SCIENCE FICTION ADVENTURES

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Novelettes

THE LONELY PATH

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THE AZTEC PLAN

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Short Stories

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A Nova Science Fiction Magazine

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★ NEW SCIENCE FICTION STORIES ★

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John Ashcroft is a young British author we have not heard from for a long time. He is at present living in Oslo, Norway, where he finds more time to devote to his two main pleasures—astronomy and science fiction. "The Lonely Path," concerns a lost Martian civilisation and the discovery of its remains by the first Earth expedition to land there.

THE LONELY PATH

by JOHN ASHCROFT

Chapter One

Sanderson stood up and absently kicked at the ground, and thick red clouds boiled up.

"For Heaven's sake—do you mind?" protested Platt, scrambling aside. "I know it can't get in our eyes, but damn it all, it's nice when you can see."

"Sorry," said Sanderson, chuckling. "I didn't expect it to do that. It's queer stuff—too thin for sand, and not fine enough for self-respecting dust. It must be nearly as light as the air—if you can call it air—to hang like that."

A sudden breeze brushed away the dust, carrying it in sparse puffs among the limonite hills.

"Let him play sandcastles if he likes," said Kennedy acidly. "It can't get in our helmets—unless they spring a leak, of course," he added brightly.

Sanderson grinned and looked round at the scenery.

Ahead lay the undulant desert, patched with brown and orange and streaks of ruddy oxides, glowing against the dark

sky. Here and there rose snags of black rock. The brighter stars already glittered in the east. Over on the left, clattering sounded thinly as someone put the finishing touches to a building in the camp. Behind, the sun neared the horizon.

" Three degrees off plumb," mused Wallanstein, staring at the Tower. " It seems impossible in something so high."

" It . . . well, it's ugly," said Cortot.

" Yes ? Just because it makes the Eiffel Tower look like a kid's whim ?" asked Platt.

" No," protested Cortot. " There is more design in one rivet of the Eiffel Tower than in all of this thing. Nobody with a soul could leave a monument like that."

" It may not be a monument, don't forget," said Sanderson, sitting down again.

" Cortot's scared it will divert the tourists from Paris," said Kennedy.

Minhov, sitting on the dune's crest, ran gloved fingers tracing patterns in the sand, and uttered a guffaw that rang in everyone's helmets. " It would be funny to discover that the Tower *was* built as a tourist attraction."

" Tourist repulsion, perhaps," conceded Cortot.

" Well," said Sanderson defensively, " it attracted *us*, and we came forty million miles as the crow flies for a closer look."

" And I'll bet that would surprise the builders," said Platt.

" I don't know so much," said Kennedy. " It might have been built purely to attract attention, and you must admit it worked."

" Yes," said Cortot. " But there's a difference between attraction and pure curiosity."

" Soon be twilight," said Platt. "I missed it last night—I happened to be glancing the other way at the time."

" Olaf says the Tower was originally embedded in a mountain," said Wallanstein. " I don't mind somebody wanting his creation to endure, but when he plans it to outlast a mountain —well, that's too ambitious."

" Depends on how much importance they attached to it," said Sanderson.

" Then they must have considered it vital," said Wallanstein drily. " That's all I can say."

" We'll find it's just a monument after all," predicted Platt.

" I prefer the signpost idea," said Minhov. " Our preliminary scans would have detected any buildings as big as normal

houses, even if they were buried. It seems unlikely that the builders of the Tower would vanish leaving no other trace—unless they weren't native to the planet. I think the Tower was left as an indicator of some kind. For all we know, it may be as prosaic to its builders as a traffic sign is to a motorist."

" I feel insignificant enough without your saying things like that," said Sanderson. " Your theory makes us look like the babies of the galaxy."

" Aren't we ?" asked Kennedy sourly.

Sanderson felt the old familiar acid burn within him. True, there had been progress in the thirty years since the launching of the first unmanned satellites, but, as always, technical improvements outdistanced social ones. Even now, a brief flicker of hostility between nations had the power to chill. Mankind had not quite walked out from the shadow of the mushroom clouds.

And Sanderson knew, as they all knew, that the next decade might be the deciding one : humanity had a precarious grip with fingers and toes on the cliff that led to the stars, and the only hope lay in climbing higher to where the ledges were wider and breath could be regained. A fall now would be crippling, if not fatal.

He looked almost angrily at the Tower, and wondered if its discovery might prove more harmful than beneficial to human morale : there was a difference between being soberly awed and utterly humiliated.

The breeze whispered again, ruffling the sand and blowing distorted clouds of it across the desert. The Tower stood thin and dull, lent a vague sheen by the ebbing sunlight. The niches were just visible as dark specks.

" I haven't seen either Phobos or Deimos yet," complained Platt.

" Give them a chance," said Kennedy. " We only landed last night. Anyway, they'll be no more impressive than the met-satellites back home."

" The Tower must have had a purpose," said Wallanstein. " If only that of reminding whoever came this way that someone very powerful had been around."

" Not on a merely local scale, either," added Minhov. " It was meant to be seen from a hell of a distance."

" I agree with you," said Kennedy, suddenly serious. " I think that someone from outside the solar system left it as a

sign. You know, we're like the small fish that plucks up courage to stick his head out of the water—and the first thing he sees is a light-house."

Behind them, the sun finally dipped below the hills. Pools of shadow lapped in the hollows and flowed together in a tide that drowned the crests of the dunes, and the sky darkened abruptly. Night and cold marched silently overhead, a spectral army with a banner of frozen stars. Its base no longer visible save as a silhouette against the stars, the Tower seemingly hung suspended in the air : the great shaft caught the light of the departed sun, glinting dully while the hills below were clad in darkness.

Kennedy uttered a half admiring obscenity.

Night wind rippled around, plucking at protective clothing and toying with the dust.

Platt shivered slightly. He heaved himself to his feet. " Come on," he said. " If we hang around much longer we'll all get the willies for keeps. And MacDunn will have us for being MacLate."

They began shuffling down the dune. The fine sand was as tiring and treacherous as snow. Sanderson glanced upwards and his feet slid from beneath him and he finished the descent on buttocks and heels.

" Watch it," cautioned Kennedy. " Those bits of stone will carve chunks off your backside."

" They just about did," said Sanderson ruefully, brushing himself down in the dark.

They trudged towards where the incomplete camp was an oasis of noise and metal and light in the bleak evening. Every so often somone glanced back to watch the steady progress of the dull glow up the side of the Tower : now the column stood like a sentinel among the stars, rising three thousand feet in the frigid night.

" I owe you all an apology," said MacDunn cheerfully. He leaned against the alloy wall and hurriedly shifted his weight back on to his feet as the wall swayed. Grins appeared on a few faces.

" I know you all wanted to be away for a squint at the Tower this morning : but I thought it would be convenient if we had somewhere to live as well as something to look at. I hope Butterfield didn't drive you too hard. Anyway, while you were

erecting this glorified shanty-town, three of us sent Bluebottle out to scan the Tower. Let's have the results, please, Helmut."

Wallanstein switched on the projector and someone dimmed the lights. A few people coughed ; others eased into more comfortable positions.

That morning, while sections of alloy wall were being pulled from the landing ship to the camp site, someone had shouted and pointed : everyone had downed tools to watch MacDunn releasing the Bluebottle, like an armoured knight launching a falcon. The mechanism had circled, glittering in the cold sky, then dwindled into a spark that sped towards the Tower.

" We guided it round at various heights," explained Mac Dunn. " This is the view at ground level."

Cortot leaned forward to peer at the screen. " What about the niches ?" he asked.

" We checked all of them," said MacDunn. " They're identical—and bleak, as if eighteen foot cubes had been cut out at seventy-foot intervals all the way up the Tower. You can see that only the top five feet of this first niche is visible. That worries me, because the rest of it is obviously below ground, and the ground happens to be bare and very firm rock."

" That suggests that the Tower came first," protested Cortot.

" It probably did, in a way," said Foster. " When you can build such a thing, it may be child's play to melt a bit of igneous rock to sink it into."

" Wait," said MacDunn, arresting the birth of a hubbub. " You see the scratches on the rock ? They must have been extremely deep to remain faintly visible at all—they were caused by hard boulders being moved in the grip of ice, gouging the softer rock beneath. So the Tower has survived at least one glacier passage. And that," he added caustically, " was when our ancestors were still in the branches and chucking nuts at one another. Nor is that all—how long did it take Mars to lose a three thousand feet high mountain range ? Olaf is convinced that when the Tower was built only a few feet of it projected above rock level."

" Oh, hell, no," cried someone. " That's going too far. The glacier, maybe—but not that . . ."

" It's beyond argument," said Sorenson, defending himself. " The geological evidence is clear, and, also, the Tower does show very faint traces of weathering. Hardly noticeable, without detailed inspection. And there are indications that only the highest niche once lay above ground level."

Sanderson's pulse was racing, but he felt his wilder dreams dying. Against all probability, he had hoped that some trace of the builders might remain, and that humanity might actually meet them. So much for his hopes—the builders had been forgotten when the seas first washed the shores of Earth's known continents.

" So close," growled Lymann disgustedly. " So close, and so far. It seems a long time, but on a solar scale we only just missed them. The odds against civilisations co-existing locally within such margins—well, the miracle is that we missed them so narrowly. Ships that pass in the night of time, you might call it. It's tragic, but it's still a thing to marvel at. I wish we could have met them."

To Sanderson, the words held a bittersweet truth. During the years since observation from the early satellites had detected the Tower and the survey by the unmanned *Bonestell III* had confirmed its existence, he had dreaded finding a mere tombstone. He had never regarded matters quite in this light, however : the narrowness of the margin hurt, yes, but some of the wonder remained.

" All this leaves the bigger headaches," remarked Thomas. " That is, Why, What, and Who—or perhaps What again."

" I'd say it's just a monument," said Ziolkowski. " And a highly effective one. But why are there no other traces ?"

" No," said Minhov. " I still think it was left by a visiting race—a marker, or signal, or some such thing."

" I think it was a native creation," said MacDunn. " That's enough to accept without bringing interstellar flight into the argument. But there's more to it than meets the eye—literally. I'd like to know how far down it extends—no, listen, let me explain. The material isn't anything we can identify yet. We do know it must be infernally tough—not only has it survived the weathering that removed a mountain from around it, but also it must be rooted damned firmly and deeply or it would have fallen long ago, ripping its foundations out of the ground as it toppled. It leans outside its centre of gravity, which, for a thing so high, is well nigh incredible. In fact, were it not strong it would snap under its own weight, however deep its roots. I'm frightened, honestly frightened, to imagine how far down it continues. The builders wanted it to outlast everything around it, and I'm wondering just how long it is expected to stay there."

" Those niches . . ." said Cortot softly. " As you said that, the odd idea came to me that the niches might be like marks on a sundial—could this be a measuring implement that uses the weathering of rock instead of the movement of shadow ?"

" That scares the hell out of me," drawled Winter.

" I think it scares all of us," admitted MacDunn.

" I take it you will be having a personal look at the Tower tomorrow ?" asked Platt hopefully.

" Yes. Even though there should be no risk whatsoever, we'll go cautiously at first. I can't get Kennedy's idea of booby-traps out of my mind. Helmut and I will be going in the morning for a preliminary recce, and we shall want four others who—Oh Lord, don't trample me to death. I can see we shall have to draw lots."

Someone ripped sheets off a memo pad, tore them into strips and passed them round : names were inscribed, and the strips were folded, dumped into a helmet and shaken up.

MacDunn pulled out the first one. " Kennedy."

" Poetic justice if there *is* a booby-trap," said Platt.

Minhov shrugged complacently as he was chosen. Then Sanderson heard his name announced and wanted to dance. Summers, the last one, a scrawny biochemist, frowned gloomily and joined Kennedy in predicting disaster.

MacDunn ran through the film in more detail and then called a break for a meal. As usual, Platt was first through the airlock. He burst back in excitedly, all but sabotaging the entire exit. " Hey, look at this," he said. " We never noticed it last night."

" Phobos ?" asked Sanderson eagerly.

" No," said Platt scornfully. " I'm talking about the Evening Star."

For a moment the phrase failed to register, and someone said, " So what ?" And then a laughing rush began and they all tried to leave the hut together. They ran out to stand and grin like children at the cold drop of silver, shining steadily above the night desert.

Here, of course, the Evening Star was the Earth.

Chapter Two

Ironic cheers rang for a moment over the noise of machinery. MacDunn grinned from the vehicle and waved rather rudely at the men who had stopped work to watch the departure. Then the Potamus swerved out of the camp and trundled into the desert. Sanderson glanced down at the dust billowing from the fat tyres, and then gave all his attention to the land around hin. Wallanstein drove carefully, using the smoother dunes wherever possible, and avoiding an occasional rock that had defied the polish of time and sand. Summers swore enthusiastically each time the vehicle dipped and rattled over a rough patch.

Minhov studied the colours of the desert, the drab brown and the patches of red or yellow oxides and the streaks that fired the landscape. " Gauguin might have done a lot with this scenery," he remarked. " I wish I had brought my paints with me—it's worth sketching."

" This is a scientific expedition, not a travelling art scholarship," grunted MacDunn. " We want results, not a pile of pretty pictures."

" Kilted barbarian," growled Minhov.

The Potamus slithered sickeningly down into a dry gully and lurched groaning up the opposite slope. The immensity of the Tower was becoming evident as the distance shrank. Summers regarded it cynically.

" I wish we had landed in one of those mossy areas," he said. " We'll learn as much from the local lichen as we will from this ungodly whatnot."

" You're as eager to reach it as I am," said MacDunn. " Forget your puir wee bonny lichens, can't ye ?"

" Hear that ?" said Kennedy eagerly. " He's reverting to the language of his ancestors."

" Aw, shaddup," said MacDunn.

Wallanstein halted the Potamus at the edge of the shallow mound of rock from which the Tower rose. They clambered down to the sand. Summers loped up the mound, followed by the others.

" Look at this," said MacDunn. " The material simply meets the rock with scarcely a visible joint."

Sanderson stood staring up along the face of the Tower.

" You get dizzy doing that," remarked Kennedy.

" You also get a stiff neck," said Sanderson, " I feel like an ant at the foot of a telegraph pole."

" Let's have a look in the niche," suggested Minhov.

They followed the curve of the Tower till they reached the shadowed cave.

" If anything is to be found, it will be in there—or in one of the others," said MacDunn. " Its pretty dim in there, though, and we could easily miss something. Hold on—I'll get a torch"

" Here," said Kennedy. " I brought mine."

" Thanks, Alan." MacDunn prowled into the recess until he reached the wall eighteen feet inside. The others followed, studying the patch of light thrown by the torch. Voices, already made inhuman by the microphones, sounded still hollower, and the adoption of a crouching posture produced a closed-in feeling. Sanderson recalled the stream that had frozen in a long-ago winter ; with his friends he had walked twenty yards on the ice beneath a stone culvert, flashing a treasured torch and marvelling at the grip of the ice on the walls. This was very similar.

MacDunn murmured in satisfaction. " See . . . the Blue-bottle would never have detected this. There's a slight change of colour—if you can call it that—a lighter shade of jet black . . ."

They crouched around, breathing harshly.

The patch was evidently artificial. Only a strip several inches wide showed above the rock, but the straightness of its upper edge revealed it as no freak stain. It extended to within two feet of the right side of the niche : probably it similarly approached the other side, but the rock was not level and sloped up to conceal several feet of it.

Kennedy produced a set of lenses and scrutinised the surface beneath concentrated light from the torch.

" I believe there may be a joint . . . but incredibly fine. This is superb craftmanship."

" Could it be a door ?" asked Sanderson. " Like the sealing stone or whatever you call it on a pyramid ?"

" If it *is* a door," grunted Minhov, " we can't open it ; and even if we could, we couldn't get through it."

" I think we should all go home and watch cricket," said Summers.

" I wonder if . . ." MacDunn walked out of the niche, straightened thankfully and stared upwards. " I wonder if the other niches are the same ? I think we're on to something."

" I'll rouse the Bluebottle," said Wallanstein hastily. " I should be doing so, anyway, and if Mac is going to perform acrobatics with his fancy ladder I might take some entertaining film."

MacDunn and Minhov went with him to the Potamus.

Wallanstein settled himself at the controls. Lazily the Bluebottle droned skyward to hover sixty feet above, cameras scanning and recording. Wallanstein monitored the film, using the screen on the portable equipment.

MacDunn and Minhov unclipped the ladder mounting and carried it up to the Tower.

" We'll never be poor again," remarked Summers happily. " What with film rights, recordings, memoirs, and our share of the ladder company's profits, plus our wages, we'll be set up for life."

" If this ladder contraption goes wrong," said Kennedy, " we'll break our necks, the company won't market the thing, the inventor will commit suicide, and our relatives will be swindled out of compensation by the company's lawyers. It's a hard and wicked world, my friend."

MacDunn struggled with the supports, swearing grimly.

" I remember my first Meccano set," mused Summers.

" It's as simple as a deck chair and as hard to sort out," said Sanderson, watching helpfully.

" Hold this on the wall," begged MacDunn. " One of you twist that bar—right." He switched on the motor. Rubberoid seals clamped like thirsty lips on the smooth wall. The mounting clung limpet-like to the Tower.

" I don't believe it," said Sanderson. " Even with the lower gravity, it can't stay up in this air pressure."

Minhov and Kennedy connected the twelve-foot sections of frail-looking ladder until an eighty-four foot length lay on the desert. MacDunn dragged the near end into position and clipped it to the base ; Summers pulled a lever and delicately the ladder pivoted into a vertical stance.

MacDunn gripped the rungs, tried to shake them or wrench the ladder from the wall, climbed a few feet, repeated his efforts, then shrugged and continued climbing. They watched until his bulky shape reached the second niche and he slid sideways and entered it.

Wallanstein, watching the Bluebottle's view, actually saw what happened before MacDunn himself did. The others

knew nothing until a head poked from the niche and an arm beckoned excitedly.

" Now we're getting somewhere," said Sanderson as Summers began climbing.

" One at a time," said Kennedy. " Let's not push our luck too far with the ladder—I still mistrust the damned thing."

As Summers entered the niche, Sanderson began climbing, fumbling in his eagerness. Near the niche he looked down, catching a glimpse of endless lurid land and the distant flash of sunlight on metal from the camp. Below, Minhov stood with one foot on the ladder, and Kennedy was gesturing impatiently and impolitely. Sanderson hurriedly finished the ascent, conscious of the Bluebottle buzzing somewhere behind him. Several feet of ladder rose alongside the opening of the niche ; cautiously he slid across, grateful for the way Summers jerked on his arm to help him inside.

The interior of the great shadowed niche was bare, except for the end wall where he saw MacDunn's discovery.

" Discovery is a bad word," said MacDunn. " It implies that I found it, whereas I have a nasty feeling that *it* found *me*."

" What happened ?"

" Well, when I first looked, there was only the very slightly lighter patch, as on the other niche wall. I did some prodding and hammering, then turned to wave you all up, and the panel opened behind me with a loud hiss." He chuckled richly. " I don't mind admitting that it scared the liver and lights out of me."

" I've figured it out," said Summers confidently. " I'm no mathematician, but I can see the obvious."

" Thank you very much," said Sanderson. " I remain ignorant."

" It's clear enough," said Summers.

" It also looks harmless," said MacDunn. " But it could be a trap for grave-robbers—for all we know, this place may be a mass mausoleum."

Minhov entered, followed by Kennedy. They studied the discovery.

The panel in the wall had become a recess several inches deep and roughly sixteen feet square. Evenly spaced across the bottom few feet of the panel were nine strips of some brown metallic substance, each twelve feet long and two inches wide. Each strip was studied with four rows of tiny holes.

In a small cavity at the base of the recess lay two small metal pins. Sanderson peered down at them.

" What are these ?" he asked. And, even as he spoke, he began to realize.

Bluebottle buzzed to and fro like a dog hinting that a walk was necessary.

" What's up with the thing ?" demanded MacDunn. He walked to the edge of the niche and looked down. An arm was waving energetically from the Potamus. In realization, MacDunn switched on the radio speaker in his helmet and let everyone have the benefit of Wallanstein's curses.

" Sorry about that," he said. " I forgot about it. But can't you pick us up by the normal mikes in the Bluebottle ?"

" Of course," said Wallanstein. " Don't worry—your comments are being recorded here for posterity—but I like to talk as well as listen."

Sanderson was examining the brown strips, trying to detect a key to the puzzle.

Apparently at random, a pin had been inserted into one hole in each of the seven lower strips. No pin had been inserted into any hole on the top two strips, but two spare ones lay ready for use.

The men crowded round. Bluebottle hovered over their heads, buzzing and squinting. Minhov scowled balefully at it and wished aloud for a fly-swatter.

" Fathomed it out yet, Sandy ?" asked Summers.

" No. There are too many possibilities. We don't know which way to read it—up, down, across, or what. I mean, it might depend on addition, subtraction, geometrical progression or cube roots or any damned sequence."

" Heaven preserve us," muttered Kennedy.

" It's actually simple," said Summers.

" I can spot it," remarked Minhov.

" Of course, it might be a red herring," said Summers. " But it seems innocent. I've gloated long enough—here, look."

He pointed at the bottom brown strip. " The puzzle must start from the bottom and work upwards, if the last two parts to complete are the top ones."

" Not necessarily," objected Sanderson. " They might have wanted us to deduct the beginning—it's just as probable."

" Stand back a bit," said Summers. " You'll see the pattern on the first three strips."

" Ah . . ." said Sanderson. " Now I'm with you."

" Yes," said Summers triumphantly. " On the bottom strip, the pin is in the fifth hole from the right, on the bottom row. On the second strip, it's in the fifteenth hole from the right. On the third strip, the forty-fifth : a simple matter of multiplying by three each time. Of course, once you exceed the length of one row of holes you lose the visual sequence. But we can work it out easily."

Minhov pointed confidently at a hole in the eighth strip and then at one in the ninth strip. " Those are where the spare pins go," he said.

" Hark at Genius," said Kennedy. " I got stuck at the fifth strip."

" If you're right," said Sanderson, " and we don't deny it, and we do stick those pins in—what'll happen ?"

Kennedy predicted that a door would open releasing the biggest and hungriest beast ever imagined. " There's an Arabian Nights flavour here," he added, " and I'm not sure that I like it."

" My mathematics are correct," said Minhov positively. " I accept no responsibility for the results of their practical application."

They looked at each other, grinning in their helmets with excitement.

" Can't we chance it ?" asked Sanderson. " Surely it's only a combined intelligence test and locking device ?"

" One never knows," said MacDunn. " It might be a booby-trap left by some long gone spiteful laddie, ready to blow up half the planet with whoever set it off."

Minhov wished everyone a happy Christmas.

" Seriously," said Summers, " I think we'll find a museum, records, mausoleum or something of historical value—it was left like this to preserve its contents from primitive natives or animals until a race with some amount of intelligence arrived."

" Why bother with a test ?" asked Sanderson. " An advanced race could break in anyway."

" Yes ?" replied Summers sceptically. " Could *we* do it ? I have my doubts. It was built to last indefinitely, but it has a simple device to reveal its contents. It seems a very smart plan to me."

" Perhaps they had a war," said MacDunn in a determinedly grim mood, " and were losing, and left this as a trap for their enemy, and—"

" Oh, for God's sake," complained Sanderson.

He stared at the puzzle and then looked back at the red land whose bones had been picked by time. He wanted to complete the pattern, but, as Kennedy had said, it was almost too inviting, and nasty doubts nagged him.

" The hiss as it opened was probably air escaping from somewhere," said MacDunn. " Which suggests that it had never been opened since the atmosphere was far denser."

" Well ?" said a metallic voice. Wallanstein, speaking through MacDunn's helmet, made everyone start slightly.

" You alread know how old the Tower is. Forget the gossip and have a sensible discussion."

" It's all right for you," said MacDunn irritably. " You can sit down there warming a seat while we stand up here and wonder what the blazes will happen if we stick those pins in."

" Listen," replied Wallanstein calmly. " I'm as excited as any of you, and I have my own theories, but I think I may be seeing things with better mental as well as physical perspective. We have no right to make a decision—especially as Henry said that his solution might only be a red herring. We need time to go over this with the computer and ensure there is no alternative solution. Shift aside and let the Bluebottle take detailed pictures. Then we go back and thrash it out with everyone else. We can't act without consulting the others, not in a case like this. We found it, and may not want to lose any further credit, but we'd be ill-advised and selfish to go ahead by ourselves. If the majority in camp think it might be dangerous we shall have to leave it for a while. In any case, we should let the Earth know—and if Earth cries " Verboten " we'll forget about it till a later decision is made. For Heaven's sake, let's be sensible about this."

MacDunn shrugged. " That's the best way," he admitted. " Thanks, Helmut. We're on the way down. Go ahead with Bluebottle."

None of them knew whether to feel secretly relieved or cheated. They began descending the ladder while the Bluebottle buzzed and snuffled at the puzzle. MacDunn went last. As he swung on to the ladder he uttered a startled exclamation. The Bluebottle was hovering baffled before a blank wall.

" The damned thing's gone," he said anxiously. " Wait . . ."

He stepped back into the niche and the puzzle reappeared as the panel slid upwards.

" It must somehow register my presence," he announced to Wallanstein. " See what happens when I get back on the ladder. Yes, closed again . . . Ah well, I hope you've got all the pictures you wanted, Helmut ?"

He reached the ground and stood with the others.

" What the devil are you doing ?" he asked.

Kennedy straightened from the Tower's face with an apologetic expression and put the pencil back in his pocket and zipped it. " I was trying to write ' Carruthers was here before Kilroy ' on the wall," he said sadly, " but it won't show against this black stuff."

Minhov snorted at this irreverent attitude to something older than Mankind's hairy ancestors, and Sanderson smiled.

Cold wind blew about them, furrowing the dust.

" I predict a rowdy meeting," said MacDunn with glum satisfaction. They carried the motor from the ladder to the Potamus, and Wallanstein recalled the Bluebottle ; fat tyres churned the sand, and they drove back over the wilderness towards the camp.

The meeting was, if anything, restrained. It was generally agreed that the Puzzle should be completed. News of progress was relayed up to the parent ship anchored against Phobos, sent across to the moon and down to Earth ; the eventual reply amounted to " Congratulations—proceed with caution.'

" Which hands the can neatly back to us," remarked Summers.

Every man in the camp worked out the Puzzle to his own satisfaction, no one being willing to accept anyone else's mathematics. Even when the computer confirmed the general findings, one cynical surveyor considered this good reason to re-check his mathematics. The computer failed to detect any other possible solution to the Puzzle (like the Tower, the Puzzle had by now earned the distinction of a capital letter.)

A further journey to the niche was made, and the holes indicated by the calculations were ringed with paint. MacDunn decided that the Bluebottle should be controlled from camp, and not by a member of the exploration team, " just in case any unforeseen result should cause local damage."

" Of course," said Kennedy, " a lot depends on what is meant by the word ' local.' To the builders, ' local ' might have meant merely planetary."

Chapter Three

Sanderson stepped thankfully from the ladder into the niche, enjoying the feeling of solidity beneath his feet. " That's better," he said. " I still have doubts about that patent invention."

He looked back. Bluebottle hovered, relaying the scene to the camp. Stars burned above the motionless desert. There was no hint of the cold that hugged the land ; rather, the ochre hills glowed with a suggestion of heat. The wilderness rippled away, red and brown and orange, to form a dimpled and oddly apparent horizon. Far out where the sand met the dark sky glittered the metal of the camp, alien in the richly hued waste. The shadow of the Tower was a long path across the dunes.

" Come on," urged Minhov. " Sandy's right—let's organise ourselves. We can only die once."

" Cheerful wretch," said MacDunn. He crouched before the Puzzle and picked up one of the two spare pins, holding it clumsily in his gloved hand.

" Steady," urged Sanderson. " We don't know what'll happen if it goes into the wrong place."

Minhov made the obvious comment that no one knew what would happen if the pin filled the correct place either, and added that this might lead to something far worse.

" Well," said Sanderson, " if what springs out is half as ugly as the thing Kennedy sketched last night, I'll go steaming over the horizon at a mighty rate of knots. Let's know the worst."

Typically, MacDunn ignored the paintmarks and counted out the Puzzle again, much to the chagrin of some watchers in the camp who regarded this as sheer sarcasm. He confirmed the results, and slid the pin into the hole on the eighth strip. His breathing was loud in his helmet as he picked up the second pin. Sanderson, stooping over him, felt perspiration on his back. Then MacDunn had inserted the pin into the hole on the ninth strip. Around them pressed the black and featureless walls of the niche. There came a silence in which Sanderson could feel the beating of his heart, and his breath slipped slowly from him.

Nothing happened. The key had been turned in the lock left by the builders, and no door opened.

The three of them straightened slowly and looked at each other. Tension eased into anticlimax.

MacDunn uttered a bitter laugh, and shrugged.

Behind them, the Bluebottle broadcast the magnificent failure back to the camp.

Then a glimmer of hope, mingled with apprehension, lit Sanderson's mind. " The other niches," he said. " What if we have to complete a Puzzle in every one of them ?"

" No . . ." protested MacDunn. " Please, no—it would take weeks . . ."

" You know," said Minhov, " there is one alternative." He smiled behind his mask, certain that he had guessed the truth. He pulled out the pins and exchanged their positions, and, with quiet deliberation, the sixteen-foot square of the Puzzle slid aside and the way into the Tower lay black and wide before them.

Sanderson recalled someone saying that the Tower was a mausoleum holding the dead of the builders. And someone had said that it was a museum preserving their memory and culture from the ruin of age. And others who pronounced it a monument to the flowering of life before the world grew waste. Or a signpost left by long gone travellers, pointing the way to stars for whoever followed later in the morning of Time. And the pessimists who predicted that it might be guarded against vandals, and those who feared a trap left amid a war that was forgotten before humanity made weapons of flint.

And then he felt a horrid tremor within his mind—a glimpse of two identical images not quite superimposed, rousing an echo along corridors of nerve and a sudden acceleration of his blood. He stood frightened and must have shuddered visibly for a moment.

" Got the creeps ?" asked MacDunn.

" Yes," he admitted sheepishly. " Forget it . . . I got one of those deja-vue sensations—you know the kind of thing. My mind's suffering from the tension. It all goes back to the time I opened a forbidden door and stole jam at one in the morning."

" Whatever's inside the Tower," said MacDunn drily, " you can be sure it isn't jam. Daddy won't come and box your wee lugs this time—although something far more horrible than Daddy might get you."

" Do we walk in ?" asked Minhov. " This reminds me of the spider inviting the fly to supper. Let's send the Bluebottle first—"

" Very appropriate if there *is* a spider," said MacDunn.

" We can manufacture another Bluebottle in a week," said Minhov. " It took thirty seven years to develop me to my present state—I feel suddenly irreplacable."

Jarvis, back in base camp operated the controls. The Bluebottle buzzed purposefully forward into the niche, steadied itself, steered at the entrance and glided cautiously into the gloom till it was gone from sight.

Into MacDunn's helmet, Jarvis gave a harsh and crackling commentary.

" There's a blank wall about . . . say . . . twenty yards ahead. Yes . . . and a side turning. I'll guide her down it. Looks like another blank corridor—oh, no—reception's fading and the controls are sluggish. The walls must block me somehow—damned queer. I'm pulling her out before we lose her altogether . . ."

In the darkness, Bluebottle prowled and peered with lensed eyes that needed no light. The men stared, till a feeble metallic glint came, and the machine buzzed out under control again.

" All but lost her then," complained Jarvis. " I think one of you will have to go in. At least, Bluebottle didn't set off any booby-traps."

" Yes," said MacDunn cynically. " And it couldn't make the puzzle appear, either. Any traps here may only react to something alive."

" I'll take the chance," volunteered Minhov.

" We all will," said Sanderson.

" Oh no, we won't," retorted MacDunn. " What if the Puzzle closed with us inside ? And didn't open again ?"

" The best idea," said Jarvis, " is for one of you to go in while the other two keep watch—meanwhile, two more can come out from camp here and relieve you so that all three of you can go in."

There was general agreement on this. Eventually, Jarvis announced that Laurie and Reinhardt were leaving the camp.

" While they're on the way," said Minhov, " I'll have a look inside. Don't worry about losing contact—it's inevitable, even if we all had radio. And don't worry about my taking chances —I place a high value on my neck."

He switched on his torch and walked into the Tower. All around him light suddenly glowed from the walls and ceiling. He halted and looked about. The entrance and the side turning were now fully illuminated.

" That was thoughtful of them," he remarked. The casual comment brought shivers to Sanderson's flesh. Minhov grinned and waved and then deliberately walked on and stepped into the side corridor.

Minutes passed in silence. Sanderson and MacDunn stalked to and fro within the niche, glancing at their watches.

In the distance sunlight flashed on the Ocerous as it scuttled like a beetle across the desert : then the driver followed the shadow of the Tower through the gaudy desolation. The vehicle halted beside the Potamus. Two figures emerged and ran clumsily to the base of the Tower. A few moments later, Laurie clambered into the niche, followed by Reinhardt. They stared in fascination at the lit entrance.

" Any news yet ?" demanded Laurie eagerly. " Is Alex in there ?"

" Yes," said MacDunn. " And now you're as wise as we are."

Seventeen minutes passed before Minhov walked from the side corridor and greeted them. He was grinning in unashamed excitement and triumph.

" Where in the name of God have you been ?" demanded MacDunn, half relieved, half angry.

Minhov's eyes aparkled and he guffawed with sheer delight.

" To the top of the Tower," he said.

Into the hush he added exultantly, " And to the bottom, too, just for the free ride."

" How ?" asked Sanderson. " You mean there's a lift ?"

" Yes—I'll show you."

" Just a minute," said MacDunn. " Not everybody. Three of us will go, as arranged. If we get back with no trouble, I think we can consider it completely safe."

" Yes," said Reinhardt gloomily. " Maybe the big black beasties won't close the door until enough of us are inside to make a good meal."

Their footfalls echoed thinly from the walls and high ceiling as Minhov led the way down the corridors. Then they walked into a room whose dimensions were slightly smaller than the cross section of the corridors.

" This is the lift," explained Minhov. " Look." He indicated a vertical row of holes on one wall, and a pin resting in a recess.

" They were fond of puzzles," said Sanderson caustically.

" Simplest way of ensuring that only intelligence can find its way around in here," said Minhov. " Anyway, this isn't a puzzle—it's too obvious. You see the hole nearly half way up —the one with the blue light in it ? I spotted that it was the forty-second hole from the top of the row."

Sanderson thought about this for a moment, and then said, " So what ?"

Minhov gave him a hurt look. " This niche entrance is the forty-second one from the top of the Tower. So this was obviously the selection panel of a lift."

" It may be obvious to a genius like you," said MacDunn. " I would never have seen it in a month of Sundays."

" Listen," said Sanderson. " If you're right—"

" I am," interrupted Minhov indignantly. " No ifs—I checked it."

" Yes, but it means that the ruddy Tower extends down nearly as far as it sticks up. That's fantastic."

" Don't you remember," said Minhov patiently, " someone saying that the Tower might be built to last far longer than it has ? And Mac saying it must be deeply embedded to remain standing at all ? Why shouldn't it be drilled another twenty-seven hundred feet into the rock ? Anyway, I've been down there, and I know it does."

" All right. I surrender. How does this lift work ?"

" You can't even see that ?" asked Minhov despairingly.

He took up the pin and inserted it into a hole at random. The floor pressed itself up at them and their bodies tensed in the smooth acceleration. The blue glow left the hole and appeared progressively in the holes above, ascending the column until it reached the pin. Motion ceased. The end wall, which had sealed itself silently, opened. Beyond lay a white-lit corridor as bare as the others.

" Shall we go all the way up ?" asked Minhov. " Or down ?"

" You didn't leave the lift, then ?" asked Sanderson.

" No—I thought I had gone as far as I should, alone."

" If there's anything to be found, it will be at the bottom, surely," said MacDunn.

" The top is just as logical," said Minhov.

" I'll take the casting vote," said Sanderson. " I suggest the top. The thought of going all the way down gives me cold shudders."

Minhov said something sarcastic about scientific method and democracy, and tugged out the pin and pushed it into the top hole. The lift closed and rose smoothly, faster and faster, and they watched the blue light climbing the row.

" I would never have risked going all the way up and down this alone," confessed Sanderson.

" I had a few bad moments," admitted Minhov. " Such as when I panicked at the bottom and miscounted the holes coming back up—it gave me a nasty feeling."

" The lift must have come automatically to the floor on which the niche was opened," surmised MacDunn. " Probably the niches all have identical Puzzles : the builders wanted to make it easy for us to find an entrance, so they put entrances all the way up."

" One for every few million years," said Minhov.

" Mars years, that is," said Sanderson happily.

The lift eased to a halt and opened.

They walked out into the empty corridor. It turned twice at right angles, and then led into a dead end. They tapped the wall and sought some sign of a joint.

Then MacDunn glanced back and his heart thumped unevenly.

" Don't look now," he said with ominous calm, " but they've locked us in."

The walls met another dead end behind them. They were trapped in a twenty yard length of corridor. They banged the walls and swore and strode up and down ; then, before panic could tighten its hold on them, the original end wall slid aside and an utterly unexpected feeling hit them—that of their protective clothing slackening as air rushed in around them.

MacDunn checked the pressure with his wrist-gauge.

" Nearly Earth normal," he announced.

The temperature was 18 degrees Centigrade ; allowing for a slight oxygen deficiency, the air could be breathed without discomfort.

A thrill crept in Sanderson's flesh. Suddenly he sensed the presence of someone or something in the walls around him, the touch of two minds in darkness, and a birth of fear.

MacDunn and Minhov looked questioningly at one another, and then gave strained smiles and walked forward. Almost reluctantly, Sanderson followed.

The passage led into a wider one in which an alcove had been hollowed out. Sanderson felt something stir in his mind, a moth fluttering just beyond the glow of the fire of his reason, and a hideous fascination drew him forward. He walked to the recess while perspiration shone on his face, and abruptly his vision blurred and he fell sickly down a night of nothingness where a great black hand flung him.

MacDunn turned to make some comment to Minhov, and saw Minhov's eyes widening incredulously, and he swung round to find the alcove empty. There was no trace of Sanderson ; he had vanished, utterly and soundlessly.

And as they stood in shock, a panel opened behind them and they heard the approach of unsteady footsteps.

Chapter Four

There was warmth and darkness. Memory walked the tunnels of his mind, opening a door here and there, and it seemed that a limitless list of words and concepts unreeled from his brain like tape winding into emptiness. And there was a voice in the darkness, gentle, insistent, repeating his name, and somewhere grew recognition of himself. Feeling returned, and a yielding surface was cushioning him. His first effort at speech was a coughing mumble, then his throat relaxed and he drew a hoarse breath and flexed his arms and legs in the night.

" Relax, Sanderson," came MacDunn's voice from far above. " It's all right."

" Let's have some light," he complained. " I must have fainted. I . . . ah, that's it."

The dark dissipated like rising mist, and his eyes narrowed at the gradual return of light.

" I was in that corridor . . . the alcove . . ."

Appearing more clearly overhead was an unfamiliar ceiling. He stared up, trying to identify it, and then he looked sideways and saw strange walls. He pushed himself up on one elbow into a half-sitting position, suffering momentary dizziness, then his eyes cleared and he looked bewilderedly at the block of substance—a form of rubber, surely—which supported him.

He found with a surge of embarrassment and indignation that he was naked. More anxiously, he looked about him.

" Where is this ? Mac, where the devil are you ?"

" Don't be alarmed," said the voice. " You must prepare yourself for a certain amount of shock."

The voice was MacDunn's, but a slight trace of care in the pronunciation gnawed at Sanderson's nerves, and the truth began to engulf him, frighteningly.

" We must apologise," said the voice, " for acting as we did. Urgency alone justified our treatment of you."

Sanderson felt cold, and he shook slightly, but his own voice, though unnaturally taut, held more self-control than he anticipated. "Who are you ?" he asked quietly. "I remember entering the Tower . . . your Tower ? Where am I now ? Where are my friends ?"

" You're still inside the Tower," replied the voice reassuringly. The uncanny resemblance to MacDunn's voice emphasised the strangeness of the situation. The voice was beautifully resonant, or perhaps amplified, suggesting power and confidence and sheer size.

" You've been asleep—one might call it that—a form of induced trance—for almost two days."

Shaken, he said, " And you are the—well, the builders ?"

" Yes."

There was a pause. He gripped the edge of the block of rubbery substance with tight hands, and swallowed. His rapid pulse was the sole physical indication that this was not an extension of—had he dreamed ? Images were still fading behind a veil in his mind. After a few seconds he smiled and then uttered an unsteady laugh.

" That was the one thing we didn't seriously expect," he admitted. " We thought the planet had been dead for . . . oh, a very long time. We thought the Tower was a monument, a museum, or even a burial place. What is it, then—a living place ?"

" One could call it that," was the rather evasive reply.

" The language . . . the voice . . . what's happened to my friends ?"

" The language was learned from your mind while you slept, and the voice was chosen because it was that of someone you trusted," answered the voice candidly. " I am afraid that you were examined in detail while unconscious. I apologise, not

merely for the physical possession which was taken of you, but also for the intrusion made into your mind. Both acts were contrary to our ethics and distressed us considerably. We tried to filter out all matters not connected with your language, although other associations did of course enter our recordings. We hope that you will forgive us when you see the urgency of the situation."

After a brief silence, Sanderson said, " But what about my friends ?"

" They are unharmed, though they will be disturbed at your disappearance. You will be returned to them at the earliest opportunity."

He sat in the empty room with resentment and fear lurking in his mind for a while, but both feelings faded. The trick of using MacDunn's voice annoyed him at first, then he saw that he appeared to be in no immediate danger, and his curiosity began to conquer his dread.

" I feel uneasy like this," he said. " Where are my clothes ?"

And he smiled at the thought of this request being among the first words between Mankind and another race. As an ambassador, he felt utterly inadequate.

" That," said the voice in a puzzled tone, " was a matter which defeated our understanding. We considered these coverings to be a protection against an alien environment, but from your mind we gained impressions of some social or racial connection, and we did not press further. I hope that no discomfort has been caused. I'll bring your clothes in to you."

Unready for a physical meeting, he stiffened as a panel opened and something walked into the room. After the first shock, he realised that the thing was mechanical—strolling on three jointed legs with a peculiar rhythmic motion. The legs met at a body roughly the size of his own helmet, from which hung other flexible limbs, two of which held out his clothes almost deferentially.

Gingerly he took the clothes from the delicate grip. On closer inspection, as he dressed, he saw that the machine was made partly of metal and partly of polished red wood, the result having a touch of craftmanship suggestive of a piece of graceful furniture. Erect, it stood level with his chest. There were lens-like panels in the curved wood, and some metallic attachments that resembled antennae.

" I hope that the clothes are in good condition," said the machine. The deep Scottish voice filled the room. " We tried to correct certain defects in them."

Certainly the clothes had been washed and pressed, and he felt far happier as he zipped them around him.

" What exactly are you ?" he asked the machine.

" Call me Guide. This is an indirect method of accompanying you, but we consider it the best. Our true nature might have a disturbing effect on you, and also there is a slight risk of mutual bacteriological contamination—no decision has yet been reached on either problem."

" You mean that you're controlling this machine—using it as a—well, an interpreter, or a go-between ?"

" Yes."

He eyed the device as it swayed to and fro, comfortably, like a farmer standing with his back to a hearth.

" We gained the impression from your mind and your comments that the outer world is dead," said Guide, in a curiously wistful manner. " Is this true ?"

" You mean that you don't *know* ?" he demanded incredulously.

Guide paused for a few moments. " What is outside ? Describe it for me."

With a sense of unreality, Sanderson said, " Well, there's little vegetation—just scraps of moss and lichen and some fern-like plants, mainly bordering the bigger canyons. We haven't explored widely, but from spatial observation we feel confident about that. The air's too thin to breathe—mainly nitrogen—most of the oxygen combined chemically with the desert long ago, limonite and other oxides, and so on. And the desert covers most of the planet. I suppose you sealed yourselves off in here ? Is this your natural atmosphere ? I remember an airlock on the way in—you're native to this planet, surely ?"

A definite sadness coloured the voice as Guide answered.

" That was as we feared. Oh, we knew it would happen, but to accept the death of one's world is not pleasant."

" But why didn't you know ?"

Guide turned to the door and asked him to follow . He walked with the machine along corridors until a dead end blocked their way. " This leads to the open air," said Guide.

" Wait—my helmet—my breathing equipment—"

" They won't be needed," said Guide.

The end of the corridor opened and a refreshing wind blew in, and Guide beckoned with a rubbery limb and walked forward, and Sanderson stepped from the Tower, his mind numbing under the shock.

There was grass beneath his feet, and trees feathered their foliage in the distance. Beyond, stood mountains, oddly steep, with massed cloud drifting over them. And the air was rich with the scent of large red flowers that drank the sunlight all around.

He turned, stunned, and saw that the Tower was a building thirty feet high, black and alien in the park. Almost this might have been Earth, but the gravity was still low, and he saw that the grass was not quite grass, and the flowers were unknown, and there was a subtle difference in the wind and sky and the slenderness of the mountains.

He clenched his fists as the sight clawed at his reason.

" This is the world we love and inhabit," said Guide. " Hence my sorrow at your description of what it will become."

His knees felt weak as the possibility struck him.

" There has, of course, been a transference across the dimension which you call Time."

Sanderson stood on the lawn in the grip of aching fear.

" What year is this ?" he asked shakily.

" That would mean nothing to you," said Guide chidingly. " We can tell you the exact extent of your transference, but the figure would be too large to hold any personal reality for you. It can only be measured in millions of our years."

And nearly twice as many of *mine*, he thought bleakly.

Fighting to control his voice, he asked, " But—why have you done this ?"

" It seemed inevitable," said Guide, " that in the far future another intelligent race would visit the world we had left. We were very lonely, and we wanted desperately to meet whoever came after us."

Sanderson stood amid flaring flowers while the clouds moved high above. And the utter sincerity in the voice of Guide drove away the fear that had filled him.

Later, he sat on the grass with the sun warming his back just sufficiently to render him comfortably lazy. This might have been a late summer day in Norway, and he guessed that the night would be very cool. Somewhere an analyst, either living

or mechanical, had confirmed that the local fruit would nourish him, and he chewed hungrily at a thing resembling an apple but with a jucier flavour.

" So the Tower," he said between mouthfuls, " was built to project future visitors back to this time. Have any others ever come ?"

" No," said Guide softly. " The power accumulated was enough for one projection only. In bringing you here, the Tower has fulfilled its purpose. Some of my race said that we were being pessimistic in building the Tower to endure so long: now, I think that the pessimism was justified. We expected visitors from outside the solar system—the planned age of the Tower was a safety measure in case none came before life evolved into intelligence on your world. Ironically, you are very early, and the expected visitors are either very late or non-existent."

" Then," said Sanderson, " in all the gap between this moment and the year from which I came, not one other race has found your planet ?"

" So it seems," said Guide. "We must both accept the bitter fact that our races are alone in a considerable section of this galaxy."

It was a sobering thought. Sanderson visualised the shoals of stars receding unthinkably into darkness—surely, within those depths, other beings must be fumbling their lonely way ; and surely, in such a span of time, other beings must have roamed into the solar system, however isolated it might be from the richer clusters of suns ? He felt the tingling chill of utter loneliness.

" This," he said thoughtfully, " makes it seem all the more miraculous that intelligent life has appeared twice in this system."

" Yes," said Guide. " We were extremely surprised and—forgive me for saying so—disappointed when we learned from your mind that you had come from our neighbour planet, and not from outside the solar system."

Sanderson chuckled wrily. " We think we're pretty clever to hop from one planet to the next," he said. " It will be a long time before we seriously consider venturing towards another star."

" That was our situation," said Guide, " until circumstances demanded a solution to the problem."

Sanderson stared at the wooden and metal globe above him, and as the implications of the remark struck him the fruit hung unbitten before his open mouth. " You mean that you *have* interstellar travel ?"

" Yes," answered Guide, sounding more weary or resigned than proud. " It was developed in emergency conditions, as was the Tower. Both projects had been theoretically possible for over a century, but until a few years ago we saw no necessity for a practical application. Our race is leaving the solar system and we wanted to meet whoever visited our birthplace, hence the sudden decision to use the projects. We did expect intelligent life to evolve on your world, but you are astonishingly early. Actually, we expected something insectile. The only promising creatures there at this time are the ants."

" They got locked in a fixed pattern and never developed further," said Sanderson.

" A pity," remarked Guide.

" I don't think so," retorted Sanderson.

" I didn't consider it from your viewpoint," said Guide, with a suggestion of very human amusement.

" There are some who say that if we all murder each other—and we've come close to doing so twice in my short lifetime—then the ants will be our inheritors, if we haven't killed them as well as ourselves. But that's beside the point. You said that your race plans to leave this system ?"

" The fleet is in orbit now," said Guide. " I, controlling this machine, am the only member of my race on the planet."

" You're all leaving *now* ?"

" Yes."

He looked about him at the flowers and trees and the serene peaks.

" But why ?" he demanded.

" We know that our world will die," said Guide, " and we wish to find another elsewhere." It paused, and added, " The decision was not a pleasant one to make. We would have preferred to remain and meet your race in a more natural manner. Also, of course, we love this world, and it hurts all of us to leave it."

" But there's so much time yet," protested Sanderson. "The end is millions of years away."

" No," answered Guide, and the word was full of unmistakeable pain.

Chapter Five

The night was cool, and the peaks stood darkly against the stars. Soon a pale glow seeped into the sky, silhouetting the mountains. A cold white curve slid from beyond the rim of the world, and the curve grew into a segment with the peaks gnawing at it like black teeth, and with immense slowness the shining hulk crept higher, dwarfing the man who raised his eyes to watch the fateful majesty of its ascent, and reflecting its light from the metal of the machine that stood beside him. Now the intruder cleared the peaks, to bathe the scene in ghostly radiance. It sprawled in the eastern sky, drowning the stars in its glow, staring down with pits of eyes and the pock-marks of lesser craters. The weight of it seemingly pressed down on Sanderson. His skin prickled.

" There will be no collision," said Guide quietly. " But it will be very, very close."

Sanderson sought words and found none.

" The effect of the passing will be disastrous. Your presence testifies that our world will survive intact, but it will no longer be the world that we know. Its very orbit will be changed."

" In my time," said Sanderson, " this world has an eccentric orbit."

" At present, its orbit is as close to a circle as an ellipse can ever be."

Mockery flared in the sky. The flowers and trees and the individual blades of grass were limned in the phantom light.

" Its diameter is slightly less than that of this world," said Guide. " The closest approach will be at this time tomorrow. My race will be moving away before then, and you will be returning to your own time."

" How long have you known about this . . . thing ?"

" We realized several years ago that evacuation was necessary. We used those years to plan and build the fleet and to put into practise the theory behind the Tower." The suggestion of a bitter smile tinted the voice. " At least, on the cosmic scale, one receives fair warning of the approach of disaster."

Sanderson looked up at the shining threat that had banished the stars, and suddenly he felt ill.

A lifeless, unthinking wreck of rock and metal creeping eternally amid the stars, its journey having no purpose or beginning or ending or path, merely a line that meandered

through infinity, curving in the drag of an occasional sun, and now swinging across the solar system to bring ruin to a world—the absence of meaning was agony to Sanderson.

" Life is a rare thing forever poised on the brink of death," said Guide drily. " It is essential that life should help other life against the common dangers. We were prepared to wait while intelligence evolved on your world and then to safeguard it without interfering with its birthright. But that is no longer possible. In fact, this brief meeting will probably be the last between our races."

" But surely, Guide, with your technical knowledge, you could return afterwards and restore your world ?"

" We considered doing so," admitted Guide. " But there are other considerations. Dispersal is a method of protection: should any further accident occur in this system, such as the growth of the sun into a supernova, what may be the only intelligent life in this galaxy would be destroyed. Life is too rare and too precious for this risk to be taken."

" That," said Sanderson bleakly, " is not a happy thought."

" It's a realistic one," retorted Guide. " And you already know that we will not return—if we were to decide to do that, the present situation would never have arisen."

" I see." This had not occurred to Sanderson, obvious though it seemed on second thought.

" We would like to take records of your race with us, so that your experience and memory will not be lost in the event of further disaster."

" You're still being pessimistic," he commented with a wry smile.

" Realistic," corrected Guide again. " We consider that every scrap of information and knowledge may be vital to the universal civilisation which we hope will develop."

" What exactly do you want me to do ? There's so little time."

" We wish to record directly from your mind. A complete recording, not merely the learning of language. No mental or physical harm can result, but it does entail utter loss of privacy from birth to the beginning of the recording."

Sanderson pondered for a while, and then said, " Yes—of course. It's a fair exchange—in fact, I'm still getting the best of the bargain. Your knowledge of my race will be very hazy and biased."

He remembered the wealth of historical recordings in the Tower, covering the entire history of life on the planet. There had been no time to study them—merely time enough for Guide to teach him how to operate the recordings. On his return, he could provide humanity with an immense store of information.

" You can have my every thought," he said. " I only hope you don't get too bad an impression of my race—I tend to be cynical about our progress. But if we do destroy ourselves, it will be some consolation to know that something of us will survive somewhere."

" Somewhere, yes," said Guide. " But where ?"

" You have no specific destination ?"

" Well," said Guide, in a very human fashion, " there appears to be a lack of planets within a radius of thirty light years. We are first aiming for a star at roughly that distance where there's a slender chance of finding suitable planets, but we're fully prepared to let this be merely the commencement of our real journey."

The calmness of the statement was impressive. The man regarded the machine and marvelled at the sheer courage of its builders. To sail out into the stars demanded determination, but to do so blindly, driven by hope alone—that was the act of either the inspired or the insane. With more bluntness than he had intended, he said so.

In tones that suggested a broad smile, Guide said, " Call us fanatics, then. We believe that life was not created with a purpose, but we think that life has the right to adopt a purpose. If we perish in our attempt to survive, it will have been a worthwhile effort if one member of your race learns something from us, and preserves our respect for the urge to live and to help other life to live."

Sanderson thought angrily of the rumours of war that yet rumbled in corners of the Earth, and then he thought of the knowledge locked in the Tower and of the key which had been handed to him, and a savage determination filled him : the knowledge could be turned into wisdom that might ensure humanity's survival, and it was his own resposibility to let the knowledge be used for that end only.

" I shall do whatever I can," he promised.

A shoal of minnows in a backwater at the brink of a great black river, the emigration fleet hung amid the stars. He began

to count the vessels, but there were too many, and he sat mutely before the screen with awe on his face.

Would we, he thought, have risen like this to such a challenge ? Faced with the ruination of the Earth, would we have united our industries to create a titanic convoy, capable of carrying us with our plants and animals and stored history ? And, given the fleet, would we have found the courage to launch ourselves into the chartless deeps, in the hope—the very slender hope—of finding somewhere a shelter ?

And he knew that humanity would have found the courage.

But would we have devoted our last Earthly days to the leaving of our beliefs with whatever beings might stumble on our birthplace in the ages to come ?

It was possible. But humanity was young and still obsessed with the squabbles of the young, and the day of the adult lay far in Sanderson's future. He gazed at the silent fleet that awaited the exodus, and through him ran a wild and glad exhilaration at the thought of any life reacting in this manner to the threat of annihilation.

" This is a tremendous achievement," he said soberly. " It may well be unique in all the galaxy."

" Perhaps," said Guide, and added with disturbing dryness, " and also, among variable stars, it may be as frequent as the migration of birds at the approach of winter."

" The psychological effect on my race should be immense. Beneficial, too. This may make our view of life more mature—we have a long way to go before we grow up."

" But you have evolved incredibly fast," said Guide. " Your race is a freak of evolution, and a considerable part of the future of the galaxy may yet depend on you."

" If we don't wipe ourselves out," he retorted bitterly.

" This self-destructive activity is puzzling. Whilst learning your language we gained some blurred glimpses of conditions on your world, few of which made sense to us."

" The full recording may leave you just as baffled," said Sanderson cynically. A thought which had been in his mind for some time arose. " Can I see my world ? I feel curious."

" Certainly," said Guide, manipulating controls at the side of the screen. The fleet faded. A silvery globe appeared, and beyond it the distant familiar moon. Then the view changed with startling rapidity.

" Here are your earliest rivals," said Guide.

Rock and earth filled the screen. Artificial mounds of some substance akin to clay stood here and there. The view came into such close detail that the grain of the rock was visible. Amid the mounds streamed down rivers of ants, some unburdened, others carrying particles of soil as if from an excavation.

" This is surely a film," protested Sanderson.

" No, it's direct reception—allowing for the minutes during which the light is travelling across space. Your world is not in proximity to ours at the moment."

The technical skill implied was overwhelming. Sanderson smiled rather weakly, and then could not suppress a rather superior chuckle as he watched the toiling insects.

" Is there no chance of life evolving on any of the other planets ?" he asked.

" No," said Guide. " It is unlikely that even rudimentary forms will appear elsewhere, even by the time that your race reaches the other planets."

Sanderson suddenly grinned, recalling one of MacDunn's favourite sayings. It would have been appropriate had Guide said, " There's only me and thee here, laddie—and as soon as I've laced me boots there'll only be thee . . ."

The stray mass moved ever nearer the helpless world ahead. Already its attraction insidiously plucked at the water, and for the first time there were vastly rising tides. Hanging swollen and bleached from a night that had become an eerie noon, the destroyer reflected its face in the heaving oceans. On the sunward side, wind was whistling plaintively over the Tower. Sanderson lay motionless while apparatus drank at the well of his mind. Guide stood over him, and the creature that used the eyes of the machine felt deep kindship and compassion and the burn of frustration : its race and humanity might have walked the lonely path of tomorrow together, but the whim of time and evolution had decreed otherwise. One brief meeting was permitted, and then a farewell that might be eternal. For if the exodus succeeded, and the race flourished elsewhere, surely Sanderson's world would have been visited by returning pilgrims. No, it seemed that a lonelier destiny would follow the parting.

The apparatus drank quietly. The recording took several hours, and the classification and analysis of the material would

take as many years. But the result would provide extensive knowledge of a race that would not be born for a million centuries.

" Transport is on its way now," announced Guide. " Soon I shall be leaving. You're sure you don't regret the choice you made regarding your method of return ?"

" No, I don't regret it. I'm grateful to you for making it possible—the chance was too priceless to miss."

" I'm glad," said Guide simply. " It was the least we could do to help you."

He looked down at the machine, and absently clasped his hands behind his back. Wind moaned, tugging at his hair and clothing, and the air was cool. In his nostrils burned the acrid fumes of a volcano that had erupted on the horizon. The grass no longer felt secure beneath his feet.

" Will I see you before you go ?" he asked. " You said that you are merely using the machine to communicate with me. Where are you, actually ? And what are you ? You've been evasive from the start, haven't you ?"

" Yes," admitted Guide candidly. " At first there was the question of mutually harmful bacteria, but that was found to be negligible—otherwise you could never have left the Tower without protective clothing."

" Then why are you hiding ?"

" There is something similar to us in shape within your mind," said Guide slowly. " It was associated with deeply rooted fear—possibly ancestral. No doubt the full recordings will explain this—we did not probe too far while learning your language. But, until your complete confidence had been gained, we considered it best not to let you see us."

" Will I be allowed to see you at all ?" he asked. A sense of desperation filled him.

" Yes, I think the time has come for a personal meeting," said Guide. " If you find the sight of me too distressing, say so, and I shall leave immediately. Our acquaintance has been pleasant, and I don't want to spoil it at this stage."

Overhead, storm clouds gathered, thick with ash from the riven peak. The wind played about with newfound power which would soon be unleashed in an orgy of demolition. From the distance came a faint sound of thunder. Sanderson's heart beat faster as it had on his awakening within the Tower, and he rubbed his palms on his hips, nervously.

" Go on," he invited. " I want to see you, whatever you may be."

For a few seconds there was silence. The machine stood as if switched off. Slowly Sanderson turned and looked at the wide door of the Tower. A slight metallic sound came from beside him, and he turned, startled. The three slim legs of the machine buckled and folded, and its spherical body rested gently on the grass. A panel opened in its side, and something brown and sinuous emerged. Sanderson uttered no cry, but he stepped back instinctively, impelled by a horror that swept aside his reason. Revulsion chilled his stomach, and in him leapt the memory of a sickening moment in his childhood. His lips writhed as he tried to speak. Ever since that long-ago night in the cellar, when his childish hand had brushed something that bit and sprang, he had been nauseated at the very thought of a rat.

" Would you prefer me out of sight ?" came the anxious Scottish voice from the machine.

Those eyes, bright and wickedly wise—the perfect tiny hands —the sleekness of the thing as it sat on its haunches and swayed slightly, looking up at him ; but the fur was glossier than a rat's, and the limbs were jointed differently, and the head was rounder, and the tail—the ropy grey tail that had once coiled obscenely amid his fingers—the tail was missing.

And there came a sudden flood of relief like sunlight pouring through an opened door to clear the shadows and reveal the dimly frightening shapes for the harmless things they were, and his fear drained away, and with sheer reaction as his limbs relaxed he began to laugh.

He stooped and picked Guide up in gentle steady hands and held him before his face and smiled. The dainty lips and tiny sharp teeth of the creature formed a grimace that held no threat, and he realized that Guide shared more human emotions than he would have dared to guess. Then the creature ran along his arm, clawing delicately at the fabric of his clothing to keep a grip, and sat on his shoulder and rubbed its side against his cheeck like a contented cat. Sanderson thrilled to an almost physical sense of brotherhood, while his brain cleansed itself to poison that had clogged it for thirty years. He felt suddenly healthier. Then far away a spurt of fire lit the uderside of the clouds, and later came a shudder in the ground. With Guide squatting comfortably on his

shoulder, in a meeting that required no words, he all but cried like a child.

Overhead glittered something silver.

The ship was arriving.

Guide scampered over the grass, leapt into the entrance lock of the vessel, and turned with one hand raised in farewell. Sanderson waved back, not trusting his voice. Then Guide moved aside, and the lock sealed itself, and the small craft rose without a sound and he watched until it was lost amid the boiling clouds.

The machine lay empty and dead on the grass, where already dust was settling to whiten the green. Sanderson felt a choking grief and desolation as he stared about him. The gale roared strongly, and the volcano coughed flame at the scudding ash that blotted out the sun. In the tradition of executioners, the wandering fragment would strike with a masked face. The daylit side of the world was rolling ponderously to meet the destroyer, and the seas were washing amid the hills and the rock was trembling. He was alone now, unutterably alone, and the cataclysm was very near.

Forlorn, he raised unseeing eyes to where the emigration fleet was carrying a civilisation a thousand times as old as Man's. His mind formed a final farewell, and then with an abrupt fear of the tumultuous world he turned and walked slowly into the Tower and sealed the entrance behind him.

That evening blackness veiled the sky and the blackness was lit by fire that spurted from the rocks, and the spectral splendour of lightning stalked among the hills. Rivers boiled up slopes as the world and the intruder grappled for control of wind and water. Seas surged over the cities, and the tide swirled on, and the mountain caps became islands ripped bare by the gales that shrieked. And the rocks were opened, and slow rivers of flame crept from the heart of the world, to explode in scalding steam when the oceans poured upon them. Seabeds rose and continents moved and the hills sank foaming. The Tower shivered and tilted, and Sanderson stood fearfully while it slowly righted itself. Once, a stupendous detonation ripped aside the ash and soot, and he glimpsed the sightless face of the destroyer, pitted and agonised, and saw a jagged crack that was seventy miles wide go zigzagging across it like a black line sketched on the forehead of a skull ; and then the

clouds rolled inward, fired redly in the glare of a sundered mountain. Smoke filled the screen.

The world twitched and groaned in pain for thirty hours while the hulk moved by in the darkness, and then, stealthily, the grinding chaos abated. The ash-shrouded sky flickered fitfully over the fire of adjusting rock, and somewhere burned the steadier glow of lava, and once or twice sounded the petulant mutter of mountains subsiding in search of a new balance. And the tension and terror took its toll on Sanderson, and with his sweat stale in the room for none to smell but himself, he slipped into the collapse of utter exhaustion.

He woke with a headache, and with a foul taste in his mouth, but a shower and some fruit refreshed him. Guide's race, in the limited time at their disposal, had done their best to provide all modern conveniences, and he stood little chance of going hungry. He wondered briefly what the camp botanists would say when he showed them the fruit.

Then he felt an apprehensive eagerness to see the outer world. The direct view from the wall that could be made transparent was blocked : on using the screen, he found that the Tower had been submerged under a river of rock. He was thankful that the builders had unerringly chosen the firmest part of the planet—apart from the splitting of one small peak, whence flowed the lava, the local mountains were little damaged.

Elsewhere, however, lay utter devastation. Seas had emptied, leaving cracked plains sprinkled with ash, and there were lakes where hills had stood. And distant mountains raged torrents as the great rain fell and the shifted oceans sought their former shores, and the boulders were rolled down in frothing rivers and the soil was scoured away. Here and there sprawled fragments of architecture, and there yet lived scraps of forest, seared and sooted in areas, and with smouldering pits where cosmic bombardment had occurred. The air was slightly thinner and the sky was dark with dust that would hang for years to redden the sun. A long crescent in the haze, the destroyer was travelling on, lividly scarred and wrapped in a wisp of dust and vapour.

Sanderson felt older. With the desolation all around him, he sat in thought for a few hours, and then he set the equipment and lay down and let the stream of time be dammed into a still pool within the room.

He woke a century later in a healing world. The seas were settled and the hills had lost their rawness. Plants fought greenly against the desert. The intruder had dwindled from sight, lost amid glittering millions of stars. Somewhere out there hung the fleet, tiny in the stare of infinity.

" No getting away from it," he thought, " the blighters have got guts—more than Mankind may ever have—when there *is* a Mankind, that is." He chuckled at the thought. Then he roved with the screen from blistered Mercury to the shrunken cold of the world beyond Pluto, a world which had no name because there lived no man to name it.

" But there is a man," he realized. " There's *me*."

And he laughed, and named it Sanderson's Planet, and slept again for a thousand years.

On his ninth awakening a hundred centuries had gone, and he glimpsed small animals whose ancestors had survived the forgotten catastrophe. He studied the Earth, watching the beasts that slithered and mated and fought and died in swamps where fire and the wheel would be used by a race unborn. He was alone in the solar system, yet his path was far less lonely than the one the fleet had chosen. Out amid frozen splendour in distances that deadened the imagination, the children of Guide's descendants were forging a home ? or perhaps the fleet had perished a thousand years ago, drowned by a wave in the dark and indifferent sea.

He himself could never know, but he hoped that his own descendants would one day learn.

With a sense of isolation that would haunt him till his death, he set the controls and slept for another hundred thousand years.

And Sanderson returned, taking ever longer steps down the path of time, and on each awakening the Tower stood taller as the rock was worn away. Once he woke at night to find rain falling on the dark land, a thin pitiful rain, perhaps the last the desert would know. The thinning wind rubbed patiently at the mountains. And as he walked with million year strides the forests lost their ancient fight, and the last seas gave way and shrank in surrender to the dust. Then he woke to find the fifth planet destroyed by some cataclysm far greater than the one that had left Mars crippled and dying : there remained merely a gradual spilling out of rocks and dust, two fragments

destined to be the moons of Mars, others to form a sparse band about the sun.

He considered delving into the ceaseless recordings of the Tower to locate the event, but a queer dullness prevented him : isolation was killing his curiosity.

One more time he woke. The system was deep in a cosmic dust cloud. Ice sheathed the desert under a pale red sun that did not dazzle him. Nowhere was there motion : in awful silence the Tower stood black and slender from the glacier that hugged its base. Thin wind mourned the stillness. On Earth ended the reign of the mammoth as ice crept into the forests. Sanderson felt horror ripple through his flesh as he watched alone in the dark winter.

The equipment would continue to record : mechanisms knew no misery and did not fear the madness of despair. He had seen enough and suffered enough, and with empty eyes and trembling hands he lay down and sought the refuge of the long sleep.

And the sleep brought dreams, where a door opened and a machine hummed forward into gloom, and there came the certainty that this had happened before, a long time ago ; and he was in a room that rose tirelessly, and suddenly he walked with other men down a corridor into an alcove, and he tried to scream as the equipment switched itself off and woke him, and he lay ill and shaking for a moment, and then stood up and opened the door and lurched out into the passage.

MacDunn and Minhov stared, stupefied, as he approached. In his face was the wisdom and concentration of a man more than half drunk.

" Sandy," said MacDunn. " Where have you been ? For God's sake, man, what's happened to you ? Where's your helmet ?"

They tried to grip his arms to steady him, but he struggled free and led them into the room.

" Look," he said in a voice which they scarcely recognised, and he pressed a button.

The wall shimmered into transparency. Sanderson shook his head and grinned tiredly as reaction swam in him, and he looked ruefully at the fruit which had slept with him and which he had forgotten to eat. Through the wall, he gestured at where the base camp was a metal discord in the dirge of the desert and the wind.

" What's going on?" demanded Minhov. " What's happened?"

Sanderson swayed. " We'll succeed," he said in a choked voice. " When we sort out the knowledge in here. When we understand, this will put us on the road once and for all." He giggled as his nerves affected him. " They called us a big freak —but we haven't really started yet. We'll even go and find them . . ." He coughed hoarsely, and then he laughed and said he was hungry, and with an apologetic grin he leaned on the wall and abruptly slid down to the floor.

MacDunn knelt over him and examined him.

" He's just fainted—sheer exhaustion, it looks like. But how the hell—I mean he only vanished for a minute . . ."

Minhov found Sanderson's helmet and breathing equipment and connected it and fitted it on to him. " See the shadows under his eyes," he said. " He looks years older."

MacDunn peered uneasily up and down the passage. He felt cold.

Minhov slid his arms under Sanderson and lifted him gently.

" Let's get him off to camp and let him rest," he said. " I think the explanations can come later. He looks as if he's been through hell."

They walked through the obediently opening airlock and into the lift. On the way down, MacDunn said, " The others will be getting worried about us, too. We've been away too long."

And the lift halted and they walked out to the niche, and the lights in the Tower died behind them.

—John Ashcroft

Kenneth Bulmer has written a number of exciting short stories round the hypothetical three-system war between Takkat, Shurilala and Earth, all of which have appeared in New Worlds Science Fiction. *The following story, much too long for the other magazine, is complete in itself and centres on what can happen to a peace treaty when combatants run out of armaments.*

THE AZTEC PLAN

by KENNETH BULMER

Chapter One

The button that held the clues to peace and war and the fate of billions of human beings was sewn with gold thread to the white, heavily-platinum braided tunic of a Takkatian Void General. The gorgeous uniform tunic was heavy, and with some gusty relief Void General Hahns Rezzer released the magneclamps—his clumsy fingers brushing the ornate button—and allowed his valet to strip the tunic from him.

Rezzer was a minor cog in the Takkat High Command ; but to his valet he was the arbiter of all things, both good and evil. The valet—a pinched-faced, mean-eyed, shrunken little toady—gusted like a weathercock in the moods of his master.

" And see that I am not disturbed, Lerke," Rezzer ordered, going into his study. " The meeting has overloaded me with work as usual. His Stellar Eminence has honoured me with his confidence . . ." The closing door chopped off his overweening personality from the blotting-paper acceptance of

his valet. Lerke ran thin, nervous hands over the stiffly-padded white tunic. Then like a gnome clutching a stolen baby, he scuttled into the narrowness of his own quarters.

The brown, lean, shrivelled man waiting for him smiled, carelessly folding and unfolding between his fingers the blue and gold scrap of paper. Lerke had great difficulty keeping his eyes away from the paper.

" Here are the scissors, Lerke." The valet's visitor was polite, helpful. He watched as the valet cut the overlarge, ornate, embossed platinum button from the magneclasp.

Lerke snipped skilfully. He bounced the button up and down on his palm. It was his turn to smile.

" Well done, Lerke. A fair reward for a sentimental souvenir."

The button and the blue and gold paper changed hands.

The button vanished rapidly into the visitor's pocket ; but not as rapidly as the folding money disappeared somewhere about Lerke's very valet-like person.

Lerke's visitor touched one forefinger to the brim of his drooping hat. " Farewell, Lerke. I shall see you again."

He did not wait for Lerke's answer. The valet could not answer for he was dumb.

Outside, under the Takkatian skies, with constellations shining down that gave a strange, empty feeling to a man from Earth, the shrivelled brown man walked swiftly through narrowing streets unruly with mobs still celebrating the armistice between Earth and Shurilala and Takkat that had brought to an end the first TEST war. His destination was reached after a brisk thirty minutes walk and he ran lightly up the outside wooden stairs leading to the room above the closed and shuttered jebal juice shop. The smell of jebal permeated the whole area. To a Takkatian, the smell was like the whiff of divine ambrosia ; to a man from Earth it was like old goats.

The lean brown shrivelled man's nostrils betrayed disgust.

The upper room was simply furnished as a combined bed and living room. The two men sitting at the table looked up. One, the larger and more robust and dynamic of the two, said : " Jim. You have it ?"

" What a stench." The shrivelled man took off his hat. " Yes. All safe."

" Good." The big man chuckled. " I know how you admire to come here, Jim. But if you'll remember that it is an

axiom of Takkat Counter-Intelligence that an Earthman cannot stand the smell of jebal juice, you should feel comforted."

The third man stood up and padded towards a wall cupboard Opening it out, he said over his shoulder. " All right. Let's have it."

The button was placed in the centre of the table, which was otherwise empty.

The three bent above it, their heads not quite touching, allowing the naked overhead electric bulb to shine down directly onto the platinum bauble.

For a moment there was a silence.

Then the third man laid out the instruments he had taken from the wall cupboard. Jim, the messenger, said : " Will it take long, Martin ?"

Martin's sensitive fingers arrayed his instruments methodically. " We're all just as scared as you are, Jim," he said, still working. " Michel, too, although you'd think nothing could ever upset that gross bulk—"

" A fine robust figure, Martin, you skinny—"

Jim said : " My contact will wait precisely one hour. I know these men from Cosh."

" You'll be in time."

Martin loaded the button into a three-dimensional binocular microscope. He rotated the button carefully. After a time, he said : " Seals seem okay. But the Takkat C-I men are good."

He irradiated the button, subjected it to ultra-sonic pinging.

" Does it still hold up ?" asked Jim. He was smoking a Russian cigarette in an attempt to combat the jebal juice.

Michel moved uneasily, sniffing the cigarette ; but he said nothing.

" Yes." Martin replaced the button in the centre of the table. " Yes—I'd swear it hasn't been cracked."

" Well, let's open it up." The strain was beginning to set a jagged edge to Jim's voice. He finished one cigarette and was about to light another. Michel's ham-hand closed on the packet. " Not here, Jim. Please. We live here . . ."

" Sorry." Jim pushed the cigarettes away, stood up, prowled. Michel watched him from large placid eyes.

Martin's delicate fingers did what was necessary with his equipment, and the button parted into two shells. Even Jim could not refrain from a little gasp as they looked inside.

The tests were repeated. This time the microscope was employed for fully a quarter of an hour, with Martin having to rest his eyes from time to time. The smell of jebal juice from below stank in the close room. The breathing of the three men coarsened. Jim prowled. Michel sat, his chair pushed back, cleaning a hand gun for the want of any other occupation for his hands. The gun was in pieces. Michel had its mate under his shoulder—that was an elementary mistake made only once —the last time was usually the first.

Presently Jim said : " It'll take me twelve minutes—"

" Give me another five, Jim." Martin did not look up.

" Surely it's safe now ? They couldn't have cracked it without your spotting it by now—"

The very lack of emotion in Martin's sharp voice told them how he felt about this. " Takkat C-I are very good. Very good indeed. I have no wish to risk men's lives delivering worthless information."

" I suppose that's right." Jim's hand went to his pocket, then withdrew. His mouth was downdrawn with worry and strain and the smell of jebal juice.

Martin sat back, closing an instrument cover with a final snap. " All right. As far as I can tell, the button has not been opened and the contents have not been tampered with. As to what is on it—"

" That's not our pigeon," reminded Jim. He held out his hand.

Martin dropped the button, once more in a single piece, into the cupped palm. " Good luck, Jim."

" Thanks." Then there were only two men in the room.

Sheila lifted one long slim nyloned leg over the other with a silken whisper that cut into the cafe crowd noises. The bar was tightly packed with celebrants, bottles and glasses splintered everywhere, music chomped away at the edges of the uproar, she was being jostled—accidentally and intentionally—on her high stool, and the stink of jebal juice flowed over everything.

The curved mouth with its slashing of lipstick and the fine straight nose betrayed nothing ; but inwardly Sheila found the old goatish smell sickening. Casually she looked at the clock over the bottle display. Two more minutes.

She refused the offer of a drink from a dashing Void Captain, aglitter in his white uniform, smilingly indicating her full glass. The Void Captain looked at her legs, and ordered

another of the same, which was placed beside her own full glass. He bowed. As he straightened up he was clumsily knocked into by a little shrivelled brown man, who apologised with abject humility.

" Our brave void servicemen ! So clumsy of me ! I am ashamed I should spill jebal juice over one of those who has won the war for us ! Please forgive me, noble Void Captain."

This night no one could hold a grudge—the armistice at last concluded between Takkat and her dual enemies, Shurilala of the forked tongues and those devils from Earth, was in reality a resounding victory for Takkat. So drink up ! For the end is in sight. " Clear off you, you miserable non-voider !" the Void Captain said, bulging his chest for his audience.

But when he turned back to the bar only the two untouched drinks stood on the plastic—the stool was empty and the gorgeous girl with the long legs had gone.

Sheila walked quickly through the noisy Takkatian night. The capital was really booming tonight. Parties of wild near-drunks prowled and her long flashing legs attracted too much attention. Twice she was coralled in a ring and forced to kiss the void heroes who had won the war. This she did with an elan that aroused them to singing and wild laughter ; but twice she slipped away before anything more serious developed.

The ladies' hairdressing establishment was closed and in darkness, the windows prudently shuttered. She let herself in the rear entrance with her key. Along a dim and ghostly corridor a bar of light under a door glowed beckoningly and warningly. She knocked carefully. The door opened.

Inside the room the light momentarily dazzled her. A man said : " Sheila—all well ?"

She took out her handkerchief and scrubbed her mouth until she drove the blood from her lips and they shone pink and babyish.

" A kiss for a void hero !" she said, and shook her lithe body as though freeing it of clinging spiders' webs.

The man clucked sympathetically.

" The old place is really hot tonight," he said. " They all know they've won the war. At least, that is what His Stellar Eminence says—the two-faced old humbug."

The other man, the man with the face of a carved brown Aztec said : " Sheila, Albert—there is little time. The Cosh man won't wait—Sheila's contact could only have just made it—"

" He was good," Sheila said. " Took out a gallant Void Captain who fancied his luck. Spilled jebal juice all over him—"

" Poor Sheila," said Albert, taking the button from her outstretched hand.

" It's clean," Sheila said. " As far as they can tell."

The Aztec-faced man looked down on the rococo platinum button. The five-stars-in-a-circle emblem of Takkat was superbly etched in the metal. " We shall have to adopt the plan I suggested after all," he said. " We just had word that Takkat C-I smell something besides jebal juice—"

" We aren't blown ?" asked Sheila. Her white forehead creased suddenly, ageing her ten years.

Albert said : " Larry doesn't think so. There are so many of us in on this operation. All little cogs busily whirring away —if they pick up one or two in the chain they still won't prevent us from succeeding."

" Albert's right," confirmed Larry, his Aztec face solemn. " I don't think so. But I feel I may have to change my mind." He picked the button daintily from Albert's hand. " Takkat C-I called on Void General Hahns Rezzer. I trust that however and whoever handled the button business tied up loose ends."

" Rezzer ?" said Sheila. " I didn't know. And I wish I didn't know even that . . ."

" It is of no importance beside what this button contains. Paradoxically, now that the armistice is here, our job is even more difficult. Previously, we knew that to get a message home we were fighting enemies all the way. Now—well, our normal diplomatic channels are once again open, and that means the Takkatians demand and search everything and everyone. And no ships are due from Earth—"

" Your plan it is, Larry," said Albert firmly.

" Why can't we ship it home aboard a service ship ?" asked Sheila. She still rubbed her mouth occasionally.

" Because none is being allowed into Takkat yet. We have to use normal civil communications. No code message would be sent by Takkat, that's obvious. They have the power to search everything that goes out from the Earth representatives here. Nothing can leave Takkat that they don't know about."

Chapter Two

Albert walked across the room—a simple lounge—and began to pour drinks from a cocktail cabinet. Any man from Takkat would have recognised at once that the drinks and the people were from Earth, seeing them in conjunction. But, sipping jebal juice, he would have passed them as Takkatians without a second thought. Albert was large and slow and with a gathering paunch. "I knew that this meeting with His blasted Stellar Eminence was important. But we still don't know what we have. Larry—you've only been on Takkat a week now, coming in with the plenipotentiaries. I feel we should make sure of what we have, and then go ahead—and we go ahead with your plan."

"Agreed." Larry's Aztec face bent above the button. He unscrewed it into two halves. "Bring the machine across, Albert, will you please?"

The recorder was placed on the table and Larry extracted the spool of microtape from the button. He was careful with it. He'd come a long way to get this. He switched the machine on, and the three settled to listen.

There were noises, subterranean, gurglings and sudden rushings and the sound of a distant pump.

"That's unshielded," Larry said. "I imagine Rezzer would feel embarrassed to hear his own internal plumbing making that din."

"Here it is," said Albert.

From the tape, voices shielded from Rezzer's stomach rumblings, spoke clearly and concisely in the sharp, edgy Takkat high-tongue.

"Ah, come in, Void General. The conference is about to begin."

Sounds of chairs shifting and the clink of glasses and heavy breathing. "The time trigger worked spot on, then," commented Larry, satisfied.

"As chairman of this chiefs-of-staff conference, I feel called upon to make a few preliminary observations."

The voice carried the ponderous weight of unchallenged authority. It stroked the nerves of the three in the room like a scourge.

"His high and mighty blasted Stellar Eminence, the chief stinking Takkat of them all!" said Sheila. But she, like the others was touched by the awe of the occasion. Here they were,

in a small back room of a hairdresser's shop in Takkat, listening to the words spoken by the leader of all the Empire of Takkat, spoken only hours before.

" Tonight all Takkat rejoices because we have won the war, and the empires of Shurilala and of Earth have sued for peace. Well, we know the truth of that. We know that the war could not have gone on for another half year at the pace forced on us. We have done well to secure this armistice, this breathing space, so that we may rearm and strengthen ourselves for the inevitable resumption of the struggle."

The growl that ran around the room and that was picked up on the tape-recorder concealed in a Takkatian Void General's ornate tunic button chilled the three Terrans ; but they knew that a similar remark would have been greeted with a similar affirming growl from gatherings on Shurilala and on Earth.

His Stellar Eminence was speaking again. He went on in his cold methodical Takkatian way to delineate the plans that were to be formulated and implemented to conserve Takkatian military strength and to avoid as much as possible of the rigours of the agreed inspection system. That had been one of the key clauses of the armistice agreement, that each empire should be entitled to have resident inspectors observing all military activities of others, so that noone could rearm during what was hoped by the plenipotentiaries would be a lasting peace.

" The twisting devils," Larry said. " The truce not a day old and they're already thinking up ways of avoiding carrying out what they've promised."

" They were born on Takkat," Albert said. " That should explain it all."

Only Sheila wondered if that could explain it.

The tape spun on. Through it all came the absolute conviction that Takkat under the guidance of His Stellar Eminence could avoid inspection and build up their space fleets again, to take both Shurilala and Earth by surprise and obliterate them both completely from the galaxy.

" There is no real news in this," Larry said. He sounded disappointed. " Just hearing the Takkat dictator expounding his views is nothing. Our own leaders on Earth can guess all this already . . ."

" Listen," said Albert. " We've had this button plan ready for the big day—and this meeting was judged the right time—and we were correct ! Just listen."

They listened. What came over the tape were hard facts. Figures, statistics, curves of production denoting strengths and weaknesses, everything that would tell Solterran statisticians and production and logistics experts everything there was to know of the secret Takkat preparations that were to go in defiance of the truth and agreements reached by the armistice commission. No inspection system was going to outwit this deception.

The Aztec face of Larry darkened until his scowl could have fried the babies long before they reached the sacrificial knife. " Very well," he said, switching off the machine. " I don't have to say this, but I will. This information has to reach Solterra. I can condense it into a figure code. It will take up less space that way—"

" But," Sheila objected. " You can't get anything off Takkat. You said so."

" I know. So we must call into being what I dubbed the Aztec Plan." He nodded towards Albert.

" The Aztec Plan ?" said Sheila. " What in galaxy is an Aztec ?"

Albert made a sound that might have been a laugh. " Larry can't help his face. He'll tell you who the Aztecs were some time. As of now, that is the cover name of the plan. Larry is quite competent in the field of directed geo-magnetism. He can handle it. But don't ask any more."

Sheila rubbed her forehead. " I've already asked too much. Those void sailor drunks fazed me some. Jebal juice !"

" I agree." Larry gave a slight inclination of his head at Albert, unseen by Sheila. Albert nodded.

" Sheila," he said. " You'd better go home now. Can you get through the streets—?"

" Lend me a pair of trousers. These damn nylons attract too much attention. Takkat skirts are cut too high."

Both men disagreed, said so, and whilst Albert found a pair of trousers for Sheila, Larry began to set up his hairdressing equipment. The last thing Sheila saw before she let herself out was the two men absorbed around the dryer.

Void General Hahns Rezzer sat in the chair. In the chair at his side sat his valet, Lerke. Both men were entirely naked. A piece of wire stretched from their temples to the apparatus on the table. The lights above were brilliant.

The man standing by the apparatus, not looking at it, keeping his black eyes fixed on the two men in the chairs, was tall for a Takkatian, wiry, big-nosed, black-haired. The other men in the underground room moved circumspectly in his presence about their machines.

One of the technicians said : " Winter, sir, the Void General knows nothing. We are receiving only a complete loyalty pattern to Takkat."

Winter did not move. His voice was soft and quite normal —and quite abnormal for a man of Takkat.

" And the valet ?"

" He was asked to place a new button on the Void General's tunic. This he did. He then gave the button back to the man who asked him ostensibly as a souvenir. He was paid well."

Winter transferred his placid gaze to the valet. " I know he was well paid. Blue and golds are not for the likes of him. Let the general go and erase this memory. Keep Lerke. I may use him."

" Yes, Winter, sir."

Winter did not betray a single emotion. He could have changed his name. He had used many other good Takkatian names in his trade. But as the chief of Takkat Counter Intelligence, it amused him to bear a terrestrial name. It also twisted something in his mind to know that he was half Solterran.

Shurilala he could handle with ease ; only when it came to tripping up terrestrial agents and probing into their minds was he truly happy. He could never forgive Solterra for having given him only half a Takkatian heritage of blood. He was a very good C-I man—very good indeed.

Charles Grey stood at the wide windows of the spaceport waiting room, trim and stark like all Takkatian operational facilities, feeling the annoyance and frustration in him in this hectic armistice night, and keeping the smile on his pugnaciously ugly face with an effort that he was entering up in red ink in his mental ledger of accounts to be settled.

Damn the Takkatians, anyway ! They hadn't won the war. This was a truce, an agreed cessation of fighting, agreed on by all three empires engaged in the stupid, nasty and costly business. But all around the men and women of Takkat were carrying on as though they'd stormed into the very heart of old Solterra herself. So his smile had to be turned on full blast,

just to keep those thoughts from showing on his face and bringing returning frowns and scowls from the Takkatians.

The annoyance stemmed from having to return to Earth so soon after landing on Takkat—the telegram had been succinct enough. 'Your posting to Takkat an administrative error. Return at once.' And let the Takkat C-I boys pick the bones out of that one—and his frustration stemmed from the fact that he was a star member of Cosh and was around on this job to wetnurse something he knew existed only by hearsay, to take care of someone he didn't know, and to watch out for Takkat agents he wouldn't know at all until they shot him.

All in all, Charles Grey was feeling savage.

The attache who had briefed him at the hotel taken over by the Solterran plenipotentiaries had been vague. "All I know, Grey, old man, is that some sort of message or other is being sent to Earth. Just run along and take care of it for us, will you?"

Grey understood the flippancy and the fogginess well enough They were standard operating procedure dealing with Takkat —whose sense of humour was nil minus infinity. Should a Solterran agent be unlucky enough to fall into Takkat hands, the brain-tapping system was such that everything could be dragged out, and the touch of humour and double-talk always helped, however little, in fogging the issue. What happened to the agent, of course, was in this instance of secondary importance.

"But I'm a Cosh man," Grey had protested. "I should take the risks carrying the message. That's what the Corps exists for."

"The Solterran communications systems right now are useless," the attache had told him. "I've no idea how the message is being sent. I don't know a thing. Nor do you. I think you'll find it healthier that way."

So Grey had gone out to the spaceport to board the first Takkat ship booked directly through to Mars. The light years stretching between the two solar systems were of the order that would take some time, even at superlight speeds, to cross; and all during the superlight trip he was to be on the lookout for something he couldn't be told about. He caught a whiff of jebal juice and screwed up his nose. The stinking Takkatians couldn't even keep their confounded hop-head juice out of the terrestrial section of the waiting room.

He turned in annoyance, seeing a cluster of Earthly men and women at the counter buying souvenirs readily sold by vendors eager, even on armistice night to make money. The jebal juice smell wasn't coming from there, however.

The man at his elbow spoke softly.

" I trust you have a pleasant trip home, Earthman."

Grey turned back. He didn't know the fellow.

" Thank you," he said politely, forcing the smile. " It's good to know that our solar systems are friends once again."

" Very good. You are Charles Grey, aren't you ?"

" That's right. Just arrived, more or less. Seems there was some slip-up back home. I shouldn't have been sent here at all —I'm in cultural relations, you know—so they sent a message calling me back. Shame. I'd have liked to have seen more of your planet. Seems pleasant."

" A message," the man said, his black eyes smiling on Grey's face. " A shame, as you say, that you must leave us so soon. Well, a pleasant journey, Mister Grey."

" Thank you, mister—ah ?"

But the man had walked away.

Now what, Charles Grey wondered, had he meant by picking out the words ' a message ' and repeating them ?

The people at the souvenir counter were laughing and talking now, walking away over to the gate. The warning lights were on, indicating that passengers might board the ship. Takkatian civil superlight ships were fast, efficient and reasonably comfortable. Grey felt no fear as he walked along after the others that the ship would disintegrate beneath him.

The other Terrans were mostly wives and children of the plenipotentiaries and their staffs, who were going home in advance of their men folk. One or two clerks were scattered about, and the pleasing sight of human secretaries enlivened the scenery. Just a usual superlight liner load of passengers.

And a message.

He could not help wondering who was carrying that message. But those thoughts were dangerous. Far better that he just didn't know who held it. That way, no matter how much his brain was probed, he could not give the secret away.

He was just stepping from the door of the waiting room, ready to walk the hundred yards to the lock of the starship when the cripple whined at him. Cripples were all too pitiful a sight on the worlds of the three empires of Earth, Shurilala and

Takkat. They were allowed here, where visitors could see them, to remind people of the war, Grey guessed. He reached in his pocket for a note.

The cripple had one leg. His dural crutch shone. His eager hand reached for the note. For a moment, his eyes met Grey's.

The cripple said : " The message is not aboard this ship. The man who spoke to you is Winter, head of Takkat C-I."

Then he turned and hobbled off, his crutch shining from the row of lighted portholes in the starship.

If Grey had been wearing a hat he would have torn it from his head, thrown it on the ground and jumped on it.

Takkatian personnel passed him, glancing askew at him. He could not utter the words he wanted to say ; he couldn't do a damn thing except walk on with that stupid smile plastered on his face. After all, the cripple had to have a chance to clear the area. And it was a sure bet that if Takkat agents were watching they'd pick the cripple up at the first sign of anything out of the ordinary. As it was, the cripple disguise was probably a oncer for the Earthman, capable of being discarded once this mission was over.

Grey, perforce, went on up into the starship, wondering why he bothered.

His training as a member of the Corps of Solterran Hermes enabled him to rationalise one or two points out. Why bother to tell him the message was not aboard this ship ? Certainly he was interested to know that Takkat C-I chief had spoken to him—Winter ; Terran name that. Possibly one of the mixed-blood people who were sometimes not accepted by either planet of their ancestry, despite the indisputable fact that all, Takkat, Shurilala and Terran, must have descended from some ancient common stock.

Inside the starship Grey was still undecided whether or not to turn about. His orders to return to Earth were merely cover orders, of course ; he had to follow his own instinct.

If the message wasn't aboard, there was no point his being aboard, either. He turned about, and almost bumped into the tall, black haired man who had spoken to him in the waiting room. Savagery arose in Grey's heart.

" Hullo," he said pleasantly, honey-smooth. " Decided to take a trip to Solterra, then ? Hope you enjoy it."

" Mister Grey." Winter's black eyes did not waver as they met Grey's. " Yes, I felt that there might be something of interest to me on this journey." He must have reasoned out why Grey had started back so sharply. " You're not thinking of returning to Takkat, surely ? I understood you to say that your orders were to return to Earth ?"

Cat and mouse stuff, this, Grey realised, and chuckled. The joke was—who was mousing ?

" There's really no rush," he said, offhandedly. " I'd thought of taking another ship. After all, this is the first out—"

" Precisely," said Winter.

" Well, if you'll excuse me—" Grey walked off. But he walked deeper into the ship and away from the airlock. If Winter thought it wise to travel, then Grey thought it wise, too. Message or no message.

Chapter Three

Grey had drifted into the Corps of Solterran Hermes by the sort of accident that casually changes a man's lifetime in a few moments' conversation. He'd been a dedicated, earnest, white-hot cultural-relations man, anxious to get out among the peoples of the galaxy and in studying them tell them of Earth and exchange cultural gifts. His father was a medium-grade architect, apt to pick up a nuclear drill as quickly as a drafting pencil. His mother had been a gerontologist before marriage, and from the two Grey had picked up a sort of rule-of-thumb practical approach to the thorny psychological problems of life. He had already discovered that no one is a simple uncomplicated individual, and that no two people are alike.

As a messenger answerable directly to the Solterran government, he had been given the opportunity of going out into the galaxy ; but the disadvantages of the TEST war had nullified and then thwarted his desire to go on a cultural binge. Life had settled down to a series of jobs, nearly all centring around the message he had to get from one eminent person to another. He was wearily familiar with the important brief case full of papers that could change the destiny of mankind, blah, blah, blah, and with the chain around the wrist and the stasis field from brief case to brain.

Now he found himself aboard the quondam enemy starship, *Yellow Fox*, run and manned by Takkatian spacemen, en route for Mars, and with a message that might not be aboard to be looked out for. Life tangled up your own ego, at times. He felt supremely ridiculous, guarding empty air.

He knew only too well the probable history of this possible message. There would be the furtive contacts, the men and women working with the fear choking in their throats, the bribes, the rushed scientific work, the people—lots of people, little people, using only first names—there would have been a Fred and a Jim and a Bill and a Molly all mixed up in the gaining and passing on of this message.

That was the way it usually went. And, every now and then, one of these faceless first-name only people slipped up, and a red line was ruled through the other peoples' mental ledgers. Some one must have slipped up this time. Otherwise, why would Winter, the chief of Takkat Counter Intelligence trouble to ride this starship ? Even if it was the first one out of Takkat for Mars since the war ?

Grey checked in with the purser, found his cabin, changed into the lightweight cream suit he usually wore aboard ship, and then went hunting the bar. Jebal juice stank here and there and when he found the bar he found also an irate and turkey-looking woman loudly demanding that the Takkatians remove the stuff from this section at least of the ship.

" We will try, Mrs. Langley. But it will be difficult," the ship officer was wooden-faced, icily polite. " The air conditioning—"

" I just don't care how difficult it is ! You know we can't stand that awful smell ! We're all friends now the war is over, so just show a little comradeship and shift that smell." Mrs. Langley's own person smelt strongly, too, of over-rich cosmetics and scent ; but that, Grey realised, could be protection. He chuckled sypathetically.

There had been some sort of ceremony marking the departure of this first symbolical ship on a journey between two late foes, and Grey watched the screen above the bar. Two or three other terrestrials were there, and gradually they drifted into conversation, sipping innocuous alien drinks. At least, no jebal was on sale here ; which was a mercy. The stuff wasn't important. To Grey, Mrs. Langley was fussing overmuch ; but he realised that she served to uphold the self-

evident fact that Earthmen couldn't stand the stuff.

"I'm Aubrey Routledge." The man held out his hand, smiling, and Grey shook. "What'll you have?"

"I think the least dangerous is koyli — it's a sort of orangeade."

Routledge was plump and smooth and a trifle too glittery about the fingers and waist. His maroon lounging-suit was cut fractionally too tight for comfort in a man of his build. He ordered, and turned to say: "Yes. You'd think these aliens would have the decency to stock the bar with Earthly drinks. Oh, well. All one can expect, I suppose."

Grey raised his glass politely. Other people joined them and soon, with the starship well on her way, the screen above the bar disseminating music indubitably terrestrial, they talked desultorily, awaiting dinner chimes.

Routledge liked the limelight. Grey left it to him, contenting himself with watching the others. One or two smart and yet very nice wives of the diplomats. A man called Cartwright who was secretary to the Solterran naval attache, returning for briefing. A secretary with red hair and a plump, shapeless figure under a garish, multi-coloured cocktail dress. A couple of white-haired, impeccably-turned-out matrons with nucleonic sense aids and implacable bridge-playing hands. And the girl Grey had already decided was the only spot of scenery worth studying for the rest of the trip.

At the moment she was talking to a dark-faced, bright-eyed, humorous-looking man with a jet black lounging-suit. She was absorbed in the conversation, and Grey felt a stab of jealousy. Routledge was working up to some elephantine joke and the nice wives were all set to giggle in a shocked yet daring way; so he stood up and sauntered across.

Before he could frame the opening gambit and introduce himself, the dinner chimes gonged. The girl slid off the stool, her cherry-red skirt flaring, the bangles on her arm clanging cheerfully.

"Tony. Dinner. I'm starving."

"Me, too." The dark man, Tony, flashed his smile and offered his arm. They swept out together. Grey looked after them, baffled.

Well, he said to himself, well. There were a dozen Earth people in here. If there is a message, one of them has it.

He found himself hoping it was the girl with the red skirt.

He had to revise that estimate at dinner. Seating was arranged at tables for six—the captain did not eat with the passengers aboard Takkatian starliners—and at Grey's table, beside Routledge and the shapeless red-haired secretary, was sitting a Professor Nbengu. The professor's large, mobile mouth and snapping eyes were clear warning that here was a popular tridi scientific professor ; one who took a delight in answering viewers' questions and, having previously swotted up the answers, could sound off like the Encyclopedia Brittannica animated and vulgarised. He had gone, he lost no time in informing Grey, to Takkat so that he should keep himself abreast of what was happening in the galaxy for the sake of his tridi programme. Grey had seen it, of course . . .?

Grey said, no, he hadn't had that pleasure.

After that Professor Nbengu sedulously set himself to win Grey over. Grey, wedged between the sack-like red-head and an empty chair that held unknown horrors for breakfast, cringed.

Angled off to his left sat the girl. Her brown hair had been cut fashionably, and the angle of vision allowed Grey to see that her figure was unlikely to be improved upon this side of Jupiter. She wore red mules patterned with brilliants, and she swung one by its toe from her own toes, her long nyloned legs crossed beneath the table. By straining so that he leaned dangerously intimately across the red-head, he heard the dark man, Tony, call her Polly. Polly. Well, he had made one inroad on that fortress, then.

Professor Nbengu was droning on about his programme and the latest miracles of science ; Routledge was summoning his breezy best to surmount the opposition, and the red-head kept kicking Grey in the ankle.

As soon as he was decently able, he finished his meal, rose, excused himself—religiously refraining from looking at the red-head or the girl called Polly—and went along to his cabin. He had expected his belongings to be searched, of course ; but as he noiselessly approached his cabin door and heard a surreptitious noise from within, he sighed. Even the opposition couldn't be depended upon. He tactfully withdrew and went back to the lounge.

Here he ran the frightful risk of being inveigled into a bridge four with two matrons and any other unwary or fool-

hardy innocent. He took his glass of koyli away into a quiet corner and brooded. Polly and Tony were dancing to a terrestrial recorder playing the latest terrestrial tunes quite oblivious to the Takkatian music piped over the loud speakers. Grey winced and shut down his auditory senses against the din. When he recognised the shape rather than the dress bearing down on him he knew with a sense of panic that he was too late to escape.

The red-head was wearing a very low-cut, very short-skirted native Takkat dress of brilliant yellow. Her legs encased in nylons were ludicrously thin for the gross body. Her shoulders and arms, creamy white, rising from the yellow dress looked old and shrunken. He didn't look at her face.

She cooed at him, putting her drink on the glass-topped table, and sat down. Politely rising and sitting down again, Grey set himself doggedly to retaining his pose of gay and debonair man-about-space. It was going to be tough.

They taked desultorily—rather, she chatted at length and Grey remembered to breathe and move his lips occasionally.

Her name, she told him in her breathy, gushy, bubbling way, was Susan Ann Manners. "My friends call me Sa—Susy," she said stuttering over the word. Grey paid scant heed.

" Grey," he said.

" I know. Charles Grey. Don't you write novels ?"

" No. I'm in cultural relations."

She giggled. Grey thought that if she brought out the old one about her relations with him being capable of culture, he'd scream. He just couldn't stand up and walk away. No matter what he said, the poor fat sex-starved kid would feel slighted and her already damaged ego would curl once again. Grey smiled without looking at her, and stuck it out.

The rest of that ship-day evening passed somehow. At last people began to drift away to their cabins. Grey felt that if the Takkatian agent searching his cabin hadn't finished yet, he'd just walk in say : ' Excuse me, chum ' and go to bed.

Susy allowed him to see her to the door of her cabin, hesitated, and then let him get away without demanding so much as a kiss. Still Grey hadn't looked at her all evening. Her gross body kept getting in the way.

He went off, found his own cabin empty, undressed and turned in. He slept at once. He didn't even dream of a message that might exist or might not.

The next morning at breakfast the full horror of his position came home to him.

The two empty chairs at his table were filled to over flowing with two exuberant, high-spirited, shouting, helling kids. One was a boy and the other, presumably, a girl. But the row they kicked up, the milk they spilled, the crumbs they scattered, would have fed a regiment. Grey shut his eyes and died a little more.

Susy said solicitously : " Are you well—Charles ?"

Grey groaned. " Fine, Susy. Fine. Who are—they ?"

" That's Bobbie and this is Gloria. I'm taking them back to Earth after their trip with their parents. They've had to stay on Takkat, but the children have to go to school."

The kids expressed their disapproval of that.

Grey escaped as soon as he could and for the rest of that day had his meals in his cabin, saying he was unwell. If this was to be the pattern of the trip home—well, hell, he'd commit mayhem on the first person he saw. Twice he sneaked out to see if there was a chance of cutting in on Polly and twice he spotted her with Tony. On both occasions he was almost caught by Susy, and only just made it back to base unscathed. There were other children aboard, too, and between them they created merry hell aboard the alien starliner.

Terrestrial kids—bundles of nerve-scrapers, all.

Three days of this ended up with Grey smoking until his cabin was blue, and feeling the sound of a feather falling on the deck would deafen him.

He made up his mind. He shucked off his cream lounging suit—which was a nice bright colour and marked him out wherever he went—and changed into the charcoal grey suit that clung to him subtly, giving not an ounce of hindrance to legs or arms. He walked out quite openly, closed the door leaving the engaged tab up, and sauntered along towards the lounge. An inconspicuous reconnaissance showed him the usuals in occupation, and he turned away and headed for the door marked ' Crew only ' leading for'ard.

The door let him on to a different world. Here there was no gay paint, no trimmings, no potted plants and bright lights. Here was only grey paint, dim blue fluorescents at long intervals and the pervasive hum of machinery. He knew that Winter was not registered aboard among the Takkatians travelling—their accommodation aft of the Terrans was freely accessible—

and so the chief of C-I must be among the crewspace. Grey walked lightly. The corridors were deserted. These starliners ran on a minimum of personnel, the armed services had skimmed the cream, and he was not afraid of meeting too many aliens here. At least a watch and a half would be off duty, as well.

He slipped on his black mask. If his plan worked no one must be able to recognise him later.

The first alien he took without the slightest trouble.

His gun was prodding the fellow's back and his arm was around his throat before the alien knew what was happening.

" Just tell me where the man called Winter is, friend."

Grey eased off his arm, ready to clamp down at the first yell But the alien was scared. His body shook.

" In the first mate's quarters," he babbled.

" Where ?"

The alien told him.

Grey struck him scientifically, dragged him into a cupboard and stuck a sleepy-bye shot into him. Then he prowled on.

The first mate's quarters were marked by a door in the dark corridor showing a fanlight of yellow radiance. Grey pondered Then, remembering that Takkat engineering tended to parallel Terran, he walked quietly along the corridor, found a grille leading into the air supply, removed the grille, and replaced it after him. He was lucky. A crewman passed along the corridor just as he'd relatched the last magneclasp.

Finding the right room was easy. Grey lay in the warm darkness, smelling jebal juice floating through the air extractor, and listened to the sounds from within. He had brought a flask and wrapped food. He intended to stay some time.

His watch told him that three hours elapsed. During that time Winter was not in the cabin. When Grey heard the door open he still had an hour and a half to wait before what he was there for transpired. Winter was speaking on the phone to the captain.

" Yes. All right. In two days ? That is good. Thank you for letting me know. Yes, I agree, if it is aboard at all then the quicker the move is made the less chance there will be of any Terran having time to transfer it. Yes." A chuckle. " I imagine they will be surprised at having to tranship—" sharply, now, arrogantly, the words came. " Of course there will be no trouble ! They are under our orders whilst they are aboard a

Takkatian ship. You just vector in the co-ordinates, captain. We'll see to the rest."

Sound of the phone being replaced. Grey thought. Then he started to wriggle back out of the airduct. He was only just in listening range when a new voice said, urgently :

" Winter, sir ! A crewman has been found doped in a cupboard !"

Winter swore. " An Earthman must be here, in the crew quarters. Right, organise a search. He must be found. He must not return to the passenger area. Quick !"

Grey sweated crawling back to the grille.

He waited there until he could hear nothing from the corridor and then removed the grille, slipped out and, without hesitation, having already framed the details of his plan in his mind, replaced the grille, the precious seconds thus spent not wasted but essential for success. He ran fleetly along the corridor.

A crewman was standing guard before the cupboard where his mate had been ambushed. Grey, not feeling very happy, shot the man with a low-power beam, and, running, on, caught the unconscious body before it fell. This he thrust into the cupboard with no time to inject a sleepy-bye shot.

Someone shouted and he whirled and ducked. The shot blistered paint on the overhead. He fired back, blazing, and ran with heart thudding on towards the door. This would be guarded. But he had to get through. His life was at stake now, as it had been all along ; but now the fact was plainer than ever.

The guard saw him coming and waited to get a good shot. Grey, panting, sprayed everything. His only hope was that in the general shortage of man-power, there would be one guard. His beam cut the man down as he fired ; and Grey felt the heat of the discharge gush past him. He winced, and plunged on.

The door opened at a kick. As he slammed it shut a spot in its centre glowed red, a cherry red like Polly's skirt, and gobs of metal liquified and poured down, stinking.

Grey sped on, stripping off his charcoal grey suit as he ran, bundling it about his gun and the black mask and the sleepy-bye syringe.

The corridor before his cabin was deserted. That was normal, of course. He raced for his door, yanked it open and fell through.

Susy said : " I'd wondered where you'd got to, Charles."

He didn't answer. He slammed the suit mask and gun and syringe into a cupboard. Outside he caught the sound of running feet.

He turned on Susy, caught her around her waist, feeling no surprise at the rigidity of the corsetting, and threw her on the bed. He sprawled across her, kissing her savagely.

The door opened without the courtesy of a knock. Alien faces peered in. Grey, lipstick smudged all over his face from Susy's ecstatic responses, looked up and growled : " Get to hell out of here !"

Someone chuckled nastily. The door closed. Only then did he see that Susy had had the sense to drag up her skirt.

She sat up now, putting her hands to her head. She stared at him, her eyes alight with laughter.

Looking at her face so near, and for the first time really seeing it, Grey was surprised at its beauty, skilfully hidden beneath carelessly-applied makeup. She stuck out her tongue at him.

" You coshed me a little hard, Charles."

" All right, Susy. Save it for now." He gestured. She nodded quickly. " Who could those awful men have been ?" She giggled, naughtily. " We were having such fun, too."

Grey found paper and pencil, scrawled : " So you're Cosh too, very funny."

She wrote, shielding the paper by her gross body. " I have no message. You ?"

" No."

Grey felt despondency. The aliens might very well have wired all the cabins, and they might have rigged cine cameras, too. If the latter, then discovery was certain. If only recorders had been tapped in, he might stand a chance.

He wrote : " Thanks. Your co-operation saved me."

Her answer did not make him mad. " I enjoyed it."

" Why ?"

" I spotted you prowling. Guessed you might run into trouble. You did. I was on hand. Q.E.D."

He laughed then, and dressed again in his cream suit. Susy hitched herself around uncomfortably in the yellow dress. " These damn alien clothes," she said.

" Let's go get a drink," said Grey. " I need one after that."

Susy giggled. " Me, too."

Chapter Four

The Takkatian Chief of Counter Intelligence was a very annoyed man. He stood in the first mate's room and his black eyes punched holes through the captain. " We tranship in a quarter of an hour. I want no slip-ups, captain. You will tell the terrestrials, and give them exactly five minutes for personal gear."

" I understand, Winter, sir."

" His Stellar Eminence is convinced that some message is aboard this ship. I need not tell you why we feel so sure." Winter certainly wasn't going to tell this ship captain about Rezzer's button and the almost factual certainty that some sort of recorder had been hidden in it. His Stellar Eminence had been enraged. " Details of the most vital kind were discussed at that meeting, Winter. Earth must not hear of them. If they were recorded and the message reaches Earth—"

He did not finish. Winter, himself an icy man, shivered.

" If there is a message aboard the *Yellow Fox*, I shall find it, Your Stellar Eminence."

And so now, he repeated the words. " There is a message aboard your ship, captain. Carried by one of the Terrans. We shall tranship them all to the *Yellow Lizard* which you tell me is vectoring in now. They will have exactly five minutes to take what they can of their personal gear. All the rest will go back to Takkat and be searched. Certainly, it will never reach Earth."

" And the Terrans themselves, Winter, sir ?"

"They will be stripped and searched under psycho treatment. Everything they have will be searched right down to the smallest detail. Any message must be with them and it is likely that they will take it in the hurry of the transhipment. We strike then."

" I understand."

" Give the orders. Five minutes. No more. "

Winter watched the captain leave. He still did not know who had broken into the crew compartments. They had shot three men. They had not killed them—and he felt that there had been little time lapse for anything serious to transpire, even though one of them claimed to have been unconscious for several hours. And, anyway, what was there here that a Terran would want ? The one single item of importance

aboard was now in the possession of a terrestrial. And Winter intended to find the message. And no fake message would put him off, either. For His Stellar Eminence had hinted at what the message would contain. Unless they found that, they found nothing.

An, if they did find it, then all the Terrans would have to be killed. There might be two messages. If no message was found, why, then—then, Winter knew, no message could be aboard.

Mrs. Langley was outraged. She gobbled like a turkey.

" But all my things—I can't leave them—!"

" Sorry, madam. This ship has broken down. We are now in true space." The Takkatian officer was icily polite as always. " We must tranship to the *Yellow Lizard.* At once."

In the lounge pandemonium broke out. Terrans rushed to their cabins to take with them their most precious things. The children screamed for their toys. The women crammed jewellery into cases and snatched hats and nylons. The men stuffed pockets with Earthly cigarettes and drinks, and tipped out clothes and other frippery that could be dispensed with.

The ship resembled opening day at a sale. It must be very like what a really foundering ship must be, decided Grey, walking with Susy and the two kids to the airlock.

The kids were crying, not understanding, clutching their toys. Susy had put on all her bangles and had even slipped some on Gloria's arms. Grey saw Polly. Her bangles clashed too, as she walked with Tony in attendance. Polly was very beautiful and very composed. But, after the incident with Susy in his cabin, Grey had lost interest in Polly.

The Terrans were bundled across to the *Yellow Lizard* in lifeshells. As soon as Grey hit the deck of the airlock he smelled trouble—and the next thing he remembered was walking into the corridor, a muzzy feeling in his head and his limbs dragging at him wearily. He shook his head. Then he looked at Susy.

Her shape was enormous. She was much grosser than before and her ankles protruded like two grasshopper legs.

She was looking dazed. Then she looked down at herself.

Her squeal was entirely automatic. In the corridor other Terrans were crowding along, all looking as though just roused from a deep slumber. In the crush, Susy leaned towards Grey.

" We've been through a psycho treatment, Charles. I know. My corsets were rigged in a fantastic arrangement. Triggered. They couldn't be put together again except by the woman who designed them. And she isn't here. We've been stripped and searched. I know."

" All right, Susy. Keep quiet."

But Grey was now wondering what that balloon shape hid, and felt a degree of admiration for Cosh in setting a trap for searchers in the fantastically complex field of a woman's corsets. The Takkatians would strip them all off, of course ; and then, when they came to dress Susy again so that she wouldn't know she had been carefully searched, they hadn't been able to. That was the sort of joke that the grimly methodical men of Takkat just couldn't appreciate.

But Grey felt reasonably good.

If he hadn't warned Susy that they were going to tranship . . . Well, if there was a message aboard, then it was a hundred to one still aboard, aboard the *Yellow Lizard*, and enroute for Mars.

But, he wondered uneasily, why hadn't they taken him in for shooting those three crewmen ? When they'd probed his brain, they must have found that information.

What were they up to ?

Only once in his successful career had Winter ever lost his temper. He still recalled the episode with shame. The mission had failed then, and he'd attributed that directly to his own loss of awareness and perception through senses clouded by uncontrollable anger. He had promised himself solemnly that he would never lose his temper again.

He became annoyed, angry, dangerously irate ; but he did not lose his temper.

The strain on him as he stood, hands on hips, and surveyed the rows of naked Terrans was enormous. Their clothing had been minutely studied. Their bodies had been searched. The psycho probes had dug out scandals and secrets from their minds.

But nothing had turned up the message.

He knew that the man called Grey had gone into the crew quarters, listened to him arranging for transhipment. That could easily mean that the message was no longer in the baggage that was going back to Takkat. But also it meant that for the message to be forwarded on to Earth, it must have been

taken with these people from the *Yellow Fox* to the *Yellow Lizard*. The message *must* be here, somewhere.

The girl Susy had some idea about her corsetry. The men-fingers of the scientists had been quite unable to re-assemble it about her svelte figure in its original complex, and they had the uncomfortable idea that the girl would know it had been tampered with. But, now, there was nothing they could do about that.

She and Grey were members of Cosh—but all that meant was that they were mere messengers. When Winter had turned up in Grey's memories the incident of the cripple telling him that the message was not aboard, Winter nearly exploded.

Did these damned Terrans think they were playing party games? Intelligence and Counter-Intelligence were men's pursuits, deadly serious. The quality of—the only word Winter knew was the English giggle—of giggle throughout was unpleasant. Winter's half Earthly ancestry felt obscurely that there was a joke in all this—and the joke was on him.

He began to phrase his report. Absolute certainty that no message was aboard this ship. Any possible hiding place, any memory, any clever code in clothing or skin tattoos, any pattern on colours or metals in jewellery—all had been taken cognisance of and thoroughly examined. No message was aboard.

Cosh had sent two agents—they'd spotted the wrong girl there, incidentally. He'd have to chase his staff on that. The two didn't know anything between them. They'd been playing games. And what riled Winter more than that was the simple fact that if there was no message aboard then he would have to let these passengers through. With Earth and Takkat in such a delicate balance of negotiation at the moment, any accident would be regarded by His Stellar Eminence as most unsuitable.

And so Winter, baffled, ordered the Terrans dressed, their belongings returned to them, their memories psyched, and their transfer, on awakening, to the airlock corridor.

There was no message.

There *couldn't* be.

His anger boiled close to danger level.

Or—was there a message, after all?

No, of course not. Absolutely impossible.

Susy said : " I wondered why Cosh insisted on my wearing this outrageous foundation. I look like an elephant !"

Grey made the usual disclaimer, and the obvious suggestion.

She laughed. " I'll bet they're chewing their finger nails wondering if they put it all back together right. But it was a cert way of telling if we'd been searched."

" What worries me," Grey said sombrely, " is why they're letting us go. They know about the shootings, and that you and I weren't together."

Polly walked past, looking miserable. Her bangles jangled, matching those on Susy's arms.

" What are those darn things ?" asked Grey.

" Oh—didn't you see ? They were selling them at the spaceport waiting room. Local souvenirs. They're divine—"

" I'll bet the aliens took them all apart and put them together again. They don't miss a thing." Grey found two cigarettes. " But as they were made on Takkat, well . . ."

" Don't worry. We'll hit Marsport in a couple of days."

During those days Polly struck up a friendship with Grey. He responded ; wondering what had happened to Tony. Then he saw the dark smiling man with Susy—and something clicked in his mind. At table, he watched carefully. The professor and Routledge were arguing, this time about geo-magnetism, and Grey listened with half an ear. The professor was claiming that the idea of directional geo-magnetism was nonsense, and Routledge was vaguely trying to remember what he'd heard that magnetism could be bent around corners — and the professor immediately brought the old iron filings experiment into the conversation. Grey changed that, asked about the professor's programme and went on to say : " Can you spray paint around corners, prof ?"

" In space, yes, young man, but—"

" Thanks, prof." Grey rose and walked off. He wondered if the Takkatians had examined the spaceside hull of the ship. They didn't have a problem if they missed that one ; by changing ships so suddenly they should have prevented anyone from getting a ship-fastened object from one ship to the other. His own early warning could not have helped anyone to remove say a limpet-mag from the ship's fins to the fins of the *Yellow Lizard.* If the message—if there was a message—had been fixed to the *Yellow Fox*—then it wouldn't reach Marsbase.

Susy went past to the lounge, chatting to Tony.

Grey avoided Polly and the kids and went to his cabin. Another search had been made. He sighed, dropped onto the bed and went to sleep. Day after tomorrow—Mars.

The day before they popped out of their superlight speed for the last interplanetary passage to Mars, Grey wandered casually through into the Takkatian passengers' lounge. He studied the people there idly. Most were diplomats and secretaries, with a few military attaches. He knew perfectly well that each one was a potential spy ; but that situation applied just as well to the Earthpeople who went to Takkat.

At the bar he bought some Takkatian matches and, as though on a whim, asked for a bottle of jebal juice. He made sure the cork was firmly rammed in, paid, and slipped the bottle into his pocket.

Shortly after that, at dinner, the unmistakeable clang of opening and closing inner valves of the airlock resounded through the dining saloon. People looked up questioningly.

" Just a passenger going aboard a Takkat ship for a different destination," the steward told them.

No one bothered. They were all looking forward to Mars.

Whoever had decided to leave the ship within the solar system, Grey reasoned, would be well and truly shadowed by a Solterran Space Navy patrol. He went on eating.

After dinner he went to pack and returned to the lounge where the usual unnecessary tensing was apparent that always precedes planetfall. It must have permeated the old sailing ships, too; this feeling of drastic change as a ship neared port. Polly smiled at him, and he took her off for a drink.

Susy and Routledge were talking with the professor ; the jowly ladies were prowling for bridge partners and the nice wives were twittering about their plans and exchanging addresses.

As Grey watched, Tony walked smiling through the lounge, effortlessly took Susy from the two older men, and went with her through to the corridor. Takkatian ships apparently did not observe the eve-of-landing dance custom ; and Grey turned in early—alone.

Already he was wondering what fresh assignment awaited him at Marsbase.

Chapter Five

Colonel Hamilton Coldwell stood in the shadows of the Marsbase spaceport waiting room, leaning on a stick even in that weak gravity, wondering just how much free will a man has in life and how much of his life is ordered for him by forces he neither knows nor suspects. Why would he be waiting here to carry out an order that was as vaguely stupid as it was vaguely exciting? He sighed, searching his memory for the time when he had been young and fresh and eager—like these people filing from the Takkat starliner.

The *Yellow Lizard.* Odd name—even though he had been expecting the *Yellow Fox.* The first superlight ship in from Takkat since the truce represented an important symbolical event. He could not understand his orders; but he could appreciate what the alien ship out there on the spaceport meant to the galaxy.

He nodded to his lieutenant. The boy bounded forward like a colt.

"This way, please. All Solterrans this way, please."

They were skilfully herded into a private room. The Space Marines doing the herding were polite and careful, helping to carry the toddlers, fetching hand luggage, joking with the nice wives. Colonel Coldwell checked the list in his hand, nodded, and a sergeant shut the doors and put his back to it. His white-gloved hands rested on his belt, next to the hand gun in its unbuttoned holster.

"Ladies and gentlemen," Coldwell said, and the chatter ceased at once save for the children, who were hushed as well as children ever can be hushed. He went on, smiling under his clipped moustache. "This is purely a formality. I must ask you all to hand across articles purchased on Takkat for customs examination."

There was a buzz of dismay.

"I assure you there is nothing to pay. Your diplomatic immunity is still intact—and, anyway, a concession is being made in this instance. Please let the lieutenant have all the gifts and trinkets—they will be returned within ten minutes."

Susy, standing next to Tony, glanced across at Grey. She stripped off her alien bangles and dropped them into the waiting tray. The children objected strongly. Eventually everything was collected.

But no one was allowed to leave the room—refreshments were served and people sat down and talked. Presently the lieutenant returned and handed back most of the toys, and the kids cheered up.

A bubbling feeling of exhilarating exuberance in Grey forced him to walk across to the Colonel.

" I'm Charles Grey," he said. " May I speak to you in private ? You see, I'm Co—"

" I know nothing of what this is all about, Mister Grey."

Grey paused. He now felt absolutely convinced that a message had been brought from Takkat. Those bangles—it had seemed too obvious. But, they knew from Susy's trap that they had been searched. The aliens wouldn't miss a thing. If a message had been brought, Grey very much wanted to know how it was done. He looked across at Susy.

She caught his eye and imperceptibly moved her head. He followed the indicated direction, and with a sense of pleased surprise saw John Wheatley sitting quietly in a corner.

Grey went across unobtrusively, and sat in the next chair.

Wheatley was a compact, short man, with a tired, lined face and lips that perennially curved around a cigarette.

" Hullo, Charles," he said. " So you made it."

" If you call this job anything worth making, yes. What's it all about, John ?"

Wheatley was the Cosh bureau chief on Mars. He smiled and said slowly : " The whole plan had to be worked out to a millimetre, laddie. The less you knew, the less the Takkat boys could yank out from your skull."

" You knew they'd psycho us, then ?"

" It seemed pretty certain. What happened ?"

Grey made his report, speaking in quiet, modulated tones. Presently, when he told of overhearing the orders for the Terrans transhipment, Wheatley said : " Who was the man giving the captain orders, Charles ?"

" I don't know. His name wasn't mentioned . . ." As Grey recalled the incident, he was aware of a fallacy there, some where ; but he added : " Someone left the ship before we touched down. Could have been an alien agent leaving."

" Well, we'll find him. And, Charles, I think you'd better let the doctors have a look at you. They may have fouled up your memory, you know."

" They might."

All the souvenirs had been returned now. But little Gloria was howling. The Colonel in his stiff way tried to reassure her; but she went on yelling about her beads. Someone, it was clear had stolen her beads and she wanted them back, *now* !

" Damn the brat !" said Wheatley, standing up. He went across and gave Gloria the doll he produced from a pocket. She forgot about her beads. Susy patted her head. Tony, at her side, stared at Wheatley, and then smiled at the girls.

" I had an idea I ought to be prepared . . ." Wheatley said, walking back, smiling. The Terrans were let out of the private room ; but Grey and Susy hung back. Tony standing waiting for Susy, was momentarily left in a vacuum between the two groups. Grey eyed him. Well—chances were things he both took plenty of and never let go by. The passengers were now going through the waiting room. Tony, after a slight hesitation turned off and made for the rest rooms. Grey followed.

Inside he stopped, listening, hearing the sound of running water. Around the angle of the entry passage Tony was washing his hands. Carefully, out of sight from the man within, Grey uncorked the jebal juice bottle, and tilted it. The old goat smell wafted out.

When the air was pretty stinking, Grey recorked the bottle, pushed it back into his pocket, opened the door and shut it loudly from the inside, and went on through whistling.

This was a rough and ready method, true ; but if he got the slightest suspicion of a wrong reaction, that would be cause enough for further questioning by others more skilled than he.

Tony looked up at Grey, smiled, went on washing his hands.

Grey turned the tap, let the water splash.

The old goat stink drifted around.

Drying his hands at the hot air blower, Grey felt enough certainty to know his next step. If he was wrong ; well, an apology was easy enough.

Tony was combing his impeccable dark hair. Grey said : " Glad that's all over."

" Yes. Be good to relax again."

" Sure." Grey went out, whistling.

Wheatley was looking annoyed. " Where the hell have you dashed off to, Charles ? I want you to—"

" John. That fellow, Tony. I feel pretty sure he's a Takkat agent." Grey explained about the jebal juice. " You'll have him picked up ?"

Colonel Coldwell walked across.

" Yes, we'll do that, Charles. Let's all go through into the laboratory they've rigged up in the back."

Grey experienced elation. Because of his suspicions about Tony, he was automatically going with the others into the back room where the Takkat souvenirs had been taken ; no doubt for a briefing ; but, as far as he could see, that meant he might have a chance to unravel the mystery surrounding the message.

For, of course, by now he was positive that there was a message.

Wheatley must have caught the eager enquiry seething in Grey. " All right, Colonel—I know you have been wondering just what sort of business all this is. Customs declarations aren't quite in your line of country. But you and your men did a good job and, from what Charles tells us of this Takkat agent, you are necessary." They had walked whilst talking from the private room into another room to the rear, a room which had been fitted as a laboratory. Equipment and power lines jumbled in the room.

Grey said : " That looks like a hairdressing dryer—?"

Wheatley chuckled. " All parts of the Aztec Plan."

Colonel Coldwell had decided to keep his mouth shut and to watch. Grey, wanting to know what the scientists of Earth had contrived, knew also that anything the gallant colonel learned in here in gratifying his curiosity would be psyched out of him —as it might very well be psyched out of Grey himself, despite his star status in Cosh. But men who travelled the starlanes on government business did well to forget anything that might jeopardise their lives if caught . . .

Wheatley was alive now with a jovial good humour. " The man who thought up the Aztec Plan isn't here right now. Name's Larry. He probably knows more about geo-magnetism than any other scientist in our sector of the galaxy."

There it was again. Geo-magnetism. Wheatley patted the flank of the big hollow casing around the dryer.

" I gather that you had professor Nbengu along ? He's only a tridi charlatan, of course. But Susy told me he'd been talking about bending magnetism."

" That's right," said Grey.

" It is a subject much canvassed in scientific circles at the moment so it's not surprising that Nbengu mentioned it. Larry

developed this gimmick from it. As a Corps of messengers, we are naturally interested."

Wheatley did not mention what the message was. He did not tell them how it had been obtained nor the troubles through which men and women had gone in order to get it aboard the *Yellow Fox*. For one thing, he didn't know. For the other, Grey knew only too well, the less anyone knew about Solterran Secret Service the better. Those first-name only men and women out there on Takkat would have to carry on—their jobs didn't finish when the message was delivered.

" It was those confounded temple-bell bangles, wasn't it ?"

" Yes and no, Charles. Look." Wheatley indicated a heap of beads and bangles that looked very much like those that should have been returned to the passengers. He thought of Gloria and her beads. " We didn't know which object was to be used. All we could know was that it would be something that the passengers picked up on Takkat. That ruled out their personal belongings. Souvenirs were the only other objects suitable that could have been tampered with before the passengers bought them."

Grey thought of the souvenir seller in the Takkat waiting room—and of the cripple. Solterrans could organise when they wanted to. He felt satisfaction, as though a firm friend had had a stroke of good luck. " So when Susy didn't get her bangles back, she did not make a fuss over it. Unlike Gloria."

Wheatley turned the corners of his mouth down. " Larry has a quirkish sense of humour. I wouldn't have been surprised if the message had been concealed in a toy. So I came ready." He ran a heap of the bangles through his fingers. They jingled. " The other girl, Polly, she contributed. She's been told not to mention it and that they will be returned."

" Anyone else ?"

" One or two. Larry split the message up into a number of parts and used a separate bangle for each part."

" Surely the Takkat agents couldn't have missed a message concealed in the bangles, even if it was broken up. I know that with this present delicate situation it was all or nothing for them. They had to let us through intact, or not at all. But, still—"

Wheatley was openly laughing now. He picked up a bangle and began to dismantle it. It broke down into a large number of thin slivers of metal, clipped together to form a flexible

metal band. " They're made like this. This would have been as familiar to an agent from Takkat as a stick of Brighton Rock would have been to you."

" And the lettering runs down the middle, hey ?"

" Not quite. We can tell that they irradiated these, sonic tested them, did everything to find the hollow one. But, of course, there isn't a hollow one."

In the room were two technicians. They had lumps under the left armpits of their white lab smocks. They took up the heap of bangles and began breaking them down.

" They'd have checked each one with a microscope," said Grey.

" Of course. No sub-microscopic writing, Charles."

Grey's exasperation was the eve-of-Christmas tantalisation of a child. He was enjoying being given the run-around like this. " They had a lot of gear to search through. They might have missed significant differences in thickness, weight, colour, angles of curve—"

" Nothing visual on the links of bangles, Charles, contains the message."

Colonel Coldwell stood silently, patiently awaiting the answer. Grey tried one last shot.

" You melt them all down, and the proportions of alloys—"

" No, Charles. As they are."

" Geo-magnetism," he said, at last exasperated in reality. " Well—show me, confound it !"

" The Aztec Plan wasn't mine, Charles. This little bit of credit reflects on Larry and his team, don't forget that."

Coldwell, unexpectedly, said : " Might I suggest that you altered the molecular and atomic lattices within the metals ?"

" Ingenious, colonel ; but not so, I'm afraid." Wheatley turned to the technicians. " Okay, switch on. Drop 'em through." The big machine hummed into life. One of the techs scooped up a ladle-full of the links stripped off the bangles and climbed with the load up a short flight of steps to the top of the machine. At its base a large white sheet of paper had been spread.

" Geo-magnetism," said Wheatley, " is usually a north-south phenomenon, easily visible in the van Allen belts and locally in the formation into curved lines of iron filings around a bar magnet. We can bend streams of particles with magnetism—witness the cyclotron and the electronic tv tube—but bending magnetism itself is a different order problem altogether. We

didn't need to do that this time, however. Larry decided that if he could polarise, say, iron filings, in a magnetic field, he'd have what we wanted."

The tech was tipping the ladle now. A drifting of links spilled out, glinting in the light.

" Larry probably used a simple figure code. What we're looking for is a series of four- or five-figure groups. He arranged these groups in a magnetic field, and polarised them by a cross-field. He left instructions with us—all we're doing is repeating his work backwards."

The links were drifting through the machine now, the machine that looked like a hair dryer but which Grey now knew to be a polarising device superimposed on a magnetic field.

The first links fell from the bottom of the machine. They lay haphazardly on the paper. More fell through. As they tumbled out they built slowly up into clumps. The effect was similar to the random dropping of snowflakes that build up into thick drifts ; but the randomness was absent here. Each little group of links was separate from those about it. They formed lines across the paper, neat, regular little clumps of links, lying there innocently on the paper.

At last all the links had been tipped through the polariser and the magnetic field. Each link dropped through under the pulls and pushes into the position it had occupied on the original paper, laid out neatly by a man called Larry on a far away planet circling an alien sun.

Wheatley gave a little grunt of satisfaction. He had a pad and ball point. " Check me," he said to Grey. He began counting each group. There were never more than ten links in a group. As he counted each group, Wheatley wrote down the number of links, putting a zero where he counted ten. On his pad a figure-code message built up.

Grey could not but think of the cripple and the souvenir seller, the only contacts he'd seen of the organisation that had put this figure code onto Wheatley's pad here in Marsbase. He thought of all the people aboard the starliner and the parts they had played, knowing or unknowingly, in running interference for the message. He understood why all that had been necessary now. Takkat C-I were very good. The simple fact that they'd known a message was to be got out of their home planet meant that they would not be satisfied until they were convinced no message was aboard the *Yellow Fox*. They'd done everything they could.

But the message was here, on Wheatley's pad, ready to go for deciphering and forwarding to those who would know how to use the information contained in it.

Polarising a magnetic field and then seeing your message up within the framework—so that the links—the iron filings—could be passed through a similar field arrangement and resume the position they had first been placed in by the sender ; the idea tickled Grey. Cosh would use this again, that was certain. In the tricky days ahead with Takkat and Shurilala and Earth all trying to maintain the peace and yet prepare for war, secret messages would be continually passing through the starlanes.

With those thoughts in his mind he finished checking through after Wheatley, counting the number of links in each little group and making sure the correct number had been written down. He was standing a little way away from the machine, feeling tired, feeling happy, when the machine glowed red and white and heat seared from it. It toppled. Slowly the whole mass sagged in a squashing of running liquid metal forcing the men to back away, shielding their faces.

Tony, his gun still flickering with the last of its discharge, walked towards them. His dark face was devoid of triumph, devoid of fear.

Grey, looking through slitted fingers at the agent from Takkat who had insinuated himself into the Terran's party and made himself one of them, felt admiration. The alien had at last penetrated the Solarian secret. He knew there had been a message. Now he had destroyed the machine and was about to destroy the men in this laboratory.

That he would himself die in the next instant as the marines rushed in did not enter his calculations.

As the Solterrans had been saying all along—Takkat Counter Intelligence were very good indeed.

Tony's face broke from that machine-like calm. He laughed.

" So in your moment of victory, you lose, Earthlings. Well, that's the game we play." His finger bent to depress the firing stud—and Wheatley shouted, hoarsely, loudly, and threw the pad with its cryptic strings of figures from him. It whirled like a startled bird through the air, dropped rustling behind a power transformer, oily green against the wall.

Tony swivelled his gun to follow. The fire that would have cut the Terrans down ravened instead against the machine, eating through, melting a path to that pad of paper. The heat

in the room stifled. One of the technicians put his hand into his smock. Watching him, Grey for an instant saw the white smock under his armpit brown and char. Fire shot from it, crossed the room, struck Tony. In the same instant Grey had shouted : " Don't kill him !"

The blast took the alien's gun and hand away into nothingness. Tony screamed. Then the technicians and Coldwell gripped him, supporting him. His dark handsome face lolled. His eyes glared feverishly.

" Too late !" he said, tongue garbling the words. " I've destroyed the message in the links and I've burned the pad ! I've beaten you, after all . . ."

Grey, looking down on the tortured face, felt pity.

This man, like himself, like those others back there on Takkat, was a first-name only operative. Knowing some of the story, by the very nature of the risks they ran, they could never know it all. Tony lolled, unconscious, the last fling of the reaching web of Takkat organisation, desperately attempting to make sure no message—if one existed—would ever reach Earth.

Colonel Coldwell, face red, said : " I'll talk to my men about this—by not arresting him efficiently, they've let all the work go for nothing . . ."

The door smashed open and the young lieutenant staggered in. Blood covered his face. He saw Tony and started to speak. Coldwell cut him off. The colonel began to rip into the lieutenant. Grey took his arm.

" The man's wounded, colonel. Let him be—"

" But we'll never know what was in that message ! This confounded alien's destroyed it all—message and figure serials —everything !"

Wheatley rubbed his forehead and looked at Grey.

" Not quite, colonel. None of us know the full extent of other people's work. You evidently don't realise that all Cosh operatives have to have eidetic memories—"

" We'll just write the message out and send it on to Earth, colonel." Grey smiled, thinking about Larry—whoever he was—hoping that he and the other Solterran agents on Takkat would come through safely. " After all," he said softly, " it seems natural that a messenger should have a good memory."

He went out then, to find Susy and their next assignment.

—**Kenneth Bulmer**

With the Sun expecting to turn nova, Man desperately attempts to build a shield in space— but the work falls behind schedule.

UMBRELLA IN THE SKY

by E. C. TUBB

When it got to the point where they were making book on who went next they sent for me. General Thorne, Officer in Charge of Shield Construction, nodded from behind an acre of desk, flipped a package of cigarettes in my general direction, waited until I had lit up and made myself comfortable.

" Mike Levine," he said. " How would you like to save the world? "

" Thinking of retiring, General? "

He didn't like that and I couldn't blame him. He wasn't an old man, nearer to forty than fifty, but he'd aged twenty years since I'd seen him last and something other than time had dug those lines in his cheeks. The responsibility, perhaps, of three billion lives?

" I'm serious, Levine." His hand shook a little as he flipped ash into a dispenser. " The Shield's in trouble. You can help."

" I pay my taxes and vote the party ticket. What more can I do? "

" You can co-operate."

I didn't like that word. Too many policemen had flung it at me, too many politicians had used it as an excuse. In my book it meant do as you're told, or else. I was stubborn enough to accept the alternative. Thorne must have read my mind.

"Relax," he said. "No one's riding you. All I'm doing is asking a favour."

"Which means you can't do whatever it is you want to do any other way. Right?"

"Close enough." He looked at the butt in his hand, tossed it aside and immediately lit a fresh cigarette. For a general he was a mass of nerves. I gave him three months before cracking up, six at the outside. Sunburst must have been a lot closer than the newsfax had let on.

"I'll be straight with you, Levine," he said. "I'm in trouble and I need your help."

"Now wait a minute, General. I'm a Professional Quarry, not a Professional Assassin."

"I know what you are, what you've done and what you've been. I know all about you, Levine, how you live and all the rest of it. That isn't important."

"It is to me."

"Isn't the world important to you?"

Put like that what could I say?

I didn't need the training but I got it anyway. Long hours on the seabed learning how not to fall. Longer hours suspended in the water learning how to control an apparently weightless body. Days cooped up in space suits and weeks of assorted maintainence, survival drill, all the rest of it. I'd been through it all before and the hardest part was to keep that fact a secret. Thorne wanted me to appear as a new boy and what Thorne wanted I was willing to do.

Don't ask me why. He'd been President of the Court Martial which had kicked me out of the Service and I had no reason to love him. Still, in a way, he'd done me a favour at that. Luna Station was no place for any man with a yen for living and, looking back, I suppose I shouldn't have done what I did. Taking a swing at a superior officer could have got me ten years, no matter what the provocation, so, in a way, he'd been on my side. Anyway, all that was five years in the past. Now was the time to safeguard the future.

There were a dozen of us in the class and all but two made the grade. We shipped out as a team, stopped off at Luna Station and had five hours to see the sights. I pleaded sick and called at the dispensary. The medic was expecting me. He checked his file and led me to an inner room. Thorne was waiting.

"Any regrets, Levine?"

"You kidding?"

He didn't comment and I was grateful. A Professional Quarry lives dangerously but he lives well and, with my reputation for eluding the Hunters I'd been able to demand high fees. I wondered if, in a way, I wasn't putting myself out of work. Sunburst hysteria would last only until the Shield was completed. Now, if ever, was the time for a man to cash in.

Certainly it was time for more information. Thorne gave it to me, reluctantly, seemingly afraid of his own shadow. I wondered when he'd last had a good night's rest.

"You've passed the training," he said. "You're on your way. If you wanted to sell out you can't do it."

"If you can't trust me maybe we'd better call the whole thing off."

"I've got out of the habit of trusting anyone." His voice was thick, heavy, suspicious. I began to get an inkling of what was wrong with him. Paranoia. He was beginning to believe that everyone was against him as well as the universe. I'd seen Quarrys get like that. When they did they didn't last long.

"Take it easy." I lit a cigarette in defiance of the warning notice. "Calm down a little. Blowing your top won't help."

"Nothing will help but the Shield. Nothing!"

His hands began to tremble and he rose and paced the floor. I didn't like to see the expression on his face. It reminded me too much of the days immediately following the Sunburst announcement. Society had never been quite the same since.

"Snap out of it." I blew a smoke ring towards the notice. "We're all in this together, remember. If one goes we all go. Now, how about getting on with the briefing?"

"All right." He slumped in a chair and wiped the sweat from his face with a handkerchief. He caught the lighted cigarette I tossed towards him and gave himself a lungful of

smoke. After a little while even his hands stopped their shaking.

"From here on you'll be on your own," he said. "The rest of your class will be held here for further training. There's no point in sending them to the Shield until we can clear up what's wrong out there."

"What is wrong?"

"We're falling behind on construction." He said it as if he were announcing the end of the world. In a sense he was. I felt my heart begin to accelerate.

"How far?"

"Too far. We're way behind schedule and falling back all the time. Unless something is done we aren't going to make it." He took a deep breath. "Now you know why I can't trust anyone."

It was an understatement. Thorne had the kind of knowledge which no man should ever be burdened with. I could understand the way he felt. One word, one hint to the newsfax agencies and the world would go crazy. Things were wild enough now when everyone believed that there was nothing to worry about; tell them the truth and the following hysteria would make the Sunburst panic a kiddies' tea party.

And the agencies wouldn't be censored, not if they guessed. After all, the end of the world wasn't everyday news.

In the shuttle heading for the Shield I had plenty of time to go over the rest of Thorne's briefing. Boiled down it was simple. The Shield was behind schedule. Find out why and fix it. Just like that.

Sitting alone in the shuttle, the drive humming behind me, supplies stacked all about me, the automatic pilot clicking as it rode the beam I should have felt. proud. It was a big responsibility Thorne had given me, too big. So big that I wasn't fooled for a minute. Thorne had sent for me because he was desperate and for no other reason. And. if I had entertained any thoughts that I was something special, the view beyond the vision plates would have reduced me to size.

A man can't feel big in space. The stars are too overwhelming, the distances between them too vast, the entire universe so damn big that conceit hasn't a chance of survival. I'd forgotten that back on Earth. I'd forgotten a lot of things

in the rush and frenzy of civilisation. The training, the trip to Luna and the sight and touch of familiar things had worked their magic. Maybe I was a fool to throw up a soft life, soft between working hours, that is, for what I was doing. But I didn't regret it.

The Shield began to grow in the vision screens. A mass of cable, foil, squat vessels, cylinders with spouting nozzles, strange fabrications turning in the void and, above all, the Shield itself.

You couldn't miss the Shield. Edge-on to the sun it was a gigantic snowflake of shining metal drifting in nothingness. Ten thousand miles in diameter it would be, when finished, the largest man-made construction history had ever recorded. And, if it didn't get finished in time, there would be no more history.

Seven years ago a probe ship had exploded in a manner which startled the astronomers and, when they had found the cause, the world had gone a little insane. Sunburst hysteria we called it now and the effects were still with us. The Hunts, the Addicts, the Lobojags, the Sensors, all the wild, vicious, selfish amusements the threat of imminent death had raked from the bottom and floated on the surface of society. For the probe ship had met a meteor shower of seetee which was heading directly towards the sun.

It would be, so they told us, like tossing a can of petrol on a coal fire. When the anti-matter hit there would be eruptions not seen since the birth of the world. There would be heat, colossal heat and Earth would be seared to ash. Unless that heat could be baffled. Unless we could duck behind something until it was over. And so the Shield.

And, according to Thorne, the Shield wouldn't be finished in time.

He didn't know what was wrong, if he had he would have fixed it. It wasn't sabotage and it wasn't supply. No one in their right mind would deliberately wreck the Shield and the entire world was behind the flow of supplies. It reduced itself to the human element. The construction workers weren't working hard enough. The men were dying too fast.

So fast that they even made a book on who was to go next.

Moody was waiting for me when the shuttle finally connected with the Beehive. An aide led me to his office, routine

procedure for all new arrivals, and I sat patiently while he tested me and charted my psycho-stability and emotional index. The psychologist, like Thorne, was a man old before his time. A little, stooped runt of a man who looked as if he wanted to cry.

"Did Thorne tell you about me?"

"Yes."

"How? I thought all this cloak and dagger stuff was secret?"

"I've a private scrambled line," he explained. "Direct communication." He anticipated my next question. "Thorne trusts me. He has to."

I could have argued that but there was no point. Moody was the man on the job, he should be able to tell me what I wanted to know. He should also have been able to tell Thorne the same thing. He was a good psychologist.

"Each man to his trade," he said quietly. "I can tell you the facts as I see them."

"Am I arguing?"

"No, but you have your doubts about me. Forget them. I've been with this thing since the beginning. Maybe that's why I feel so helpless. If there's something wrong out here then I'm a part of it." He lit a cigarette without offering me one.

"Why does Thorne have to trust you?"

"Because there is no one else. Because I've known him almost all my life. Because everyone needs some other person. Take your choice."

He was aggressive and I could guess the reason. Thorne meant a lot to him and now Thorne had decided to lean on someone else. Or perhaps it wasn't that. Perhaps it was just nerves too highly strung for too long a period. I lit a cigarette and relaxed and tried to forget the passing of time. Something which Moody, obviously, couldn't do.

"All right," I said. "Tell me the facts."

"We're behind in construction."

"I know that. Why?"

"Because the men aren't working hard enough." He lifted a hand as if to stop my breaking in. "And getting more workers won't cure it. We don't want more workers—we want men who will work. Can you appreciate the difference?"

I could. On any construction job there is a limit to the

amount of men who are able to work effectively. More men reduce progress, not increase it. It boiled down to a matter of logistics and on the Shield, logistics were quite a problem.

Men had to be fed, housed, entertained. The construction programme had to be integrated in terms of air-capacity, time in suits, time for relaxation, time for sleep, for sickness, for transportation. It took, I knew, an average of four hours for each hour's actual work. A man can only stand so much cooped up in a suit alone in the void.

More men, if they didn't want to work, couldn't cure the problem. A thousand shirkers can't equal the output of a hundred dedicated men. Thorne knew that as well as I did.

"You must have some ideas of your own," I said. "It would help if I knew them."

"Rule out sabotage," he said. "Rule out supply and sickness, physical sickness, that is. Rule out union trouble, strikes, dissatisfaction at forced labour. Rule out engineering inadequacy and rule out environmental hazards."

"Can we?"

"Can we what?"

"Rule out environmental hazards. From what I hear plenty of men are dying on the job."

"Too many." He shook his head. "A damn sight too many. That's the frightening thing about it. There's no reason why they should die at all."

He was wrong, of course, but there was no point in telling him so. Men do not die without cause. Moody simply did not know the cause. I sat and listened to his explanations and justifications and negative findings and all it added to was a great big question mark. When I had sucked him dry I went and reported to administration.

An officer checked my file, looked at me as if I should be familiar to him, then studied the papers.

"From what these tell me," he said, "you're a top-man. Are you?"

"Can't you believe what you read?"

"Not always." He looked at me again. "Nor always what I see. For example, you look like a serviceman I once met on Luna Station five years ago. I'm wrong, naturally."

"You're wrong." He wasn't but I'd hoped his memory wasn't as good as mine. "But for your information I'm what

the papers say. I can stand heights, can handle a suit and work in vacuum with tools. There's no point in my getting acclimatized. Just send me to wherever the big money is to be earned."

"That would be out on the perimeter." He frowned as he checked his mental files. "Hive nineteen's short of men. Get kitted and report to A lock for the shuttle."

Getting kitted meant drawing a suit, signing a mass of papers and collecting a wad of closely printed instructions. I donned the suit, went through the routine tests and headed for the lock. The shuttle was an open platform, powered by a weak re-action. I climbed aboard, the magnetic grapnels were released and the centrifugal force of the spinning Beehive flung us into nothingness.

It was an odd experience.

No matter what they tell you there's nothing nice about free fall. I was standing on a thin metal platform, gripping a thin metal rail while all about me was just a great emptiness. To one side the sun flamed like a furnace and I knew, I just knew, I was falling directly towards it.

Quite a lot of men broke at that point. It was the biggest factor in determining the fitness of workers on the Shield. Inside, yes, they had no trouble; the Beehive, the huge administration depot, together with all the smaller, living Hives, had the artificial gravity of centrifugal force. But outside, where it counted, it was just a man alone with his terror.

The officer had known, of course, otherwise he would never have sent a greenhorn out without due indoctrination. I wondered what other surprises were in store for me. I didn't have to wait long.

The shuttle clicked on to Hive 19, a lock gaped open in the hub and I climbed inside. A man met me beyond the lock. He wore a suit, sealed but for the open faceplate, and he looked sick.

"New arrival?"

"That's right." I began to unseal my suit. He looked horrified.

"Don't do that! Keep it on and just leave the face plate open."

"Why."

"If anything should happen you can slam it shut and be safe."

It made sense but a suit isn't noted for comfort. True, there was always the chance that a meteor would puncture the walls but a man crossing a street stands a greater risk of being run over. I stepped out of the suit, hung it on a numbered peg close to the air-lock and smiled at my reception committee.

He led me to the Commander of Hive 19.

Recognition was mutual. Major Stanton, he'd been a captain then, leaned back and thoughtfully touched the spot where, five years earlier, I'd landed my fist.

"Levine! Well, well! This is a pleasure."

I didn't like Stanton and he didn't like me and five years had made no difference. The officer back in the Beehive must have had a peculiar sense of humour.

"Mike Levine reporting for duty, sir." My voice was neutral. "May I congratulate the Major on his promotion and suggest that we both forget the past?"

His voice matched my own. "Why not?" Then he got down to business. Hive 19, he told me, was a happy hive. The men had a good team spirit and he wanted to keep it that way. The work was hard, arduous and sometimes dangerous, but it had to be done. It was his job to see that it was done. "You understand me, Levine?"

"I'm sure I do."

"You call me 'sir'," he said gently. "The courtesy of rank, you know. I'm sure that you won't forget it." He pressed a button on his desk. "Glendale will show you around."

Glendale was the reception committee. He led me to a cell which I would share with five others, showed me the mess hall and other essentials then pushed open the door of the recreation room. A dozen men stopped playing poker as we entered. A big, squat gorilla of a man threw down his hand and rose to his feet.

"New guy?"

"Fresh in," said Glendale. Then, to me. "Jake Wilner. Your shift boss."

I nodded and looked around the room. The poker players seemed to have forgotten their cards. They were looking at me with a kind of hungry expectation. Wilner stepped forward.

"Your name?"

I told him.

"Welcome to shift two," he said, and held out his hand. I took it, felt his grip suddenly clamp down and knew what all the expectation was about. I was being tested, hazed, given the treatment. What Wilner had in mind I didn't know; what happened was that he found himself on the floor nursing an arm which I could have broken as easily as not. He swore, climbed to his feet and braced himself for a rush.

"I shouldn't," I said. "The next time I might not be so gentle."

For a moment it hung in the balance then one of the watching men let out a yell.

"Ten to one he tops you, Jake. Is it a bet?"

The tension snapped like a rubber band. Wilner scowled, then grinned and held out his hand. Gingerly I took it, this time there were no tricks.

"Just having fun," he said by way of apology. "Where did you learn judo?"

"Protecting my wallet from predatory females." I nodded towards the others. "Do I get introduced?"

"Why not?" He yelled at the others. "Hey, you guys, this is Mike Levine. Mike, meet Sam Galway, Joe Fisher, Bob Shaw, Fred Evans . . ." We went the rounds. Aside from their names there was little to choose between any of them, just the usual bunch of men to be found anywhere on a construction project. We halted by a studious looking man, pale-faced and with calculating eyes. "Sid Royston," said Wilner. "If you want a bet he's the man."

"Bet?"

"Sure he runs the book." He spoke to Sid. "Who's the favourite?"

"Glesgier, shift three. A mill will get you even money he goes next. Want on?"

"I'll think about it." Wilner hesitated. "What odds do I carry?"

"Twenties."

Wilner drew a deep breath and a shadow seemed to lift from his shoulders. He caught me by the arm and tried to steer me towards the poker players. I resisted.

"I'm new here," I said to the bookie. "Can I bet on credit?"

"Uh, uh."

"Okay. Look, what odds do I carry?"

"None as yet." His eyes probed mine. "You're a long shot, a rank outsider. Why?"

"Just testing my life expectancy." I turned to Wilner. "Look, Jake, I'm safe not to go next. How about lending me a mill to payday?"

He hesitated, then dug a crumpled note from a heap in his pocket. I waved it aside.

"Give it to Sid. On the favourite, right?"

"It's a bet."

The next morning, before we went out to work, he paid me off. It was the easiest thousand I'd ever made in my life. I could have done without it.

The work, as Stanton had said, was hard, arduous and, as I could see, easily dangerous. The Shield was a web of cables covered with foil, the whole thing a flimsy, delicate looking structure which could never have resisted the smallest of planetary forces. Our job was to stretch the cables and spread the foil.

I rode a low-powered reaction engine, a titanic drum of fine cable unreeling behind me, aiming my mount towards a winking flare of light which was connection-point. I arrived, slowed my mount and braked the drum. A suited shape moved towards me and together we drew in the slack. An atomic torch flared, metal fused, parted, and another strand of the web had been completed. I studied my schedule and spider-like, laid another cable in the void.

I was alone and yet not alone. All around me I could see the winking spots of light from welders, signals, the helmet-lights of suited workers. All around and yet impossible distances away. The tiny figures of suited men seemed like ants against the tremendous expanse of the Shield. Some, like myself, rode hot-eyed engine spinning cable. Others unfolded wide sheets of foil like sparkling wings while men welded the thin sheets to the stretched cables. Still others controlled sprayers which cast molten metal against electro-magnetic fields so that, from nothingness, a barrier grew.

And, always, impossible to ignore, the gigantic ball of the sun waiting to swallow my falling shape.

You couldn't help but look at the sun. Compared to it the Shield was nothing, a pitiful thing with which to save a

world. Come Sunburst and tugs would swing it to face the solar furnace. Other tugs would strain to hold it in position against the fury of radiation which would beat against the flimsy metal. That radiation would have enough pressure to drive it like a sail before the wind. It would buckle and whip, strain and curve backwards in a gigantic convexity while, in the centre orifice, the tugs would fight against the pressure.

That was the reason for the cables, the bracing, the spider-web design. The answer to those who claimed that a cloud of dust would answer as well, forgetting that Sunburst would last months and that, to do the job properly, a barrier had to be both mobile and quickly reducable.

There was no point in staving off heat-death in order to freeze.

I was glad when the shift was over. Three hours in a suit is enough for anyone and we were fully exposed to the sunlight most of the time. Back in the Hive I unsealed my suit, flung it towards its peg, then made for the showers. Wilner grabbed my arm.

"Not so fast," he growled. "You want to become first favourite?"

"I want a shower."

"Maybe, but first you check your suit. Check it good."

"I'll do it later."

"You'll do it now." He blocked my path. I could see that he meant it. Too tired to argue I checked my suit, found everything as it should be, hung it back on its peg. "Can I go now, teacher?"

He grunted at me and I went to the showers. A couple of men, I noticed, carried their suits with them, maybe they were so fond of them they liked to sleep in them, but I hated the sight of mine. I hated it still more when I had to queue for a shower and found the water tepid from overuse.

I learned. I learned the reason for the constant suit-check which Wilner insisted on each man of his shift making both before and after use. I learned of the dreadful fascination of the sun which seemed to draw a man towards its flaming brilliance. I learned to live like a cog in a machine. I discovered why the Shield was way behind schedule.

Way back in the time of the cold war unions got a power complex and struck for the least thing. After a time governments got tired of being held to continuous ransom and

passed anti-strike legislation. The unions, after they found the new laws had teeth, fell back on a trick which the labourers must have used in the time of Cheops. They worked to the rules.

They didn't strike—but the results were as chaotic as if they had done. Each little regulation, every safety rule, every fiddling bit of routine procedure was adhered to with loving care. Production, transportation, industrial life as a whole slowed down to an uneasy stasis. And there was nothing anyone could do about it.

The unions won, of course, they had to. When a man can detain a train because, in his opinion, something seems wrong or a mechanic ground an airplane because some inspector hadn't signed his work sheet, or a driver refuse to take out his truck because his brakes aren't what he thinks they should be, management doesn't stand a chance. And working procedure on the Shield was loaded with safety regulations.

It wasn't deliberate, of course. The men weren't on a 'work to rule' strike or anything like that. It was that too many men had died and the rest didn't want to follow their example. So they were careful, ultra careful, checking and double checking their equipment a dozen times a shift. They were more concerned about staying alive than building the Shield.

I faked sick and spoke to Moody about it. He heard me with mounting impatience.

"Really, Levine, you aren't telling me anything I am not aware of."

"So? Then why aren't you doing something about it?"

"I haven't been idle." He didn't meet my eyes. "The trouble is psychological, that goes without question."

"Agreed. And?"

"The difficulty is to find out just what is the trouble, an essential if we hope to cure it." He lit a cigarette. I waited, and, when he didn't offer me one, I lit one of my own. I had the impression he was uneasy, that he didn't want me around. "I told you all this the last time we met."

"You told me that you suspected it might be due to the General Adaption Syndrome," I said. "The men are spooky because they are living in an alien environment and can't fully adapt. Sure, they seem to, but way down inside tensions build up until something breaks. I think you're wrong."

"You are, of course, fully qualified to give an opinion?"

"I think I am. The men here are working, basically, for money. Out on the perimeter they earn a mill a day, five times what they could back home, and everything is found. With pay like that it doesn't take long to rack up a small fortune."

"You forget something," said Moody coldly. "They are also working to save the Earth."

"Maybe they are, but I wonder how many of them think of that? The money they think of all the time. It's human nature to want to stay alive long enough to spend it." I tossed aside my butt. "All that the men are suffering from is a simple anxiety neurosis."

"Ridiculous!"

"You think so?" I stared into his eyes. "Tell me, Moody, what odds do you carry?"

"Odds?" He looked blank. "What are you talking about?"

"You mean to say that you've never had a bet?" I shook my head. "You don't know what you're missing, it beats the ponies hollow. A little gruesome, perhaps, but it's a real man's sport—especially if you're the favourite."

He didn't seem to know what I was talking about and I had no time to waste. I caught the shuttle back to Hive 19. Wilner met me inside the air-lock. I thought he looked odd.

"Mike!" He grabbed my arm. "You okay?"

"Sure." I went to hang up my suit, wondering at his sudden concern. He stopped me putting it on the peg.

"Keep it with you," he urged. "Wear it all the time, sleep in it even."

"Like Glendale? Why?"

"No sense in taking chances."

I looked at him, knowing what he was going to say next.

"It's the book," he said. "You've jumped to odds on favourite. They're betting on you all over the Shield."

Tell a man he's going to die and you do something to him. You strike at the roots of his survival; just how hard depends on who you are and how much importance he places on what you say. A doctor wins all the time, a judge nearly as often, on the Shield the bookie was the voice of fate.

A man became a favourite because a lot of people had decided that he was the one due to go next. They were so

sure of it that they placed big money on the fact. Human nature being what it is all those people wanted to win—they wanted me to die. It wasn't a pleasant feeling.

"Have you bet on me, Jake?"

"No, Mike."

"How come?"

He tried to joke about it. "Hell, the odds are way out. Me? I'm a sucker for the long shots." He punched my arm. "Anyway, there's no such thing as a sure bet."

Maybe there wasn't but he was about the only one who thought so. There was a silence as we entered the recreation room and a couple of men heading towards Sid Royston changed their minds and sat down instead. I crossed to the bookie.

"What odds on Moody, Sid?"

"Moody?"

"The chief head shrinker."

"Not listed." His voice, like his eyes, held no expression.

"Stanton?"

"Not listed."

"Put me a mill on the second favourite." I threw him the note and moved away. Wilner joined me. Glendale, still wearing his suit, passed us on his way out. I'd seen the expression on his face. Jake cleared his throat.

"How about a game of poker, Mike?"

"Later." I pulled him to one side, kept my voice low. "Look, Jake, I want you to do something for me. Put ten mill each on Glendale and Royston. Can do?"

"Are you crazy?"

"Can you do it?"

"Sure, but why?" He seemed to think he knew the answer. "Don't let Glendale's habit of wearing his suit all the time fool you. He's a long shot. He works inside all the time, Royston too. Betting on either of them is throwing away money."

"It's my money." I pushed it into his hand. "Place the bets for me before next shift. Okay."

"Okay." He made as if to step towards Royston. I caught his arm.

"Not now, lunkhead. And don't let him know the money comes from me." I laughed as if Jake had told me a risque story then let him steer me towards a poker group. Sitting down I looked towards the bookie and caught his eyes on me before the two men who had sat down when I'd entered the

room moved forward to place their bets. Another couple of men who wished me dead. I was learning what it was like to be popular in the wrong sort of way.

An hour of poker was enough. Maybe, because I didn't care one way or the other, I won hands down. No one was really sorry when I yawned, made as if I was tired and announced that I was ready for bed.

I didn't go straight to the cell. Instead I went to the air-lock and collected my suit. Inside the cell I picked it inside and out, everything appeared as it should be. I was asleep when the other five men came in to hit the sack.

Wilner was worried when shift time came. He glowered at me through the open faceplate of his helmet.

"You're late, Mike. Suit checked?"

"I checked it."

"Maybe you'd better check it again?"

"I said I'd checked it. You place those bets?"

He nodded, glanced at the wall clock and passed out the work schedules. Together we passed through the lock into space. As usual I was on cable-laying detail, my equipment ready for immediate action. I wasted fifteen minutes checking it as far as possible, and then another ten until all the others had gone. Alone I headed towards the operations area.

For a man due to die I was in pretty good spirits but that could have been because, unlike the others, I knew how I was going. Not the exact manner of it, naturally, but the logic behind it. And, of course, I was confident that I wasn't going to die at all.

Some of that confidence evaporated as I drove my mount from the Hive. Death, in space, could come in so many ways. A puncture in the suit, a whipping cable, a smashed faceplate, a dozen ways all easily explained and expected. The only thing I was certain about was that it would come soon.

It came on my third run. Ahead of me the winking signal light showed my next connection-point and, as I grew closer, so did the old, familiar feeling inside of me grow stronger. I can't describe that feeling, no one can, it's something from the primitive, the instinct of warning which kept our ancestors alive. Having it had enabled me to become a Professional Quarry, men without it never became professionals, they rarely lasted beyond their first Hunt.

The light grew close and a suited figure became visible against the glare of the sun, painful despite the filters. I

braked, braked again and slipped from the saddle as the mount came to a halt. The man glided forward, welding torch in hand, aimed, apparently by accident, in my general direction.

I kicked against the mount just in time.

The flame from the torch wasn't very big and not very long but it was hot enough to have stabbed through my suit like a hot needle through butter. If I hadn't kicked myself sideways that is just what would have happened. As it was we were drifting rapidly apart in opposite directions and no pretence between us.

The suits weren't fitted with general purpose radio, there was no point in encouraging a lot of men to fill the ether with a lot of idle chatter. Instead we had Hive-to-suit sets fitted with an emergency circuit for reverse transmission. I pressed the button on my belt, heard the hum of the carrier wave building then the peculiar sap as the set went dead. A gimmicked part, perhaps, one which looked genuine enough to pass examination but which couldn't stand the load.

My initial glide had carried me away from the cable-carrier and towards the sun. I looked towards the Shield, the edge was to one side of me, the side towards the sun a glare of brilliance. Against it I would be invisible, my helmet-light a glow-worm against a searchlight. Safety lay back from where I had come.

The suit carried the regulation reaction pistol, I used it to kill my momentum, praying that it hadn't been fixed like the radio. The Shield stopped moving away from me, the mount came closer. Twin points of flame advertised the whereabouts of my adversary. He was using the atomic torch as well as his pistol but it didn't give him much advantage. That torch had plenty of mass, it took all the reaction it produced to move itself.

Together we headed towards the cable-carrier. I reached it first.

There was no time to mount the saddle and get moving. No time to do anything but duck behind the cable spool and flatten myself against it, the tips of my gloved fingers hard against the metal. I felt the vibration as something heavy hit the other side, located the point of impact and jerked myself towards it.

The torch swung towards me but I was too close. The orifice hit my thigh, the flame missing the suit by a fraction,

then I kicked at the torch and, at the same time, flung my arm around his helmet. For a moment we were together, staring at each other's filters, then I smashed my reaction pistol against the faceplate.

Glendale died in the suit he had loved so much to wear.

Thorne looked even older than I remembered but that could have been due to imagination or bad transmission. There was plenty of interference this close to the Shield and the scrambled synchronisation could have been a little out of kilter. Moody leaned forward and adjusted the set but it made no difference. Thorne's features wavered as he stared from the screen.

"Well?"

"Mission accomplished," I said, and lit a cigarette. I heard Moody suck in his breath and moved back so that I could keep him visible in the corner of my eye. Thorne's voice rasped from the speaker.

"Stay in scanning focus, damn you!" Then; "You've licked it?"

"I think so. Better get some men out here right away. Service men, the kind you can trust."

"As bad as that, Mike?" It was the first time he had ever called me by my first name. I nodded, then grabbed at Moody as he lunged towards the screen.

"Don't listen to him," yelled the psychologist. "I tell you the man's insane! He came in here with some wild story and insisted that I contact you. I'm terrified of him. Terrified! He's . . ."

Moody was only a little man but it doesn't take much strength to ruin a set. I yanked him back from the screen, remembered not to hit him too hard, and let him fall gently to the floor. Thorne looked sick.

"Him too?"

"Him, Stanton, quite a few others. I don't know how many or how deep but they're the cause of your trouble." I picked up the cigarette I had lost in the scuffle, looked at it, lit another.

"Moody had to be in on it because it's something no psychologist could have missed. Stanton because he was responsible for the work schedules and, anyway, he kept a hatchet man in Hive 19. Maybe the bookies are in on it too, some of them must be, and the pay corp can't all be clean."

"I can't understand it." Thorne shook his head. "They know how essential it is to build the Shield. Why, Mike? Why?"

"Greed," I said. "Plain, ordinary greed. You can't beat it." I began to grow impatient at his lack of understanding of human nature. "Look, Thorne, you bribed men to come out here to work, right?"

"Wrong. I offered them high wages but that was all. We could have had volunteers for nothing."

"No you couldn't, and you know it. Cranks, yes, fanatics and a few, very few dedicated men but that is all. And how many of them would have been acceptable?" I shrugged. "You know the answer to that as well as I do. No, Thorne, you offered high wages to lure the men you wanted to work on the Shield. You got them—and you got what went with them."

Thorne had forgotten Sunburst hysteria. The whole world suffered from it and the men on the Shield were no exception. In a way they suffered even more, the constant sight of the naked sun, the sense of falling, the knowledge that, soon, a mass of contraterrene matter was going to blast the inner planets with flame, all had its affect.

And the Shield had to be built in a hurry. Safety precautions were overlooked, the death role mounted and, with grim gallows humour, the betting commenced. Relatively harmless at first it didn't stay that way. Men began to measure their lives by the quoted odds and began to think more of their own skins than the Shield. When that happened the slow-down was progressive.

"It became a racket," I said. "One of the biggest. You've a lot of men working out here and most of them draw a mill a day. My guess is that most of them bet, why not, what else is there to do out here except gamble? And when there's a lot of money to be collected things soon get organised."

He found it hard to believe and I didn't blame him. Men had to sink pretty low to bet on the death of their fellows.

"You can see the logic of it," I continued. "In order to work fast men have to take chances but, if they do, they become favourites. Favourites, Thorne, usually win; in this case it means they die. No one wants to be a favourite so no one takes risks so the work slows way down. But those running the book want a quick turnover. So they 'fix' a favourite so everyone gets even more cautious and the work slows down even more." I blew smoke towards Thorne's

image. "It's what I think radio men call a negative feedback."

"You're sure about all this?"

"I killed a man to prove it." I forestalled his next question. "It was self-defence, he wanted to kill me, Stanton sent him."

I explained how Glendale had aroused suspicion. For a man with such long odds he had no reason to be so scared. He had an inside job too so what had made him constantly wear a suit? And I had seen his expression that time in the recreation room. Hunters looked like that when they saw their Quarry.

"His suit was an alibi," I said. "He could enter the Hive at anytime and no one who saw him would even think that he'd been outside. Why should they? The guy always wore a suit. My guess is that you'll find someone like him in every Hive on the project. Moody, of course, signalled to Stanton to set me up. He must have grown a little scared that I knew too much."

"I trusted Moody," said Thorne, "I really trusted him."

"He couldn't withstand temptation," I said. "But, in this day and age, who can? And don't ask me what good they thought their money would be if the Earth got burned up. Greed is notoriously short-sighted." I sighed and shook my head. "One thing you've got to admit, they certainly knew an opportunity when they saw one."

Thorne looked grim and I knew what he was thinking. Service troops would be sent out, the records checked and quite a lot of people would have to do a lot of explaining. There would be cashierings, executions and confiscations. Law-suits and criminal charges, a new broom would sweep the Shield clean of corruption so that it could be finished in time.

But I wasn't thinking of that at all. I was reminding myself to get Wilner to collect on the bet he had placed for me with Royston. It wasn't often that I picked the long-shots.

—E. C. Tubb

The best method of ensuring peace between colonials is to sell them superior weapons . . .

WEAPON MASTER

by ROBERT HOSKINS

The little ship screamed down from the sky and passed rapidly over the bright pastel roofs of the village. It banked sharply and retraced its route, heading for the small space-port two miles away. With the ease of long experience, the pilot abruptly stood the ship on its tail and set it down in the centre of the black blossom on the tarmac, scoured there by its own fire.

The ship seemed to quiver like a tuning fork as it struck ground; the scars and deep pocks that nearly obliterated its original finish danced briefly in the eyes of the port watch. The gangling teen-ager stuck with that detested chore hurried from his cubbyhole office to meet the new arrival.

Visitors were few and far between on outlying worlds such as this. Aside from the bi-monthly trade ship, there had not been more than three strangers in the equal number of Earth-years since the colony had been established.

The little ship's lock eased open with the infuriating slowness that comes from equal atmospheric pressure on both sides of the door, thus forcing the tiny motors in the hinges to do the work all by themselves. The boy waited impatiently, scuffing his feet on the still-warm discoloured tarmac, but finally the lock was open enough to permit the appearance of a head.

A most improbable head, at that, large saucer ears stuck straight out from a conglomerate mess that had apparently been run through a very fine meat chopper. Attempts to repair the original damage had been made by running what remained through a cold rolling mill. As if that weren't enough to permanently ruin any vestiges of the original beauty, buck teeth protruded almost straight forward. The whole mess was crowned by a very few straggly strands of colourless hair, half-heartedly laid across a mottled scalp.

The boy swallowed his original impulse to turn tail and run. "Huh . . . hi," he said, feeling his adam's apple surge up and down against the collar of his tunic. He hoped the stranger found more cheer in his voice than he had placed there.

The apparition grinned. "Hello, boy. Hear you're plannin' to have yourself a little war hereabouts."

The Mayor inwardly shuddered every time he looked at his visitor's face. The rest of the man's body seemed fairly normal, but then again, it had not been revealed to his gaze. He decided to reserve decision; he was a wise man for such a small colony.

"Just what is your business with Newcastle, Mr. Jackman?" he asked, the preliminary amenities almost done with. He offered the visitor a bowl of the citrus fruit that was the colony's main export.

It was declined with a casual wave. "Got something to sell you, Mr. Mayor." Jackman sipped at the virulent native wine, smacking his lips to show his appreciation. He held out his glass for a refill.

"What is it?"

"Hear you're havin' a little trouble with your next door neighbours." His pale eyes peered myopically towards his host. "Kinda thought I meet be able to help some."

"It's true that there has been trouble," the Mayor admitted, cautiously. "Jordan's Delight, the other colony in the system, is very like Newcastle physically, with very much the same native resources. There seems to be some reason for believing that the two worlds were colonized by the Lost Race, although I myself have always considered that primordial species to be strictly the product of local mythologies.

"Myth or not and completely aside, Jordan's Delight has been poaching on our contracts. They take advantage of the fact that they have a slightly warmer world with an increased

growing season. Thus they can produce more than Newcastle on the same amount of land. We have tried every diplomatic means available, but to date we have not been able to make them stop."

Jackman frowned. "Dealin's like that make a man mighty mad. Sometimes even shootin' mad."

"I know what you mean. So far I have managed to restrain the hot tempers of our younger men, but—" He shrugged his shoulders, eloquently. "But you still haven't answered my question. What are you selling?"

"Weapons, Mr. Mayor."

Jackman held out his glass again. The potent wine seemed to have little effect on his system, even though he was drinking it almost as if it were water. He had already consumed three times as much as the Mayor; the latter was very definitely aware of what had passed into his bloodstream.

"I've got the finest line of anti-personnel weapons and field artillery in this entire section of the galaxy," said Jackman, after severely lowering the level of the liquid in his glass. "My family's been in the business hundreds of years—my ten-times-great Granddad was a gunsmith back on Earth, during the days of the great western expansion on Old America. Yes, you can fight most any kind of war with my stuff, big or little."

"You can't be carrying anything like that in that little ship!"

"Got samples of the more portable stuff," he explained. "You decide you want to buy, I'll have two warehouse ships here in three days at the outside. Got 'em cruisin' this sector right now, just waitin' for my call."

"I see."

The Mayor leaned back in his chair, crossing his hands on his over-obvious paunch. His eyebrows raised as his forehead furrowed with concentration. Several moments of silence followed, during which Jackman twice filled and emptied his glass.

At last the Mayor stirred. "Our world is not overly rich, Mr. Jackman. I think I speak for the Council when I say that we would definitely be interested in purchasing some of your wares. But enough to equip an army . . . ?"

He shook his head. "I simply don't know where the money would come from."

Jackman leaned forward. "How many people here on Newcastle, Mr. Mayor? Maybe twenty, thirty thousand?"

"About that," he admitted. "If memory serves me right, the annual census last year showed slightly over twenty-seven thousand. Added to that, of course, are the colonists who have arrived since. I think thirty thousand all told. Why?

"Then you must have somethin' like ten, twelve thousand producing adult males. Right?"

"Something like that. Aside from the technical staff, you know that colonial regulations insist all colonists must be under thirty and married. Just what are you getting at, Mr. Jackman?" He placed his elbows on the low table, cradling his chin in his hands.

"Simple, Mr. Mayor," said Jackman. "Worlds like this, based on an agricultural economy, usually have seventy or eighty per cent of the producing population employed in the basic industry—in your case as farmers. Now farmers the galaxy over are a hard-workin' breed of men. When they relax, they do it in the environment they know best—namely the great outdoors. On worlds like Newcastle the two most popular relaxations are fishin' and huntin'. Do you follow me?"

The Mayor chose his words with care. "I'm not sure. If you mean that most of our men already have weapons, I suppose you're right. I have an Enfield .004 needle rifle myself. But we can't wage war with hunting weapons! We need cannon, anti-personnel atomics."

For the first time in the interview, the Mayor allowed some of his emotions to slip through. The man on the other side of the table liked him a little more.

"Besides," the Mayor continued, "Jordan's Delight is as large a colony as Newcastle, and their men are equally well-armed. If we have to rely on what we already have, we're at a stalemate."

Jackman leaned back. "That's where I come in. I'll sell you the new stuff you need." He grinned, his mouth looking ridiculously like an open well with its border of teeth.

The Mayor slapped the table. "I've already told you that we can't buy your weapons. We don't have the money . . ."

"Hell's bells man!" Jackman snorted. "Ain't you got any sense? Trade your present stuff in!"

"Trade . . . ?"

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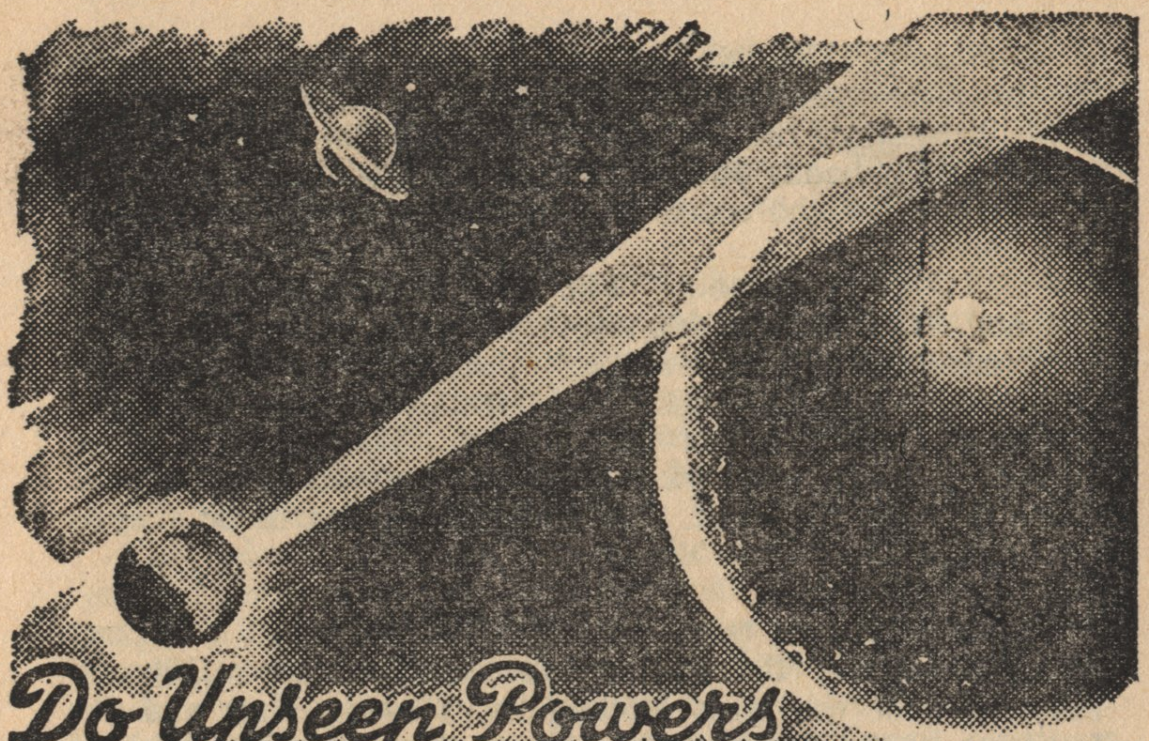

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"Certainly! The hunting rifles on Newcastle'll easy cover the down payment on the new stuff. For the rest, I'll accept your contract for ten per cent of your credits with whichever of the galaxy banks you use, to run for a sufficient period of time to pay off the remaining cost. What better deal could you get?"

"I . . . I don't know." The offer left the Mayor dumbfounded. "I'll have to call a special session of the Council."

"Now you're talkin' sense!" Jackman stood up and stretched. "You want demonstrations, just bring your people out to the spaceport in the mornin'. You can look over everything in my ship, pick out what best suits you."

He held out his hand. "I think we're going to be able to do business."

The last load of trade-ins swung in the cargo hoist and disappeared into the gaping maw of the cargo ship. A moment later the giant loading locks swung shut and the towering giants began to shiver with their pre-flight take-off check.

Jackman went down the line of Newcastle dignitaries, shaking hands vigorously with each one. He grinned widely. Suddenly the Mayor did not think his face so repulsive.

"Mr. Jackman, we don't know how to thank you," he said. "Our appreciation—well, I just can't find words. If it hadn't been for you, those criminals on Jordan's Delight might well have driven us into bankruptcy."

"Well, now." Jackman scratched his head. "I guess I owe you more than you do me, Mr. Mayor. Even if the figures on this contract don't make you think so at the present." He patted his breast pocket, from which the gleam of official papers shyly peeped. "After all, I'm a business man and I can't exist without people like you for customers."

At the far end of the tarmac, a thousand yards away, one of the colonists approached the pile of plastic crates, a crowbar swinging loose in his hand. He read the stencils on the end of the crates until he found one that satisfied him. Using the bar, he opened the crate and took out an atomic rifle.

"Are you sure you can't stay a few more days?" asked one of the Council members. "The whole colony's outdone itself on the festival—it's starting in just a few hours. Lord knows, it's the first time we've had a reason for celebration since the first ship landed three years ago. We'd be more than honoured if you'd only agree to be the guest of honour."

The colonist hefted the rifle, admiring the perfection of its balance. Then he opened another crate and took out an energy-source, making doubly sure that it was locked in place. Then, with the carefulness of an experienced hunter handling a strange weapon, he lifted the butt to his shoulder and sighted towards a distant tree.

"Hate to miss the affair," said Jackman, shaking his head reluctantly. "I always did think that small town parties were more fun than anything. But I'm afraid I've got to get back home, check up on things. I left my wife's brother in charge of the office, and I'm gettin' to think that I've been away too long as it is. Might not have a business to go back to!" Again he offered his hand around.

The colonist held his aim on the distant tree, picking a gnarled protrusion low on the trunk for his target. He propped his arms on the pile of crates to insure that there would be no possibility of missing. Slowly his finger contracted against the trigger, forcing it back to contact.

Jackman took pity on the crestfallen Council members surrounding him. "Maybe someday I'll get back here—maybe on my next swing through this sector. You sure do have a pretty planet here." He shook his head sadly.

Contact was made; the tree stayed unharmed.

"But I've got to go," he said, sighing. He climbed into his ship and the lock door began to close with its usual agonizing slowness. He waved at the Council until he had to pull in his hand or risk losing it.

The colonist examined the rifle, pressing the trigger several times. He pulled out the energy source and replaced it; when that didn't work, he tried another rifle. At last he was forced into realizing that what he held, what was in the crates, was nothing more than a lot of duds. He turned and ran towards the distant group around the ships.

The Mayor and the Council moved outside of the blackened area of tarmac. Almost immediately Jackman threw on the antigravs, and the warehouse ships followed suit.

As soon as he was within shouting distance, the colonist cupped his hands to his mouth, but he was too late. Even as the first word formed, the ships were falling rapidly into the sky.

Just as the last silver dot disappeared, the Council learned that they had been fleeced.

Jackman prodded his rumbling stomach. "Quiet, you!" He took another handful of soda pills and the noise and action within momentarily stopped. He wished the scientists of the galaxy would hurry up and invent a truly effective stomach remedy.

"Lord, that swill was awful!" He remembered with distaste the taste of Newcastle's proudest wine. "I hope that this next world has something better in the way of liquid refreshments." He watched Jordan's Delight swimming up in his screens.

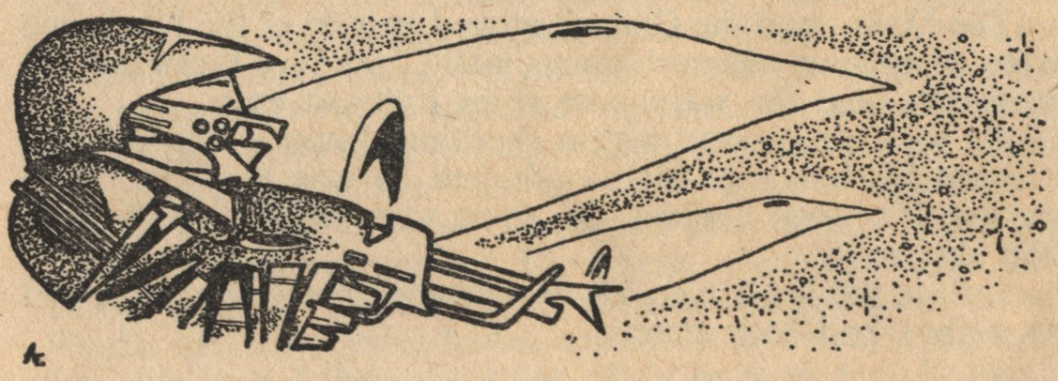
Then he chuckled. "Wonder what the Mayor's gonna do when his constituents ask him how come he let himself be taken in by a pacifist?"

The little ship screamed down from the sky and passed rapidly over the garishly coloured artificial thatched roofs that were currently popular with colonists of Jordan's Delight. It banked sharply and retraced its route, heading for the small spaceport a few miles away from the capital village.

With the ease of long experience the pilot abruptly stood his ship on its tail, setting it down in the centre of the black blossom scoured on the tarmac by its own fire.

The gangling teenager holding port watch dashed from his cubbyhole office to meet the new arrival.

—**Robert Hoskins**



Article

FIT FOR SPACE

by KENNETH JOHNS

Civilisation is, to the purist, a social and technical monstrosity. Formless, all-embracing, it pollutes our planet and directs and subjugates its human labourers. The spaceship can be looked upon as one of its offspring, a miniature machine to support and guide its repairman cargo.

Who is the master and who the slave ?

The ills of our society are reflected faithfully in the spaceship. It has often been said that the spaceship must reproduce an exact copy of the Earthly environment in order to keep alive human beings. But must it ? There are a great many more factors in our everyday environment that we take for granted, than will be satisfied by the usual list of air and water and heat and refrigeration and food and drink.

Factories pollute the atmosphere of Earth, belching out smoke and dust, odours and radio-activity, together with a host of new products which will after use further pollute the air and water. Mankind is herded together to tend the complex systems so that disposal of its sewage and waste gases becomes a major problem. With all our hygiene, detergents, synthetic fibres and unguents, Mankind still smells to high heaven, individually and en masse.

Before outrage takes over, it is as well to remember that our smelling organs have atrophied so that we cannot detect the traces of contaminants, added or accidental,in the food, air and water that give us life. In the U.S.A. 4,000 chemicals are used in food, whilst practically every known petroleum chemical must be present in drinking water, washed out of the air by rain. Some may be harmless, many will have long term harmful effects.

That which we discharge into the air and water we receive back, for neither have an infinite capacity to absorb and dilute our industrial excrement. And, with a finite lifetime facing every human being, what's five, ten or twenty years knocked off your own life ?

Pollution in the microcosm of the space ship cabin is more obvious and more rapidly deadly. Traces build up over days to become a major problem. Spacemen are so utterly dependent upon machines for an inhabitable environment that the man is no more than one more process in a pipeline.

When the first seven day trip to nowhere was made in a space cabin simulator in the U.S.A., the assorted human odours were confined and built up to such a degree that the stench on opening the cabin door was obvious four floors away. Yet the human guinea pig could still bear the atmosphere.

A similar problem was met with in submarines ; but until the advent of the nuclear submarine, earlier types had to surface daily to charge their batteries and so, at the same time, they could flush out the ship with clean air. With the nuclear submarine, staying submerged possibly for weeks on end, the problem is more acute, even though oxygen from cylinders or electrolysis of water can be used to purge the atmosphere.

Modern nuclear submarines have an air recycling system that is very near to that which will be used by the first men in space, except that the submariner has an inexhaustible supply of oxygen on hand in the water surrounding him.

Oxygen, as such, is no problem under the sea ; the difficulty lies in ridding the system of the carbon dioxide and pollutants in the atmosphere. Carbon monoxide from cigarettes can build up to a toxic degree and even the invaluable algae breathe out a little carbon-monoxide with their life-giving oxygen. Frying fat gives off the eye-irritant acrolein which is very unpleasant. Ships' batteries can leak hydrogen gas into the air and, although it is non-poisonous, a four per cent quantity in air makes an effective explosive mixture, as the early airship builders discovered to their cost. So, each nuclear submarine has an air purifying cycle installed.

Carbon monoxide and odourful organic vapours are oxidised by passing them through a bed of hot catalyst pellets that burn the organic contaminants to carbon dioxide and water.

Exhaled carbon dioxide used to be removed from the air by alkalies such as sodium or lithium hydroxide but, with chemical engineering techniques, it is better to use a chemical which can be rivivified easily and used again and again. This is done today by washing the air with a solution of monoethanolamine, from which the absorbed carbon dioxide can be released by heating and then be pumped overboard.

Smells which manage to pass the catalyst chamber are removed by a bed of activated charcoal together with an electrostatic precipitator to remove traces of fine dust and tar. Activated charcoal mops up any large organic molecule because it has an enormous surface area to which molecules easily stick. It is merely a charcoal, such as is obtained from coconut fibre, through which steam has been blown at red heat. It can easily be revivified by blowing more steam through it.

One system for removing carbon dioxide and replacing it with oxygen is in the experimental stage. A sodium sulphate solution is electrolysed by passing low voltage current through it. At one electrode, hydrogen bubbles off and is pumped out of the ship and at the same time sodium hydroxide is formed in solution. At the other electrode, oxygen is evolved and sulphuric acid is produced. The oxygen is added to the air, which is washed with the sodium hydroxide solution to remove carbon dioxide as sodium carbonate. Then the sodium carbonate is mixed with the acid from the other chamber of the electrolysis cell, the carbon dioxide bubbles off and is collected and discharged whilst there is left behind sodium sulphate which is recharged into the cell. The overall result is the replacement of carbon dioxide by oxygen and the splitting up of an equivalent amount of water.

An emergency oxygen supply can be produced from candles of powered metallic iron and sodium chlorate—when lit, they give off oxygen gas.

In September, 1960, two American Air Force pilots spent a relatively comfortable thirty days sealed in an eight by twelve feet space cabin simulator. Part of their job was to test the air and water conditioning unit designed to obviate the obnoxiousness revealed by earlier runs. Once again, standard purification techniques were used.

Although they had no means of converting carbon dioxide back to food and oxygen, they had all the apparatus to purify

their air, recycle water and rid the cabin of waste matter—sufficient for a trip to the Moon, a stay on the surface and then the return.

But smells and toxic and suffocating gases are not all that the spaceman has to contend with. The amount of fine solid muck that builds up in an inhabited, sealed cabin is surprising. Lint from clothing, small pieces of shed skin, dried mucous from coughs and sneezes are evident in these prototypes which never leave the ground, whilst, in space under free fall, traces of food floating around all help to make space flight unpleasant.

The first objective of the designers was to remove all solid particles from the air by electrostatic cleaners—these build up an electrical charge on the particles as the air flows through a pipe so that electrodes of opposite high voltage charge attract and collect the offending particles.

Without solids to gum up the works farther along, the air stream is passed through a catalyst bed to oxidise the carbon monoxide. A mixture of manganese dioxide plus copper oxide is very effective at this, even at room temperatures. Part of the stream is then diverted through an alkali chemical bed to absorb carbon dioxide, the Americans using Baralyme. The amount of the diversion is regulated to keep the carbon dioxide within narrow limits.

The remaining odours are then removed by activated charcoal.

Water vapour is drawn from the air by cooling and condensing the moisture and then heating the air back to its normal temperature before passing it into the cabin. The liquid water so obtained is not wasted ; together with other liquid waste it is distilled to remove the bulk from the impurities and then treated with activated charcoal to remove traces of flavour before being used for drinking and washing.

Solid wastes are burned in a small efficient incinerator.

In this particular cabin and test, the carbon monoxide level was kept at less than 0.07 millimetres pressure, one volume in half a million, and it was also possible to control separately the air pressure in the cabin and the oxygen, carbon dioxide and water vapour content of the air. Temperature was kept reasonably steady by adjusting the air temperature outside the cabin whilst fine control was obtained by the heaters warming up the dehumidified air.

It was assumed when planning this system that, in space, a proper balance of white or metallic reflecting surface and black heat absorbing surface would do the job just as effectively, although it might be necessary to give the cabin a spin of one revolution per two minutes to even out extremes of temperatures on opposite walls.

This is one firm's choice of air purification for short flights in space ; but there are many other known methods which could do the jobs just as effectively, and might be preferable under different conditions, such as space flights of month's duration.

On these flights it looks as though gourmets are going to have an exceedingly lean time in space. The latest prepackaged meals for astronauts are put up in large tooth paste tubes ; a squeeze and a suck—and that's a square meal. The method sounds as though it might be usefully adapted for babies. A juicy steak will be only a dream ; space meat will be taken ready ground and packed in an economy size lipstick holder so the spaceman will have to screw a section out, bite it off and then retract the remainder for another meal. This handy-pack meal system should cut down on crumbs, too.

One idea well worthwhile considering is the deliberate addition of trace impurities in the air. Why should spacemen be limited to a near as possible neutral atmosphere ? Why not a little controlled odour to invigorate them— the tang of pine trees to brace them, a spicy exotic scent for sleep, a bite of salt and ozone-laden air with a splash of water to energise them in emergencies ? The ozone smell, of course, emanating from sea weeds. The weight is unimportant : one gramme of muscone throws off a million molecules a second in air and loses only a hundredth part of its weight in one million years.

This last fact, incidentally, gives a vivid illustration of the unthinkable smallness of the microcosmic world.

A little work has also been done on finding out the physiological and psychological effects of working in slightly ionised air. Inconclusive as the results are, they do point to the presence of a few negative charges on the molecules in the air having an exhilarating effect and increasing attentiveness.

Conversely, positively charged ions led to lethargy and inattentiveness.

Successful results of this work might well find applications here on Earth long before they are applied to spaceships. An

office with the fresh air supply negatively charged might be found to be appreciably more efficient than one not so equipped And bedrooms might wallow in the slumbrous effects of positively charged air. The sideband effects of space research should yield handsome dividends in every walk of life.

Already it is obvious that instruments will have to monitor continuously the environment in a spaceship. The next step is simple. The controls will be linked to the instruments to automate the air and temperature systems. From there it will be one more step to monitor the crew and adjust the cabin conditions—air, temperature, sound, lighting, stimulants and sedatives—to give optimum conditions for physical and mental health and the various tasks in hand.

The space ship will turn into a giant mechanism dedicated to keeping alive, in good health, efficient and amused, the men and women entrusted to its care.

Then there will be real doubt as to who is the master and who the machine.

—Kenneth Johns

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