtive discussions in the background ceased. The men looked at each other and regarded Svale sullenly.

He stood up. "In any case, you should know better than to try to dictate to the Masters."

He turned his back on them. He knew, and they would know, too, that the Master-Minder was almost certainly sitting in his suite listening and watching the scene over the spy-system.

As Svale entered his own cabin, Vegan, the Leading Space-Diver, flicked a switch changing the printed page of a book upon the bed-side reading-plate before looking around.

"Hello. Where've you been? On extra duty today?"

"No." Svale flung himself down on his low bed. "The Master-Minder doesn't like the attitude of the crew."

"Oh?" Vegan raised himself to sit on the edge of his bed. "So he's found out?"

Svale looked up, propping himself on one elbow. "What have you heard?"

"Haven't you guessed? I thought that you must have, when you kept the crew on. It's mutiny!"

Svale looked around the cabin apprehensively. If the Masters were listening. . . .

"It's mutiny," repeated Vegan grimly. "And, whether you like it or not, you're a ring-leader now. If the Master-Minder is still alive, he will have closed the front bulkhead and will be sending a frantic hyperadio appeal to the Space Patrol. If he is dead, then half our battle is won. I've told the crew what happened to your son and vouched that you are with us. It was either that or they would have killed you, too. With any luck we should land on the sanctuary of Efferenter III within two hours."

"You're crazy!" Svale sprang to his feet.

VEGAN raced him to the door and stood, with fists clenched, blocking the exit.

Svale stopped. He felt trapped. Of course he was on the side of the crew, but what was the chance of success? Life was valuable. Yet the determination marked in strong lines on Vegan's thin features appealed to him. "What are your plans?"

Vegan grimaced. "You're forgetting the spy-system. Until I hear the result of the first stage, how can I tell you?"

"That's reasonable. But—how do you think you can change direction? You'll never be able to force either of the Masters to alter course; and, even if you manage to kill them, the automatic brains of the machine will still carry us on to Zumarus. You know that only a Master can operate them—"

The cabin door burst open. The Master-Minder's valet staggered in, his right arm hanging limply and dripping blood from a disintegrator wound, his left hand holding a blood-stained knife, he face like chalk. "I—crippled the swine," he moaned. "He's lying on the carpet of his suite quite unable to stand up—but he's armed. . . . See what he did to me! It wasn't my fault." He stood swaying. "I waited until he dropped the force-shield just like you said, and struck, but he moved—it was the hand of fate . . ."

Vegan turned a blanched face to Svale. "Will you see to this man's arm?"

The Overseer nodded. He applied an emergency dressing and tore strips from the bedding, binding them tightly around the gap ripped in the valet's forearm.

Vegan stood, nervously agitated, at the passage doorway. Suddenly, some distance away, a door clanged; a voice shouted: "The Under-Master is sitting high up over the gyros. He's armed with a disintegun, and we can't reach him. What'll we do?"

Vegan swore. "Flaming stars!" He shouted back along the passage: "Keep him there, if you can!" Then he swung around to Svale, his eyes filled with horror. "Everything's gone wrong. Everything! We're as good as finished."

Gravely the Overseer nodded his grey head. "Surely you could have

chosen a better time?"

"No. It had to be now. We had to plan everything before we took off. And it had to be now or never. Tomorrow we'll be past the Efferenter System and there is only this one time during each twenty-four hour period when we could catch the Master-Minder off guard and the Under-Master making his rounds."

"That's true. Anyway it's done, and the way things look we are doomed whatever we do. What were your plans?"

"We were going to use flame-hoses to cut away the automatic brains in the forepart of the ship, and then turn the ship about the gyroscopes with the auxiliary winches. Once we entered the gravitation field of Efferenter III we reckoned that we could wreck the rocket engines so that we'd circle around in space, like a moon, until the Free Men saw our distress signals and came out for us."

"That's good." Svale nodded. It really did sound possible. "Perhaps there is still a chance," he said. "You have some knowledge of atomics, haven't you?"

"Sure!" Vegan's eyes brightened. "Why?"

"Well, even if the Master-Minder has shut himself up in the forepart of the ship, you'll still be able to get to the No. 2 Storeroom, because it's on this side of the bulkhead. You'll find a sample of a new atomic fuel in there. Prime it so that it will explode—there's not enough of it to blow the ship to pieces completely, but if you set it right, and the stuff cracks off all at once and the dozen or so partitions buffer the shock so that the centre bulkhead holds, then we'd be left with half a ship—the half we need—and we'd have got rid of all the automatic devices."

VEGAN whistled. "That's marvellous." For a second he grinned to himself. "It should be a cinch. Leave it to me." He turned to the doorway

"Wait!" rapped Svale.

Vegan looked around inquiringly.

"Remember," warned Svale, "that the stuff you'll be handling is twice as unstable as the fuel this ship is firing. The slightest radiation will upset it. Don't make any mistake."

"O.K. What're you going to do?"

"There's still the Under-Master."

"Yeah. Yeah. I'll be along to join you as soon as I've laid a time fuse."

As Vegan ran out, Svale looked down at the limp rag of a man stretched out on the bed. "I'm going to leave you."

The fellow moaned. "Sure. You must. Sure."

Svale glanced at the blood-soaked bandages. A proper dressing was needed, but— "I'll try to send someone back," he said gruffly.

"Sure," gasped the man. "Sure. Soon as you can."

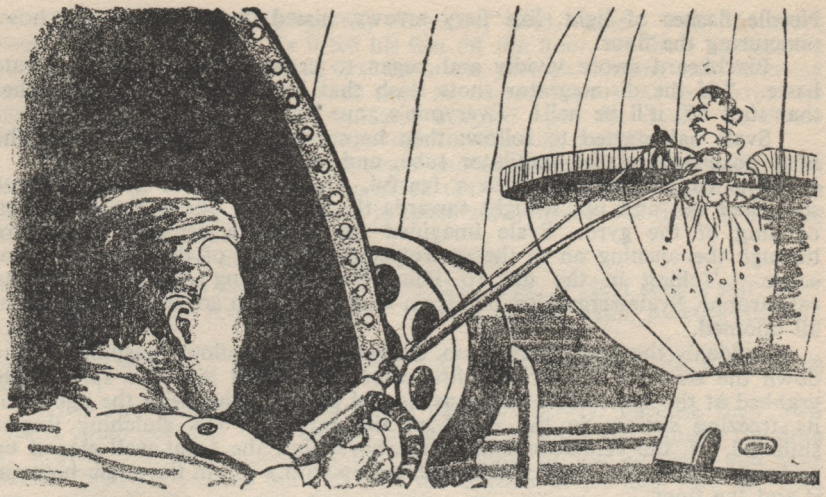
Svale turned away and hurried out into the passage, making his way aft. A knot of despondent men clustered apathetically around the door of their quarters. He heard them say something about "Flame-hoses," and then they parted to let him pass.

He ducked through the bulkhead door. A voice yelled: "This way!" He sprang sideways. A hissing needle of light scorched down past him and, in the stanchion at his side, an ellipse of metal vanished in a puff of dust. The next moment his arm was seized and he was dragged under the bottom of the huge spherical shell which housed the gyros.

Blackbeard's face thrust close to his own. "Vegan tell you the set-up?"

"Yes."

"Huh. The fool detailed to kill that fat swine up there missed. Now we're all stuck. We cannot get within twenty feet of the Under-Master



before he sees us and shoots; and he's too scared of all the blind spots in this place to budge a yard."

Svale nodded. Looking between a heavily insulated fuel tube and the projecting ends of the cyclotron, he could see the mangled bodies of several of the crew sprawled grotesquely in a spreading red stain. A man, under the curve of the space-cooler funnel shivered and hugged a torn leg, his blood mingling with the drippings of half-freezing moisture which had condensed on the space-cold metal. Yet another crawled awkwardly, flat on his stomach, under the edge of the low-level inspection gangway.

All around, the humming shrieking of the gyros and turbines, the grumbling mutter of the rocket-tubes, the regular clicking and snap of valves and automats, all the sounds of a large spaceship's engine rooms, went on; inexorably thrusting them towards Zumarus and their fate.

Svale turned again to Blackbeard. "Where exactly is he?"

The big space-diver jabbed upwards with a calloused thumb. "On top."

SVALE pictured the scene. There was a platform, suspended between the gyro-cover and the roof, above a wide inspection opening. No one would be able to climb above it, for it was the highest point in the engine room. The nearest gangways would be the second-level ones above the fuel distributors at the front, around the fat belly of the gyro-cover and above the cyclotron at the rear. The Under-Master would have a clear view of all these. While his disintegun still functioned, they could not touch him without some sort of gun—and the armoury was naturally in the Master-Minder's suite.

Svale pondered. "How about the metal ladder inside the spindle of the gyro?"

Blackbeard grunted. "That's where our man waited for him. It's blown away for twenty feet. No good." Suddenly Blackbeard pointed. "Look! What do those guys think they're doing?"

Svale stared. Two men, dragging a shiny, white-metal flame-hose, of a sort used for cutting away debris and wreckage in mid-space, ran from the cover of the distributors and disappeared behind the space-cooler tube.

Needle flashes of light, like fiery arrows, hissed down around the hose, puncturing the floor.

Blackbeard swore vividly and began to crawl forward with desperate haste. "If the disintegrator shots slash that hose and something touches that stuff off, it'll be hell! Everyone's gone mad!"

Svale half-started to follow; then he saw the gleaming nozzle of the hose poke around the ventilator tube, and watched fascinated.

The engine room lit with a fearful, ruddy glow as a gout of flame screeched out and up, straight towards the platform above the inspection opening of the gyro. Svale imagined the platform dripping liquid fire through the opening on to the unprotected top pivot of the spinning gyroscope. Yelling in the din to Blackbeard, warning of the impending catastrophe, Svale scrambled out from under the gyro cover, believing them all doomed.

Suddenly the floor bucked up, throwing him headlong, gasping, rolling down the slope of it. Molten fire cascaded around him like spray. He grabbed at the space-cooler tube as he slid past, wincing with the agony of its freezing surface in the midst of the inferno. His clutching fingers slithered off; the ventilator-tube rose above him; the front wall sloped up and away at a crazy angle and he fetched up with a jolt in the angle between it and the floor.

The floor kicked against his scrambling limbs; it smashed up at him sickeningly; the roar of a terrific explosion deafened him. The solid floor seemed to bend like the blade of a saw. Now he was slipping down it again, like a mouse in a box of burning oil, smelling the scorching of his own clothes, seared by the heat, shielding his face in his hands, thankful for once of the protecting thickness of his uniform. He glimpsed the front wall—the bulkhead—slanting away, dripping fire and half obscured with black smoke. He braced himself for the shock of hitting it.

He struck against something at an unexpected angle and slithered off into a flickering greyness. The din suddenly faded and the heat lessened. As he opened his eyes, he saw uniformed legs, and the next second he struck them and there was a welter of confused action. He grabbed and was grabbed.

"It's Svale," yelled Avey's scared voice.

"Shut that door!"

Avey hesitated, "What about the others?"

Svale struggled to right himself.

The second voice growled. "D'you want us all to die? The fire'll burn through the hull at any moment. Anyway, what could live in there?"

SVALE propped himself into a sitting position. Hands beat down at his trouser-legs. He saw that he was on fire. Vegan was beating at the little tongues of flame. Svale bent forward and helped. Nearby the bulkhead door clanged shut, blocking out the cracking roar of the fire.

Suddenly the floor beneath them ceased its vibrant movements. "Engine's died," growled Vegan.

At the same time Svale heard a tiny, vicious hissing. The sound swelled out to a raucous whine, then to a shuddering roar; and suddenly died completely away. In the silence, a thin high-pitched whistle came from around the bulkhead door. "Fire melted through the hull, and the air's gone. Fire's extinguished too, I'd say," said Vegan. He paused listening. "Sounds as though this door's leaking. We'd best get into space suits—and quickly."

Even as he spoke, their clothes ballooned loosely around them. Svale, in the act of clambering stiffly and painfully to his feet, floated clear of the floor.

"That's the end of the gravity amplifier," said Vegan. "All the more reason for space suits." He lifted his feet off the floor, set them against the bulkhead door and dived head-first down the passage, kicking and thrusting on the floor, walls or ceiling each time he neared them. As he neared the No. 1 storeroom, he reached out and dragged open the door. To Svale following, he appeared to swim through the slanting doorway.

Inside, the slightest touch set boxes and equipment floating about. The lack of gravity hampered them so much that it took fifteen minutes before they were all standing upright clad in space suits, held to the floor by electric magnets in their boots.

"Now let's get outside," muttered Vegan.

Suddenly Svale thought of the wounded valet. "He'll need a suit, too."

"He doesn't," Avey quavered. "I went in your cabin looking for you. He's dead."

Vegan added: "Yes. I'm pretty sure that there's only the three of us left."

They clomped out and along the passage—slowly, because their own inertia could not now be overcome by leaning forward and gaining the drag of gravity. Vegan unclamped the inside door of the air-lock, and they passed through, walking out and over the outside of the hull with no more effort than in the passage—human flies. Space was a grey, star-studded void around them. Apparently at right angles to the course of the ship they could see a white half-disc very like the half-moon as seen from Earth.

"Efferenter III," said Svale into the microphone of his helmet. "And we'll miss it by half a million miles."

Vegan grunted. "Let's have a look from the other side of the ship."

They walked up over the bulge of the derelict hull, into the light of the Efferenter Sun. Almost directly in the path of their tail-forward motion, shone a thin, pallid arc. "Efferenter II!" exclaimed Svale.

"Maybe we could land on that?" Avey suggested hopefully.

"I hope so," said Svale. "It's either that, or a swift end in the sun-fires beyond."

"What's Efferenter II like?" queried Vegan. "I've never heard of anyone landing on it."

"It's a freak planet," said Svale. "It's quite well-known, as a result of some collision ages ago, it revolved about twenty-five times as quickly as our own Earth."

"Any atmosphere?"

"Yes, I believe there is. But it's not breathable. If I remember rightly it is a mixture of carbon-dioxide and other heavier gasses. There'll certainly be no moisture or oxygen, for these will have been dispersed in space long ago, owing to the low velocity of escape brought about by the centrifugal force."

"A dead world?"

"That's right." Svale felt there was nothing to be gained by not telling them the worst. "The only things in our favour, as far as I can see is that we are almost certain to hit it on this course, and that, as we are tail-on to it, we should be able to use the rockets as brakes. I suppose, Vegan, you will be able to rig up single rocket explosions, even if the distributor won't function?"

"Sure." Vegan's thin features grinned through the glass of his helmet. "Svale, it's lucky that both you and I are left. With your imagination and theoretic knowledge and my practical experience, maybe we'll get somewhere after all. First I reckon we'd better seal up the hull again."

FOR AN hour they laboured in the space-suits, their movements made

clumsy by the inertia of the weight of clothing. At the end of that time, they paused while Vegan checked the result. Svale watching the space-diver's bulbous figure moving slowly over the new-made weldings showing like a scar on the hull.

"I reckon it'll hold," Vegan muttered as he returned. "I don't know what we'd have done if the near-explosion effect of the air rushing out hadn't extinguished that flame-hose."

They went back onto the ship through the engine-room air-lock. Svale turned on the emergency air-supply while Vegan and Avey ran hawsers around the warped gyro-casings and wound them up on low-gear hand winches. All three of them laboured then to clear away the wreckage from the auxiliary motors. "Looks as though only one will work," diagnosed Vegan grimly. "Probably just enough power to spin the gyroscope. Will you two see if you can get it going while I take a look at the rocket tubes?"

Svale nodded. Tricky work this. The gyro was so loose on its bearings that they could feel the play each time they touched it. "Ricketty as hell," said Svale.

Avey started the auxiliary motor. The gyroscope began to spin. Svale watched for a few moments until it was a blur of light. The shudders of the metal floor warned him again of the loose bearings. He stepped back to the hand winch, beckoned Avey to help him and leant his weight on the handle.

He forced it around three turns.

Suddenly the metal housing of the gyro burst open with a cacaphonous roar. He glimpsed the spinning gyro hanging right over him and flung himself flat. Sheets of buckled metal clattered down all around. He heard Avey scream.

Lifting himself on his elbow, he looked up at the gyro which still spun in a hiss of speed. To his left he could hear the splutter of the auxiliary motor. Vegan's voice called from the far end of the engine-room: "Are you all right?"

"O.K.," Svale called back. He looked around for Avey. The youngster's legs showed from under a huge sheet of metal.

Svale hurried over to strain against the inertia of the metal plate and lift it clear. Avey looked up at him with terror in his eyes. "My arm."

From the way it was twisted, Svale saw that it was broken. "Suit leak?" he asked.

Avey shook his head. "My back feels queer. I can't move my legs."

Svale went cold. Avey had a spinal injury! "Keep quite still," he warned. "You'll have to leave the rest to us."

Avey nodded.

Svale turned away. There was only Vegan and himself left now. He climbed up to the air-lock and passed out. With instruments contained in the suit he took the rapidly growing arc of bearings on Efferenter II finding that their course was exactly tail on to the polar regions of the freak planet. "What luck!" he whispered almost reverently to himself.

Vegan met him at the air-lock. "I've just seen Avey," he said grimly. "I heard you talking to him, but didn't know it was so bad." His lined face brightened, however, when Svale told him the result of their efforts with the gyro. "That'll cheer the youngster up, anyway. And—thank the stars—the darned thing's still spinning and even seems to have steadied itself somehow."

HALF AN HOUR later they began to fire rocket charges, checking their course after each explosion. The gyroscope remained steady. Two hours later they crashed down upon Efferenter II. The fluorescent lighting of the

ship flickered with the shock and went out. "Well, it had stood more than could be expected of it, anyway," said Vegan.

They went out through the air-lock, finding themselves on a barren, red-rock plain on the sunlit side of the planet, with the Efferenter Sun low upon the level horizon. It was strange to them to move in a gravitation field again; but Svale was a little puzzled to find that the attraction of so large a planet was only half that of the Earth. He did not remark upon that, however, for the period of light was almost spent. Instead he busied himself with navigation instruments and, just before the 50-minute day of the planet ended, he was able to say that they were roughly five hundred miles from the Northern Pole, and that the orbit of Efferenter III was roughly in a line with the revolutions of the planet.

As darkness enveloped them, they switched on the lights of their helmets and regarded each other blankly.

"What are we going to tell young Avey?" asked Vegan suddenly. "Did you notice the rocket tubes? Our crash-landing has buckled them to blazes."

Svale went cold. "That's bad." How could they ever leave without rocket-power? He looked up at the vague hulk of the ship. "Looks as though we've had it. I suppose you saw what happened to the gyro when we smashed down?"

"No?"

"Well the thing is still spinning upright, but now it's in a position quite independent of the top pivot. I'd say there is no top pivot left. The fact that it's still on the bottom pivot is small consolation, for, if it isn't firmly gripped, the ship won't have a scrap of stability."

Despondently they re-entered the wrecked ship and went over to where Avey lay clamped to the metal floor. Breathing hard with the unaccustomed effort of moving in the heavy suits under a gravitation field, they sat silently for a few moments.

Avey moaned. "Is it as bad as that?"

Svale looked at him in surprise. Then he understood: both he and Vegan had forgotten that their talk outside would sound in the earphones of the kid's suit.

"Yes, it is, I'm afraid."

"But can't you straighten the tubes and fix a new pivot on the gyro—it's still spinning, you say?"

Svale glanced at Vegan. It was a tall order. The gyro—yes, they might manage to fix that, but the tubes—well . . . He shook his head.

"The youngster's right," said Vegan. "We're sitting down under our troubles, before we've tried to set them right. We'll try the gyro first."

At first they thought and acted slowly. But, presently, forgetting everything except the immediate problem, they tackled it with a will. Within two hours, the gyro was clamped down firmly.

"I thought we could do it," said Svale.

"You thought—" Vegan laughed. "Why, if the kid hadn't started us, you'd still be sitting over there waiting for the Space Patrol to arrive."

"I would not—" Svale broke off suddenly and laughed too. It was true, and it was a relief to laugh. "We'll do it yet."

THEY WENT outside the ship together. While Vegan passed along the side of the hull to examine the tubes, Svale checked his bearings on Efferenter III, getting further data which they would need.

Ten minutes later, Vegan's voice sounded in the earphones. "Well, I can clear five tubes," he said soberly. "They're only full of rock dust."

"That's good," said Svale triumphantly. "I'm darned glad to hear it. There's a tiny light burning in the sky over by Gellauri, and it looks like

the Space Patrol. We'll have just time to get clear. Efferenter III is one million, three hundred thousand miles away, almost directly in line with the equator of this planet."

"It's not good," corrected Vegan. "It's bloody. These tubes are on the top of the rocket cluster. If we fire them with the gyro spinning so slowly the ship will bury itself in the rock. You forget, that, until the turbines start to revolve, the rockets have no effect on the speed of the gyro. We've either got to lift the ship five miles clear of the ground or spin the gyro at around a thousand revs a second."

"We've got to do something!"

"Well—what? You tell me. I'm baffled."

Svale looked at the rocky landscape and then up at the figure of Vegan perched on top of the rocket-cluster. "Get everything ready for a take off. We'll have to try anyway. Want any help?"

"Nope." Vegan jumped off the end of the ship and dropped the twenty feet to the rock-surface.

Svale stared. That wouldn't have been possible on Earth. Yet this planet was the same size as the Earth. Where was the difference? Like the Earth it seemed mainly composed of rock and metal.

He looked up at the sky towards Gellauri. The tiny speck of light was just visible to the naked eye. They'd have to do something quickly. And to try to take off without proper stability or any means of steering would be almost certain suicide.

What was the difference between Efferenter II and the Earth, and could it be used to their purpose? He beat his gloved fist against the rock. Why wouldn't his brain solve the problem?

He stood up and walked towards the air-lock. As he paused before the entrance of the ship, the sudden night fell. He saw the glare of Vegan's welding-jet against the red rocks. Then he shrugged and passed inside. The light from his helmet lamp shone upon the spinning gyro, now half out of its casing. Fate was playing with them. So many things had seemed to turn out unexpectedly well. The flying metal sheets the gyro had flung aside might have killed them all.

Flung aside!

"Flung aside," he repeated the words aloud.

"Eh?" queried Vegan in the earphones.

"I've got the answer," exclaimed Svale excitedly. "And it's got to work. We've been thinking all along in terms of Earthly gravity. It's different on this planet."

"Have you gone crazy?"

"No. Tell me, what is the gas mixture we breathe in this ship?"

"Oxygen and helium."

"You're sure?"

"Positive. All space-ships are filled with the same mixture. It's on the same principle as with deep-sea divers. Sometimes, abrupt changes of speed and the pull of a gravity create unexpected pressures. If nitrogen was used, in the same way it occurs naturally in the Earth's atmosphere, some of the crew would go down with 'the bends' each time we came near a planet. Little bubbles of nitrogen would get into their bloodstream . . ."

"Yes—Yes—" Svale interrupted. "Don't you see if we flood the ship with helium from the reserve tanks in each compartment, the gas, being so light in relation to carbon-dioxide, would lift us off the ground, and—"

"Wait a minute—Yes, maybe it would, in this heavy atmosphere and half-gravity. But it wouldn't take us very high though."

"Yes, it will."

"No-o. I admit your ideas have worked out all right so far, but this

time your imagination is running away with you."

"It isn't." Svale felt certain that the fantastic theory suggested to him by the gyroscope would work, but its very magnitude gagged him. He feared that the others might think him crazy as the Ancient Spaniards had thought Columbus. "Anyway," he argued. "What other chance have we? Are you game to try, or not?"

"Well—O.K. Give me five more minutes to seal the last of these bent tubes."

"It'll take longer than that," said Svale, "to fill the ship with pure helium."

As he moved across towards the atmospheric storage tanks, Avey inquired: "What's your real plan? You're holding something back, aren't you?"

"Yes," admitted Svale, opening the cocks, "I am, but I give you my word that I do not intend to do anything desperate. It is only a theory—a rather wild one, perhaps."

TEN MINUTES later, the three of them, Avey lying and the others standing, felt the wrecked ship float clear of the ground. The hiss of the gas still being released and the bubbly sounds of the exit valves were the only sounds in the engine room.

Svale picked up astro-navigation instruments. "I'm going outside," he said. "Be ready to fire those rockets the moment I come back."

He went out to lie in the air-lock with the outer door open to the dark, starry sky. Setting his instruments so that he would know when the revolution of the planet left them directly facing Efferenter III, he waited.

Suddenly a thought struck him and he called back to the others.

Vegan answered him. "Now?"

"No. We've forgotten one thing. We must align the ship on our objective."

"All right," agreed Vegan. "It will, I suppose, give us a better chance of not curving around and smashing back to the ground when we blast off."

"Don't talk like that!" snapped Svale. "You'll have to work the winch by yourself, and quickly. Within ten minutes we'll be facing Efferenter III and it will be then or never. The light of the Patrol Ship's rockets is much brighter. We cannot afford to blast off in the wrong direction or to have to wait another day."

Vegan muttered hopelessly. But he followed Svale's directions, altering the position of the ship about the gyroscope.

Svale encouraged him. "We're a quarter mile up and still rising. Can't you move that winch faster?"

"What d'you think I am? Superman?" growled Vegan. "Er—did you say we were a quarter mile up?"

"Yes."

"Then let's risk it now?"

"No. Wait." Svale could see the dark contours on the ground below shifting south, as well as receding. "I'm not coming in yet. We'll be facing Efferenter III in ten minutes. You keep straining at that winch. We're going up like a lift."

He waited until the very last moment and then hurried inside. Vegan saw him, let go of the lever and rushed towards the rocket controls, swearing that Svale had gone mad too.

At first, the mighty push of each rocket blast tore the breath from their lungs. Presently Vegan yelled. "We're curving down. I'm going to fire a side rocket. Hang on—it'll be hell—even if we don't hit anything."

He swung a lever that relaxed the grip of the ship upon the gyro mount-

ings and pressed a button.

Svale almost jumped out of his suit as the floor fell. He glimpsed Vegan reaching up wildly for the gyro-clamping lever. Then things steadied.

Vegan's bellow sounded deafeningly in the earphones. "We made it. How high were we?"

Svale gasped. "Four miles."

"What!" The uneven jarring racket of the damaged engines began again. "How? How did we manage it? We've defied gravity. There's no law in any text book which says we can do that?"

Svale, grinning triumphantly, explained. "The planet of Efferenter II spins twenty-five times as quickly as the Earth. Therefore on the surface of the planet and right through its atmosphere, the centrifugal force helps to cancel out the inward drag of gravity. I'd imagine that at the equator things must have very little weight at all. In the temperate regions where we landed, we would have probably been walking on a slant, as though we were leaning against a northerly wind, if it had not been for the heaviness and stiffness of our space-suits. Once the drag of gravity was counteracted, we simply went on, up and up, in very much the same way as the ship's gyro scattered those plates from its casing in all directions away from it . . ."

The Efferenter Sun slowly faded behind, and in front Efferenter III grew and grew, as the twisted wreck of the *Blazer*, once Test Ship for the Trans-spacial Navigation Company, limped on its last journey.

THE END

THE LITERARY LINE-UP

THIS ISSUE of *New Worlds* shows a decided trend for stories of "deep space" as opposed to the more earthly story we have published in previous issues. That fact was quite accidental, due to story lengths, although we know that our readers are just as partial to either type. The next issue looks as though it will be better balanced, although it is too early to give complete details at this stage.

The lead story, however, is one we can be sure will be welcomed by most readers. It is John Aiken's promised sequel to "Dragon's Teeth," which walked away with first place in our third issue. Although "Cassandra" is a complete story in itself, new readers will have no difficulty in following the threads of the previous story. In the sequel, the author continues with his colonists centred on a planet in the Alpha Centauri region, using passive resistance against the overwhelming might of the Galnos, galactic rulers based on Earth. Aiken, a biological chemist, pulls some lovely surprises in this coming story.

The rest of the issue is debatable at this juncture but we hope to have one or more pleasant surprises for you.

Regarding the third issue, we are unfortunately unable to give the reader-rating of stories—the competition run in the magazine at that time being outside our jurisdiction, but we do urge you to send us your story preference for this current issue, as so many of you have done in the past. By your reaction to the stories we can gauge your requirements and ask our authors to slant their ideas along channels in keeping with the general desires of our readers. Although we warn you that we shall from time to time experiment with different types of stories, ever pursuing a policy of publishing the best British science fiction available.

POSITION LINE

By A. BERTRAM CHANDLER

It should be easy to plot a course between two points, and get there. The navigators on Mars found a problem, however.

Illustrated by WHITE

I

Captain Sumner discovered it, Marc St. Hilaire improved upon it. Generations of navigators plotted their Position Lines upon their charts, or upon squared paper, regarded the resultant little cocked hats *with a certain smug satisfaction, put a pencil dot in the centre of the tiny triangle—and murmured, "She's there . . ."*

BUT . . .

A single Position Line, although many a time of inestimable value, does not, never did, and never will give a Fix.

THE DARKNESS was marching fast over the desert as the little police launch covered the last few miles of canal to Marsala, second city of the Terrestrial colony on Mars. It was a scene not lacking in weird beauty, a fascination that more than compensated for the monotony of it all. To the west the sun was foundering fast, glimmering redly through low clouds that were not of water vapour but of dust. Overhead the sky was already black. And to the east the first stars were showing—not faint and timorous, but bright and frostilly scintillant.

Dead straight ran the canal, its waters smooth and dark. There was wind with the sunset, as always, thin and keen, but it lacked the weight to ruffle the surface of the water. The red dust of the desert it could lift—but that was impalpably fine, the product of long ages of erosion that had begun in dead, distant days before Man had roared down from the sky in his first clumsy rockets, that would still be continuing in the distant days to come when Man, deserting his Sun and its arid, airless planets, would be pushing out on wings of undreamed of flame to the conquest of the Galaxy.

Dead straight ran the canal, and on either side of it the water-hungry trees stood in dead straight lines. But there was little of soldierly precision about them. They could not be disciplined, these plants. Whether they were indigenous to the planet or whether they had been transplanted from the kindly Earth—they could not be disciplined. For the biggest disciplinary agent was almost absent. With a planetary mass one tenth that of Earth the smaller planet could never hope to rule its children—native or adopted—with the heavy rod of gravity. And so all vegetable life sprang up in a fantastic efflorescence of luxuriant fronds and tendrils, of leaves wide spread to make the most of the light and heat of the weak, distant sun, to extract the maximum power and comfort from an equatorial noon whose temperature rarely exceeded fifty degrees Fahrenheit.

Out in the desert it was not the same. There, other factors played their part. The evaporation of precious water inhibited the development of fantastic frond and foliage. But there were few plants in the desert—small, bulbous things only, armed and armoured with spines to fight off the small, water-craving animals that also made their habitat among the red, shifting sands.

BUT ALL this was of no interest to the man in the pressure cabin of the launch. He sat there warm and dry and breathing comfortably the oxygen rich oxygen-helium mixture at ten pounds—Earth—to the square inch. He was no longer interested in the fact that outside his cabin the air was far too thin to support his kind of life. When he first came to Mars he had been interested in these things. He had been flown over the deserts, he had exclaimed in wonderment at the weird plants and animals, been enthralled by the sensation of weightlessness, dreamlike, almost frightening, resultant from the feeble gravity.

Now . . .

It was all no more than a conspiracy to keep him from the blue seas of Earth.

He ignored the fading beauty of the scene outside. He did not look up when his launch drove under the spidery bridge spanning the canal, the last beam relay station this side of Marsala. The antennæ a-top the flimsy bridge gleamed dully violet. There was power there—the power of the beams. It was the power that drove his motors, that kept his little craft on a dead straight course from relay station to relay station, the power that, surging from the atomic power station at Port Gregory, drove all the traffic, air and surface, of Mars.

Subconsciously he noted the passing of the bridge. He yawned. He ran his fingers through his thick, yellow hair. He cursed softly and in great detail. He cursed the monotonous routine, the canned air, the domed cities. And last of all, with great variety and sincerity, himself.

He had come to Mars for the adventure that had vanished from the seas of Earth. He, Lindenholm, whose fathers had been shipmasters, had been Commodores of convoys, Captains of the Cunard, had followed in their footsteps. He had walked the gadget encumbered bridges of the ships of Earth's seas. He had walked their bridges as a sort of highly qualified, uniformed caretaker, carried just in case something went wrong. But nothing ever went wrong. And there was no need, even, to navigate. As on Mars, the power that drove the ships kept them on their Great Circle courses, deviating not one second of arc. And the same power actuated the charts slowly unwinding from their drums, indicated at any moment of the day or night the ship's position on those charts. Sextants, chronometers, slide rules, ephemeræ and tables were mere relics of the past that might—in extremely exceptional circumstances—be needed. And so was the knowledge that could use all the instruments of a pre-electronic era—no more than a museum relic.

So Lindenholm—Ensign John Lindenholm of the Martian Canal Police—had come to Mars for adventure. The entries in the log of his tour of inspection showed just how much he was getting. . .

Northern bank at M.91 commencing to subside. . .

Colony of "beavers" discovered at M.142. Exterminated. . .

Adventure!

And here he was, despite his high sounding title, a mere uniformed ratcatcher. An exterminator of such of the local fauna whose misfortune it was to have tangled with Man's empty dreams of Interplanetary Empire.

A red light flashed on the instrument board, a little buzzer sounded insistently. It was time for manual control to take over.

AHEAD, the translucent dome that was Marsala squatted over and athwart the Canal. Huge it was against the sky, and the dim lights showing through its thick walls were warm and homely against the backdrop of black sky, against frostily twinkling, sharply brilliant stars. It was home. It was an outpost against the eternal dark, the night and the cold. It was air and warmth.

Right ahead, at the end of the straight hundred yards of sluggishly flowing black water, the airlock door opened. Yellow light streamed out over the glistening darkness. Yellow light streamed out in mathematically straight lines over the smooth blackness, then broke up into a million glimmering shards with the ripple of the boat's passage, with the undulations —low, hardly perceptible—caused by the thin, rising wind. The feathery fronds of the vegetation along the canal banks stirred uneasily. Lindenholm swung his searchlight, watched the queer, pale flowers open again as the beam touched them, saw the spidery tendrils, the gossamer filaments, stretch out avidly towards the source of illumination.

He smiled grimly. He could well understand the hunger, the craving, for light and warmth. Even the life indigenous to this little, cold, arid world felt it. How much worse it was for the aliens! The warm, glowing circle of the airlock door drew him like a magnet. He had no eyes for anything else. And he did not look up to the sky, to the two moons, to the eerie beauty that the first men on Mars had never been able to forget.

To the east there was Deimos, climbing ever so slowly up the star besprinkled sky, slipping back visibly in relation to the fixed stars. And there was Phobos, already at the zenith, already dipping, sliding rapidly down the bowl of the heavens to its setting, two short hours later, in the east. To the first men on Mars that had been indeed a marvel, a wonder, comparable to the unnatural northern sun seen by Hanno's Phœnicians in their circumnavigation of Africa. But, unlike the men from the Mediterranean, the first men on Mars had known the why and wherefore, the mathematics of the seemingly retrograde motion. Newcomers to the red planet still stood and stared, but the sense of wonderment did not last except among incurable romantics. To the rest, Earth was Earth and Mars was Mars, and the sooner they got back to where they belonged, to a world with decent gravity, and thick air, and a well-behaved satellite, the better.

The launch slid into the little compartment—for such a small craft it had not been necessary to open the main airlock—and a touch astern on the engines pulled her up just short of the inner door. She lay there, motionless, whilst the door to the outside, to the Martian night, slammed shut. And then at last the hiss of equalising air pressures subsided. Lindenholm flung open the windows of his pressure cabin, made a grimace. The air in the launch had been stuffy, devitalised. That inside the dome was little better. It carried the hot taint of machinery, of all the odours, human and mechanical, of the life of the city.

The inner door slid silently open. And Lindenholm brought his boat alongside the Canal Police wharf.

Five minutes later, his Log handed in, his report made to Commander Jones, O.C. Marsala Station, he was greeting his wife in the little apartment they shared in the Police Barracks.

II

"*Martian Maid's* in, Jack."

"I know, dear. Saw her coming down whilst I was on patrol. I beg your pardon, on my beat."

"Mail's in from Port Gregory."

"Anything interesting? This infernal dust seems to have got into

the works of my razor. What a world! "

"Listen, you big stiff. There's a letter from the State Curator."

"What's he got to say for himself? "

"Plenty. Uncle Bill's dead."

"Sorry to hear that. He was a likeable old boy. But how does that affect the State Curator? You don't mean . . . ?"

"Yes. Fifty thousand Credits. That's what they must have given him for his Equaliser. And all to us. It means, my dear, that we can book a passage in the *Maid*. Back to Earth, green fields where you can breath without a helmet, blue skies, and rain, seas and rivers . . ."

Lindenholm watched Jean's dark, ecstatic face, and a wave of tenderness and sympathy swept over him. He had never known until this moment how much his wife detested the artificial life of Mars. She had hidden her true feelings from him, just as he had hidden his from her, but far more successfully. Now it was all over. She would hand in her resignation to the Hospital, he would hand in his to the Canal Police.

A party was indicated.

"Any booze in the house, dear?"

"Plenty. I got it in as soon as I'd read the letter. And I've asked the Brennans, the Smiths, the Mackintoshes, old Doctor Logan, and all. So you'd better finish your shower and get dressed."

"What time are they coming?"

"Twenty oh oh."

"Then we'll have time to call our respective chiefs and break the sad news to them before the guests arrive."

LINDENHOLM felt vaguely ashamed after he had called Commander Jones on the visiphone.

"I'm sorry, Mr. Lindenholm," the old man had said. "I can't stop your resignation from going through, I wouldn't if I could. But you and Mrs. Lindenholm are just the types we need. I don't suppose anything I say will make you change your mind?"

"No, sir. It's just that Jean and I feel that we don't belong. I guess we're just incurable Earth-lovers. We'll never be happy here."

"There's more in life than happiness, Mr. Lindenholm. Service, and the Spirit of Man reaching out toward the stars. But I see your mind is made up. So, good luck to you both. Your resignation will be effective as from today."

Then the old man had switched off.

Blast him, thought John Lindenholm. All that guff about Service and the Holy Spirit of Man. Anyhow, it's the sailor's farewell to Mars and the uniformed ratcatchers they call the Canal Police.

"Ready for a drink, Jack?" called his wife. "It's the first time since we landed on this God-forsaken world that we've been able to afford the ingredients for decent cocktails. And a great artist was lost in me when I became a nurse instead of a bartender!"

"Thank you, honey. Here's to the blue seas of Earth!"

THE PARTY was well under way. Tongues were loosened by the unaccustomed flow of liquor, and a certain homesickness, which was usually kept well under control, was coming to the surface. Also, surprisingly, a certain, perverse love for the alien world upon which most of the guests were destined to live out their allotted span.

"You know, Jack," drawled Ian Mackintosh, Lieutenant, Martian Canal Police, "the Lindenholm ancestors, of whom you're so proud, will turn in their graves because you've thrown in the sponge."

"The Lindenholm ancestors turned in their graves when I came out

here. Think of it—the last of a long line of seamen serving as an unholy mixture of policeman and bargee!

"There was a Lindenholm with Leif Ericson—there was another one Master's Mate with Captain Cook. In the Final Wars of the Twentieth Century we played our part. At Dunkirk, Sicily, the invasion of Normandy.

"There was a Commodore Lindenholm in the Murmansk convoys. His brother was Master of one of the big ships that made trip after trip across the Western Ocean with no escort.

"And now, thanks to Uncle Bill, we can carry on the family tradition. No, I'm not going back to the World Commonwealth Merchant Fleet. I was sick and tired of being a push-button sailor long ago. That's why I came out here. I thought it'd be a change from running the beam, and getting sights as often as I liked, and finding that my Dead Reckoning was never as much as a quarter of a mile out. Heaven alone knows why they've maintained the old standards of qualification. It's not Master Mariners they want—it's Master Caretakers.

"When they opened the Canal Police to ship's officers, I just jumped at it. Oh, it was all made very attractive. Start as Ensign, good pay, free quarters, free passage out for self and wife.

"What they forget to tell you is that it's a one-way passage. The pay's good, but by the time you've paid through the nose for all the little, imported luxuries without which life would be unbearable, you can't save a cent towards your passage Home. And if you have children, they've got you for keeps. No child under ten can stand the physical and psychological strain of rocket flight.

"And our dear Earth Government goes all Imperialist and hands out ballyhoo about Man's Interplanetary Empire. It's almost as bad as the way they colonised Australia.

"But the last of the Lindenholms is going back to where he belongs. And that's not the gadget-encumbered bridge of a freighter riding the beam.

"In the Pacific, among the Islands, there are large areas not covered by the beams. And a man, Owner *and* Master of his own little schooner, can pick up a living and call his soul his own. Oh, I've been into it. As long as we employ, or 'exploit', nobody, it's quite legal. And the type of craft we have in view can be run almost single-handed.

"So, folks, charge your glasses and drink to Captain John Lindenholm, Owner and Master!"

The toast was never drunk. At that moment, without warning, all the lights went out.

THERE was no panic, but all present were on the verge of a wild, unreasoning terror. For all the Colonists carried with them, always, tucked away in their subconscious, the uncomfortable knowledge that, in the final analysis, all human life on Mars was dependent upon The Machine. And if The Machine, in any of its many manifestations broke down, then the alien life which infested the surface of the Red Planet would be . . . expunged.

The worst part wasn't the absence of light. It was the cessation of a sound which was as much a part of the life of the Colonists as their own breathing—the regular, coughing thump of the compressors—the lungs of the domed city.

After what seemed an eternity the lights came on again. And the compressors resumed their beat.

From the speaker of the public communication system—there was one in every compartment of the human beehive which was Marsala—came a cold, official voice.

"Attention, everybody. There appears to have been a minor breakdown of the beam transmitting power from Port Gregory. Marsala is now

working on the emergency storage cells. There is no cause for alarm, we have power for four weeks if necessary. Nevertheless, all citizens will do their utmost to conserve energy. Reduce the lighting in your apartments to the irreducible minimum. Do not use any electrical household appliances. Serve cold meals.

"And remember—your co-operation is essential in this emergency. That will be all."

Jean busied herself switching off lights. Whilst she was so engaged the rest of the party discussed the power failure.

But the flow of hypothesis and conjecture was cut short by a brisk, authorative rapping on the outer door.

"Come in!" called Lindenholm. Then—"Pleased to see you here, Commander. Will you have a drink?"

"No, thank you. This is important business, Lindenholm."

The old man scanned the faces of the other guests.

"Good. I can talk in front of you people. Not that it much matters—the news will be broadcast very shortly.

"We are in radio communication with Port Gregory. It appears that, a few minutes ago, the small experimental rocket *Halley's Comet* was touching down at the landing field. She's not on regular service—never will be now.

"Something went wrong. She missed the field, crashed through the lucite dome right on top of the Port Gregory power station. You can guess what the result was. Luckily the automatic controls caught hold in time, and even more luckily the heavy water gravity tanks were burst, flooding the whole compartment. But the power station is gone. The technicians are gone. There *are* survivors—and they are trapped in the few compartments left intact.

"But this is where we come in. Marsala's the nearest city to Port Gregory. We must send doctors, nurses, oxygen cylinders and, most important, atomic technicians . . ."

"So there's a chance?"

"There is. There are enough spare parts for a complete new power station in underground storerooms. There is uranium—and that, luckily, was stowed well away from the scene of the disaster. All they want is the technicians. Their own are all gone. So are those of *Martian Maid* . . . The pleasure district caught it rather badly.

"Meanwhile, if we don't get moving, and fast, the thousand odd survivors will die of asphyxiation."

The Commander pulled a chart from inside his tunic.

"Here's Marsala . . ." the thick, stubby forefinger stabbed down . . . "and here's Port Gregory. The beams are gone, but we have half a dozen Diesel launches—I'm sending 'em to the capital along the canal. But it'll take some time."

"We also have twelve Diesel sand cats. And the journey overland is one side, the smallest side, of a triangle. The trip by water is the two greatest sides.

"Now, Lindenholm, you're a Master Mariner. Can you navigate that convoy of caterpillars across the desert?"

"Given the gear."

Jean produced a small case of mathematical instruments as though from nowhere. From it Lindenholm took a pair of dividers, busied himself over the chart.

"What speed can the sand cats make?"

"About sixty."

"*Sixty*? Oh, Martian miles, of course. And it's two thousand two hundred miles by land. That's a day and a half—with luck.

"I brought my bubble sextant from Earth, luckily, also my slip-stick and tables. All I need is a compass and chronometer. Oh, and some astronomical dope. Sun's Declination, Equation of Time—a complete ephemeris, in fact, for the next two or three days. Phobos and Deimos? No . . . They move too damn fast for the navigator . . ."

"You'd better go to the observatory yourself. I'll call Dr. Williams and tell him you're on your way. Meanwhile, I'll get the compass mounted for you—we managed to raise one from the Diesel launches—and get things organised as far as possible."

"Good. I'll see you at the Overland Airlock as soon as I've collected my stuff from the observatory."

III

It was indeed fortunate that the Observatory was situated at Marsala, and not at the capital. The reasons, however, were fairly obvious. Port Gregory was the spaceport, and the arrival and departure of interplanetary traffic is hardly an aid to astronomical observation. Furthermore, the radiations from the jets of those same ships, and from the power station, would do funny things to photographic plates.

The Observatory was a small dome, small, that is, compared to the far greater dome of the city a-top which it was perched. From the Director's office, walled with transparent lucite, one had a wonderful view of miles and miles of—sweet damn all. Or so thought John Lindenholm as he waited impatiently for Dr. Williams.

At last the old astronomer bustled in. His unkempt white hair, his shabby, untidy clothing, made him the ideal professor of the caricaturists.

"Yes, Ensign? I have the Ephemeris ready for you—Sun, first and second magnitude stars, Earth, Venus, Jupiter, Saturn. Will that be all?"

"Two things more, sir. A chart showing magnetic variation over the Marsala-Port Gregory area, and a chonometer."

"The chart we can give you. But . . . My dear sir, there's only one chronometer built to show Marsala Mean Time on the whole of Mars! From it every community on the planet takes its time. Oh, we have several chronometers here showing G.M.T.—wouldn't one of them do? Given all the factors you can easily get M.M.T. from them."

Lindenholm was silent for a few seconds. He marshalled his knowledge of Mars. *Period of rotation*, he remembered, *twenty-four hours thirty-seven-and-a-half minutes . . . That would mean that a G.M.T. chronometer would be losing relative to M.M.T. Daily rate to apply. Accumulated Error to apply . . . And I'm the only navigator in the party, and if, for any reason, I'm not feeling too bright I'm quite liable to apply something the wrong way—or not at all.*

Too risky, he decided.

"Listen, Doctor," he said harshly, "I'm a practical navigator, not a mathematician. It's one thing to sit up here and do your sums in a fine, warm, steady and well-lit office. I shall be doing *my* sums in the bucketing cab of a sand cat—and I want 'em to be as easy as possible.

"And I *must* have that chronometer."

"You can't have it, Ensign."

Lindenholm suddenly realised that the old man was quite mad. Whether it was the effect of long, lonely vigils spent probing the Infinite, or whether it was the result of the unnatural life led by all the Colonists, he never knew. But he knew that the astronomer was determined that his sacred chronometer would never leave the Observatory.

"You know," he remarked, in a conversational voice, "I've often wondered why the M.C.P. carried side-arms. But they can be handy at times, and this is one of them."

He dangled the dull forty-five suggestively.

Williams sneered.

"I'm an old man, Ensign, and haven't long to live in any case. And the sound of a shot will bring the rest of the staff."

"I wouldn't dream of shooting you, Doctor. Through that door I can see all kinds of most intriguing apparatus, and I feel sure that a few forty-five slugs will hardly improve it. *I want that chronometer.*"

ON HIS way to the Overland airlock Lindenholm reflected on what must have been the maddest incident in his career. The old man *had* yielded, and then, most luckily, some more of the staff had put in their appearance. They knew their chief, and had given the M.C.P. man every possible assistance. He now had his chronometer, its error and daily rate, his atronomical data, and a rough variation chart. And, though these had been suggested by Dr. Lincoln, the Observatory's expert on magnetism, a dozen small bar magnets.

When Lindenholm and Lincoln, who was helping to carry the gear, arrived at the airlock a scene of intense activity met their eyes. The confined space was thunderous with the roar of long unused Diesel engines. Fortunately, the pilots of the beam-powered sand cats were trained in the use of the emergency vehicles, and an orderly confusion of men and women was swiftly loading the big tractors.

The Ensign located Commander Jones.

"Which is my—er—flagship, sir?"

"This one, Lindenholm."

"Compass mounted?"

"Yes. And Jean's brought your instruments."

"Good. Oh, Hell!"

"What's wrong?"

"The compass. Here, you, are you the pilot of this cat? Just swing her for me, will you."

Inside the driver's cab, Lindenholm watched the behaviour of his most vital instrument. He emerged, shaking his head and swearing softly.

"What's wrong with it?"

"Hopelessly sluggish. You see, the cab, apart from the small ports, is practically all steel. Which means that most of Mars' lines of force flow through those steel walls, and never come near my compass needles. That cab'll have to come off."

"You'll have to wear a helmet the whole way."

"Can't be helped, unless you can replace it with a transparent lucite cab."

"Haven't the materials. But it won't take long to burn it off."

WHILST the work was in process on his "flagship," Lindenholm surveyed the rest of his convoy. Nine freighters, one big passenger carrier for the doctors, nurses and technicians, one tanker with reserve fuel. All were fitted with R.T., so communication from tractor to tractor would be possible, also with Marsala and Port Gregory.

"She's ready now, Ensign."

"Good. Have you an oxygen helmet? Then take her out through the auxiliary lock."

Once outside, Lindenholm scanned the almost featureless landscape for some distant, conspicuous object. There was only one, a light showing from the beam relay station on the canal, about three miles south of the city.

He pressed the transparent plastic of his helmet against that of the pilot.

"Can you steer a compass course? Well, that black line inside the bowl is the lubber's line. Keep it on whatever course I order. Wait a second,

I'll park these magnets well clear of the tractor."

Lindenholm clambered out of the sand cat, walked about fifty feet, and deposited the little red and blue painted bars. He marked the place with his pocket torch.

"Now. Put her on Oh Oh Oh."

He swung his sight vanes, noted the bearing of the beam relay station.

"Oh Four Five . . . Oh Nine Oh . . . One Three Five . . . One Eight Oh . . . Two Two Five . . . Two Seven Oh . . . Three One Five . . . That'll do, for the time being."

The mean of the eight bearings gave him the magnetic bearing, the difference between compass and magnetic bearings gave the deviation for each course.

He walked to the tiny spot of light that marked his cache of magnets.

Fortunately, those who had installed the compass in the sand cat had put it in in its entirety, binnacle and all.

The pilot brought the tractor's head to North. Three athwartship magnets, red poles to port, sufficed to remove coefficient C.

Then, tractor's head East, four fore-and-aft magnets, blue poles aft, eliminated the twenty degrees of westerly deviation.

Lindenholm swung his ship once more, and was delighted to find that his very hasty piece of compass correction stood the test. On no course was there more than half a degree of deviation. He admitted to himself that it was luck more than skill.

IV

HE AND his pilot left the sand cat outside the city wall, returning to the hangars by the small, auxiliary lock they had used for their exit.

"They're almost loaded now, Ensign," reported Commander Jones. "Can you suggest anything else?"

"Yes. Get someone with a pot of paint to number them two to twelve. Mine will be number one. And I'd like to have a conference of pilots.

"Now, gentlemen, it is essential that you follow the lead of number one sand cat. She will be the 'flagship'. Any orders will be given by radio telephone, and any reports to myself will be made the same way.

"At intervals, I shall have to stop the convoy to obtain observations.

"Has anybody any remarks or ideas?"

"Yes," answered one of the pilots. "How do we follow you in the event of a dust storm?"

Lindenholm, at that moment, thanked his lucky stars that he had read the memoirs of that forbear who had been a Commodore of Convoys. It almost appeared that Commodore Lindenholm, R.N.R., was speaking through his lips.

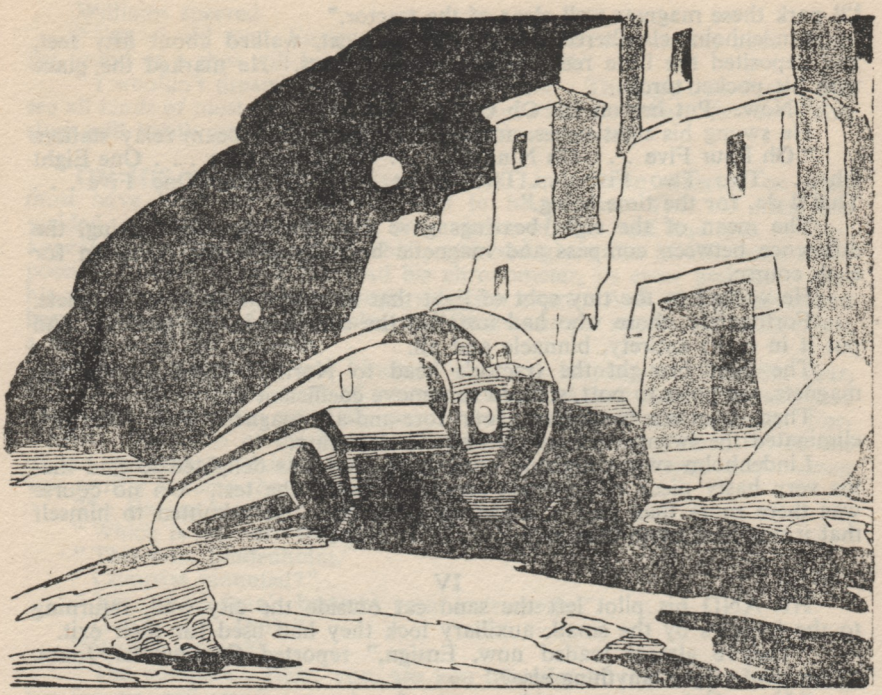
"The technicians," he replied, "will rig an additional bright light at the rear of each caterpillar. It should be possible to see its glare through the dust. In addition, each tractor will have ready fifty feet of wire at the end of which they will tow some bright, metal object. That I will leave to the technicians. In the event of a dust storm, each vehicle will endeavour to keep this. . . well, we'll call it a fog buoy, just level with the pilot's seat.

"Now, the trip *should* take about thirty-six hours, Martian time. There will be delays, of course, but I don't anticipate anything serious.

"I suggest that my own relief pilot should travel in the passenger carrier, as my 'flagship' has no pressure cabin. Myself and my crew will have to wear helmets and our protective suits all the time.

"That will be all, gentlemen. I shall wait for you outside."

He turned to look for Jean, found that she had been at his elbow all



the time. Muffled as she was in protective clothing, it was small wonder that he hadn't noticed her slight figure.

"What are you all dressed up for?"

"I'm coming with you in the 'flagship', Commodore. As a nurse, I'm one of those selected to go with the relief party, and I'd far sooner travel with you and know what's happening than be cooped up in that padded cell on caterpillar tracks. O.K.?"

"O.K. by me, Jean, but you're going to find it hellishly uncomfortable. But there's seating for four in my cat. Got the instruments?"

"Yes. I've put a fresh battery in your sextant. Tables are all here, and your dividers, rulers, and so on."

"Splendid. Let's get out. Will you give us a hand, Dr. Lincoln? You'd better see the chronometer stowed to your satisfaction, though I fear its daily rate will never be the same again. Where's my pilot. All set? Good."

AS THEY approached Number One, they found that the technicians had just finished the modifications required in the event of poor visibility. The powerful rear light was mounted, and a drum of wire had been installed alongside it. It had a small, electric motor attached, and could be controlled by the pilot. At the end of the wire there was a large disc of burnished metal.

"That how you want it?" asked the man who appeared to be in charge.

"Splendid. All the others the same?"

"Yes."

Lindenholm realised that he had been unwise to leave Number One

outside. The Martian day is cold, and the Martian night is—Arctic. There is no snow, of course, as there is little moisture in the thin air. In the vicinity of the canals there may be a little frost.

But those who had ordered the diesel sand cats from earth had wisely specified an Arctic pattern motor. In a remarkably short time the engine was coughing steadily, and far too quietly until the hearers realised that the sound had to travel through thin air and then through the walls of their helmets.

A bright light spread suddenly over the sand as the main airlock door slid open. Out of the same gate through which, in normal times, slid the sleek, silent, beam-powered caterpillars and fliers, rumbled the relief convoy. The freighters, the passenger carrier, and, last of all, the tanker.

"Good luck!" Lincoln was shouting, his helmet pressed against Lindenholm's.

"Thanks."

The pilot was already in his seat, Lindenholm and Jean clambered up beside him.

"Course Two Seven Three. Have you any idea which is the slowest vehicle? No? Then put her on fifty-five for the time being. We'll soon see who can't keep up."

He pressed the mouthpiece of the radio telephone against his helmet.

"Number One calling all vehicles. Can you hear me? Splendid. Take station on Number One according to your own number. Report at once to me if you cannot make the speed. Switch on rear lights at once, and stream your fog buoys, in the event of a dust storm. That will be all."

Then, the entry in his notebook:

"*0245, commenced passage. Course, 273. Speed, 55.*"

NUMBER ONE was rumbling steadily over the desert. Astern of her, the other eleven tractors made an almost straight line. The fine dust, stirred by the caterpillar tracks, hung in the motionless air. To the westward, and overhead, the sky was still black velvet, hung with multi-coloured points of fire, but to the eastward the first, faint signs of dawn were apparent.

"Number One calling all tractors. Stop at once. Stop at once. Halt for observations. Relief pilots may take over."

Lindenholm found it impossible to open his sextant case with his heavy gloves. Impatiently, he tore them off. He opened the lid of the chronometer box, reposing in its padded nest.

"Anything I can do, Jack?" asked his wife.

"Not yet, Jean. I shall probably require treatment for frostbite by the time I've finished."

I almost certainly shall, he thought.

For he found it impossible to use his sextant whilst wearing the oxygen helmet. The telescope's eyepiece could not be brought closer to the eye than at least four inches.

Normally it would have been the work of a few seconds only to loosen the collar fastenings, push back the transparent sphere. But his fingers were, by this time, almost frozen. Jean, sensing his predicament, hastily slipped off her own gloves, turned shut the valve of the air supply, removed the helmet.

It was a strain taking an accurate observation whilst, at the same time, holding the breath. But it could be done.

Ignoring the two moons, leisurely Deimos and hurtling Phobos, he took a careful sight of Sirius, bringing the faint image down to the illuminated bubble horizon with infinite care.

And one . . . and two . . . and three . . . and four . . .

With rapidly blurring eyes he read the time, mentally subtracted the

four seconds that elapsed since the sight was taken, entered it in his notebook. As soon as he had done so, Jean replaced his helmet, re-opened the valve. The first breath brought a relief such as he had never before known.

Then, without haste, he read the micrometer vernier of the sextant, entered the altitude of Sirius.

The process was repeated with two other stars, Aldebaran and Canopus. And last of all the sight vanes on the compass were used to obtain an azimuth.

"I'll have to work these in the passenger carrier," he told Jean. "Give me a hand with my books and instruments."

Once inside the cabin of the big tractor, Lindenholm and Jean were able to divest themselves of their outer clothing. Someone brought them coffee and sandwiches, somebody else supplied cigarettes.

Then there was a hush as they all regarded the navigator with a certain awe, almost as though he were the priest of some dark faith.

As for Lindenholm, it was like coming home after a long and weary absence to use once more the old factors, the old formulæ, to toy with cosines and haversines, Right Ascension and Declination.

Finally, he laid off the results of his work on the chart. A "cocked hat," but not too bad a one. He put a pencil dot in the centre of it.

Twenty-five miles south of the line. Must be bad steering, as the compass error I obtained coincides with my deviation table. Course on . . . let's see . . . two six seven. Think we'll make it two six five. Nineteen fifty miles to go. Thirty two and a half hours at sixty. We must try to increase our speed to that . . .

"All right, Jean, back to work. But I'd stay here, if I were you."

"No, thanks. Me for the flagship. Let's go."

Under the observed position in Lindenholm's notebook was written: *"0800: Course 265, 2° S'ly set, equals 267. Resumed passage."*

FOR a while Lindenholm's time was occupied in making sure that the relief pilot could steer a compass course. There was also the matter of speed. It proved to be absolutely impossible to drive the convoy at anything above fifty-six Martian miles per hour.

Finally, he was able to relax.

He and Jean lay back in their seat, helmets touching, carrying on a desultory conversation.

"Why can't you do your navigation by day? If you have to half undress every time you get a sight, why risk frostbite?"

"We could do it, but it wouldn't be half as accurate. For example, the sun is coming up now. I could get a sight in an hour or so (too much refraction now, although Wilson swore that his refraction tables were dead accurate even with an altitude of as low as three degrees) and that would give me a single position line After the sun's bearing has changed sufficiently, anything over thirty degrees, I could get a second position line. Both of them, of course, are at right angles to the sun's azimuth at the time of observation.

"But—here's the weak point.

"My first P.L. has to be transferred.

"This is alright, provided that your Dead Reckoning is dead accurate. But it never is (unless you're running on a beam). We may be steering a little either side of our course line. Our mileometers may have a bit of error. And all this leads to more error.

"But with stars, one obtains a perfect fix, three or more P.L.s crossed, with no run between them."

"Of course, a single P.L. has its uses. I shall get a sight when the sun

bears 177, in other words, when its azimuth is at right angles to our course. This means that the P.L. *should* correspond with our line of advance. And it will tell us whether we are on the line, or North or South of it.

"That won't be till about twelve fifteen, so I suggest we try to catch up on our sleep. If our friend here will give us a shout at, say, eleven forty five, or, of course, at any time should anything go wrong."

The pilot said that he would do so, and both Lindenholm and Jean found themselves slipping into a deep sleep with surprising ease.

The going, of course, was not rough, ages of erosion had made the desert as featureless as the sea. And, in fact, the low dunes, which the sand cats ploughed through rather than over, made the motion almost identical with that of a ship under way.

NIGHTFALL once more.

The day had been uneventful. During the brief halt for observations at 1200 the tractors had refueled, the relief pilots had taken over. It had been unnecessary to make any adjustments of course. And now the evening stellar observations were being worked in the cabin of the passenger carrier.

"We've made fifty six and a half. Twelve seventy two to go. Twenty two and a half hours. We'll get under way at 2030—that means estimated arrival at 1900 tomorrow. Not so good. We should be in radio communication with Port Gregory some time soon—but Marsala would have let us know if the situation had deteriorated too badly.

"But we're wasting time. Let's get going."

V

DAWN.

A halt for refuelling, relief of pilots.

But no observations.

During the night the weather had deteriorated. A thin, bitter wind had risen, obscuring the sky with a dun cloud of fine, pulverised dust. On earth such a wind—a mere stream of molecules in what was little short of a vacuum—could hardly have shifted a paper bag. Here, on Mars, with gravity a factor almost to be ignored, a blinding dust storm was the result.

And dunes were piling up, with the fine sand smoking from their crests like spindrift from a storm lashed sea.

But, aided by the brilliant rear lights and the improvised "fog buoys" the convoy was keeping station, lurching over and through powdery sand hills, at times almost completely buried by the impalpable dust.

In Number One conditions were almost unbearable.

Lindenholm and Jean were working like galley slaves to keep the cab clear, while the pilot doggedly held his course. Sand piled up on the compass, on the instrument board. Sand worked inside their heavy, protective clothing, producing intense irritation.

"Number One calling convoy. Report to me at fifteen minute intervals, in correct numerical order."

1500.

"Number Two reporting, all well . . .

"Number Three reporting . . . Number Four . . .

"Number Five . . . Six . . . Seven . . . Eight . . . Nine . . . Ten . . . Eleven . . ."

"Number One calling Number Twelve . . . Calling Number Twelve . . .

"Number One calling Number Eleven . . . Is Number Twelve in station?"

"Number Eleven calling Number One. I can't see him. Shall I turn back to search?"

"No. Afraid we must push on."

Which is Number Twelve? thought Lindenholm. *The tanker, of course. But it's hopeless to turn back in this.*

"How much oil have we left?" he asked his pilot.

"About five and a half hours."

By use of the R.T. he found that none of the remaining tractors had more than the same amount. Well, if his D.R. was any good, they should hit Port Gregory at about 1930.

1600.

Port Gregory coming in faintly.

"*Port Gregory calling Lindenholm . . . Port Gregory calling Lindenholm . . .*"

"*Lindenholm here, Port Gregory. Go ahead.*"

"*What is your estimated time of arrival, Lindenholm?*"

"*Nineteen thirty.*"

"*Try to make it. Air is getting short, and we haven't much power left for heat or light. We'll be seeing you!*"

1630.

Dimly seen structures, looming through the dust clouds. A city. Uncharted. Some incredibly ancient relic uncovered by the storm.

Something made Lindenholm look astern. What he saw meant the final destruction of his hopes of ever reaching Port Gregory. For the ten tractors of his convoy were not following their customary straight line, but appeared to be steering along the arc of a circle.

Among the ruins must have been highly magnetic iron or steel, and no one could tell how far to port of its course the convoy had been pulled. For a moment, he felt like dashing his fist through the glass face of the magnetic compass that had, at the very end, led him so far astray. He pulled himself together, told the pilot to steer twenty degrees to starboard of his course. When he estimated that they were clear of the magnetic disturbance, he resumed his original track.

But he knew that he was lost.

1930.

The storm still raging, no signs of Port Gregory. Nothing but screaming wind and smoking dunes.

And, suddenly, a break to the Westward in the clouds of driving dust, through which the sun blazed like some long looked for beacon.

With the calmness of desperation, Lindenholm broke out his sextant, took the most careful observation he had ever taken in his life, brought the image down to the bubble horizon with speed and accuracy even though his face was peeled raw by the driving sand, his eyes twin pits of agony.

Jean had uncovered the chronometer, a small saving of time for which he was eternally grateful. For he felt that he could not have endured the icy sandblast a moment longer.

His helmet replaced, he carefully read the altitude, then signalled the convoy to stop.

Lindenholm and Jean fought their way to the passenger carrier. Then. once more, and for the last time, the solution of the all-important spherical triangle.

The chart was spread on the metal deck. Lindenholm, Jean, reserve pilots, technicians, in fact all who could crowd round were regarding it gravely.

"We have been remarkably lucky" murmured Lindenholm, half to himself. "You see, the sun's azimuth was two two five, which means that

the position line runs three one five and one three five. And here's the piece of luck. It runs right through Port Gregory.

"But . . ."

"A single position line, although many a time of inestimable value, does not, never did, and never will give a fix."

"So what?"

"So we don't know whether to steer three one five or one three five.

"Look at the chart. The canal comes into Port Gregory from a little North of West, leaves it a little South of West. So, whichever course we take, we'll never strike it. I could toss a coin, I suppose, but I can't forget that we have only an hour's fuel left.

"Personally, I think we're South East of the city, those magnetic ruins we passed to port must have thrown us miles to the South'ard. On the other hand, the correction I applied may have more than compensated for that.

"How shall we decide?"

"Why not by ballot?" suggested somebody.

By ballot . . . thought Lindenholm. *By ballot . . . There's something here. . . Think, man, think!*

Of course! Buys Ballot! Buys Ballot's Law. When facing the wind in the Northern Hemisphere the barometer is lower on your right hand than on your left. Revolving storms . . . Anti-clockwise in the Northern Hemisphere. . .

Got it!

He made his way forward into the pilot's cab, picked up the microphone of the R.T.

"Lindenholm calling Number One . . . That you, Pilot? Good . . . Now, I want you to clean off the compass and get as accurate a bearing as possible of the wind direction. . ." A long pause. Then—"Oh twenty? Thank you."

Error twenty west, he thought. *That makes it oh oh oh True.*

"Lindenholm calling Port Gregory. Lindenholm calling Port Gregory . . . Yes, I'm on my way, Port Gregory . . . But I want your help . . . Badly.

"Are any of your meteorological instruments still working? You're speaking from the Met. Office, you say? Splendid. What is your wind direction . . .? Yes, wind direction . . . Three one oh? Then we'll be seeing you!" He added, to himself, "*If* the oil holds out!"

He went back to his chart. He rapidly sketched on it a rough circle. It had wind arrows running into it, anti-clockwise left handed. Through the circle, diagonally to the meridians, ran the single position line.

"Wind nor' westerly at Port Gregory," said Lindenholm. He sketched in the arrow. "Wind North here. See? It means that we're north and west of the city. So we'll steer one three five—and pray to all our gods that we haven't got too far to go!"

MIDNIGHT.

Two men sat in the office of Governor Revell, high on the shattered dome of Port Gregory. One of them was the Governor himself—a man prematurely old, his bandaged head making him seem even older. The other was John Lindenholm.

The Governor was speaking.

"I think you're right, Lindenholm," he was saying. "Our colony here is bound to fail. We are too dependent on Earth. Almost everything is imported, ready made, from the home planet. Our machinery, our transport. We have produced nothing that is really suitable for Martian conditions. And as long as this state of affairs exists, persists, we shall have the condition

of mind that refuses to acknowledge Mars as Home—that reserves that word for what is, essentially, an alien planet fifty million miles distant.

"We must grow our own culture, our own traditions.

"We must forget that Ross and Cartier, when they struggled here in *Red Star* in 1965, were Earthmen. They were the first Martians. . . We must forget that Clavering, who built Marsala and Port Gregory, was an Earthman. And was he an Earthman? No. Like *us*—he was Martian. And he built well. He built better, perhaps, than did that other race whom we shall never know, the people of the derelict desert cities.

"But that's the spirit we must recapture—that of the explorer, the builder.

"We must consider ourselves as Martians.

"We must build our own civilisation in our own world."

There was a pause. Then Lindenholm spoke eagerly.

"And my proposals, sir? The sand cats with transparent cabs so that the navigators can obtain their fixes in comfort? The building of more Diesel jobs, independent of the beams? The training of navigators?"

A smile flickered over the Governor's tired face.

"Not so fast, young man. Even if you are now Head of the Department of Desert Navigation at Marsala, you must realise that your peculiar angle is only one of the many angles. We can't build a new world, a new race, by playing at sailors with chronometers and sextants, slide rules and tables. But it will help. And it will be of great value when we set about the systematic survey and exploration of our world. And it will teach our people to be independent of the beams—all the machinery of which was invented on Earth, manufactured on Earth. . . .

"But there's somebody at the door. Come in!"

There entered a slight, dark figure in crumpled uniform.

"Yes, Nurse?"

"It is my wife, sir," explained Lindenholm.

"And she came here with you?"

"Yes."

The Governor got to his feet.

"I must go now, Director. If you haven't found quarters yet you are welcome to use my office. . ."

When he had gone the girl turned to her husband.

"Director? Director? What did he mean?"

Briefly Lindenholm explained.

"Then you aren't . . . going home?"

Lindenholm slipped his arm around her shoulder. Together they stood before the transparent wall of the office. Below them was the glare of working lights, and the swinging arms of derricks, in black silhouette against the intense brilliance. A faint clamour drifted up to them from the work of repair, of rebuilding.

But they did not look down. They looked out and away, to the two moons riding high in the black sky, to the dim lit mystery, the age old savagery, of the desert. They thought of that other race that had been beaten by the desert, that had left no trace but its artifacts—now eroded and almost featureless. That other race that had gone down in defeat—as this new race would not.

"Then we aren't . . . going home?" repeated the girl. It could have been hope that coloured her voice.

"No!" almost shouted Lindenholm. "*This* is home. Haven't we fought for it?"

THE END