NEW WORLDS SCIENCE FICTION

November 1962

2/6

Volume 42. No. 124



Guest Editor
ARTHUR C. CLARKE
and
Cosmonaut
YURI GAGARIN
discussing

The Conquest Of Space

Colombo, 1961

*

Kalinga Award Speech 1962

*

A Nova Publication

★ 17th Year

of Publication



NEW WORLDS

PROFILES

Arthur C.

Clarke

Guest

London and Ceylon



From discussing the many aspects of the conquest of space with Russian cosmonaut Yuri Gagarin last year in Ceylon, during the latter's extensive world tour following his successful orbiting of the Earth, to receiving the 1962 Kalinga Award for "the popularisation of science" at New Delhi at the end of September this year, is but one of the many fascinating steps in the career of scientist/author Arthur C. Clarke, whose science fiction books alone have sold more than two million copies throughout the world in various languages, while the total sales for all his books is approaching the five million mark.

Many and diversified, however, are the steps leading up to the signal honour he has just received in India before the Director General of UNESCO and a distinguished gathering of notables—from the keen amateur astronomer in his teens to the 45-year old aqualung expert lending expert advice on his colleague Mike Wilson's absorbing Ceylonese underwater adventure film "Ran Muthu Duwa" (Island of Gold and Pearls) which is having such a phenomenal success showing throughout cinemas in south-east Asia. These are two extremes in a career which has been tempered by pure and applied

NEW WORLDS SCIENCE FICTION

VOLUME 42

No. 124

MONTHLY

NOVEMBER 1962

CONTENTS

Novelette:			
Lucky Dog	Robert Presslie	 	4
Short Stories :			
Just In Time	Steve Hall	 	41
Life-Force	Joseph Green	 	60
The Method	Philip E. High	 	72
Who Went Where ?	Russ Markham	 	91
The Warriors	Archie Potts	 	107
Features :			
Guest Editorial	Arthur C. Clarke	 	2
The Literary Line-Up		 	40
Postmortem	The Readers	 	119
Book Reviews	Leslie Flood		126

Editor: JOHN CARNELL

Cover photograph courtesy "Davasa," Ceylon.

TWO SHILLINGS AND SIXPENCE

Subscription Rates

12 issues 34/- post free. North American, 12 issues \$6,00 post free Published on the last Friday of each month by

NOVA PUBLICATIONS LTD.,

Maclaren House, 131 Great Suffolk Street, London, S.E.I.

Telephone: HOP 5712

Sole distributors in Australia : Gordon & Gotch (Australia) Ltd., in New Zealand : Messrs. P. B. Fisher, 564 Colombo Street, Christchurch, N.Z.

The entire contents of this magazine are Copyright 1962 by Nova Publications Ltd., and must not be reproduced or translated without the written consent of the Publisher. All characters in these stories are purely fictitious and any resemblance to living persons is entirely coincidental. No responsibility is accepted for material submitted for publication but every care will be taken to avoid loss or damage. Return postage must be included with all MSS

Guest Editorial

Ideally suitable for a Guest Editorial, the following item is the main text of Arthur C. Clarke's speech at New Delhi on September 27th when he was presented with the Kaligna Award (see inside front cover) for "the popularisation of science." We are equally proud to tell you that he was a founder shareholder in the Company which publishes this magazine.

The Kalinga Award by ARTHUR C. CLARKE

"I am proud to receive the Kalinga Prize, an honour which I have coveted ever since it was founded." Those words were spoken last year by my distinguished colleague and compatriot, Professor Ritchie Calder, and they express my own sentiments so perfectly that I cannot do better than repeat them.

I would also like to thank the generous donor of the Prize, Mr. Patnaik, and the UNESCO officials who have organised this meeting. It is my hope that, as the years pass, the great importance of this award will become universally recognised,

and its fame ever more widespread.

In addition to the pride I personally feel on receiving the Kalinga Prize, I would like to think that it is a tribute to the field of literature in which I have specialised—science-fiction. Although at least four of the earlier prize-winners have written some science-fiction, it has been only a minute and incidental portion of their output. I can claim that it is a major part of mine, for I have published just about as much fiction as non-fiction.

Many scientists, I am sorry to say, still look down on science-fiction and lose no opportunity of criticising it. For example, they often point out that ninety per cent of science-fiction is rubbish—ignoring the fact that ninety per cent of all fiction is rubbish. Indeed, I would claim that the percentage of competent writing in the science fiction field is probably higher than in any other. This is because much of it is a labour of love, written by enthusiasts who have considerable scientific knowledge and who are often themselves practising scientists.

What role does science-fiction actually play in the popularisation of science? Though it often serves to impart information, I think its chief value is *inspirational* rather than educational. How many young people have had the wonders of the universe first opened up to them, or have been turned to a scientific career, by the novels of Verne and Wells? Many distinguished scientists have paid tribute to the influence of these great masters, and a careful survey would, I believe, reveal that science-fiction is a major factor in launching many youngsters on a scientific career.

youngsters on a scientific career.

It is obvious that science-fiction should be technically accurate, and there is no excuse for erroneous information when the true facts are available. Yet accuracy should not be too much of a fetish, for it is often the spirit rather than the letter that counts. Thus Verne's From the Earth to the Moon and A Journey to the Centre of the Earth are still enjoyable, not only because Verne was a first-rate story teller, but because he was imbued with the excitement of science and could communicate this to his readers. That many of his 'facts' and most of his theories are now known to be incorrect is not a fatal flaw, for his books still arouse the sense of wonder.

It is this sense of wonder that motivates all true scientists, and all true artists. We encounter it in the writings of such scientific expositors as Fabre, Flammarion, Jeans, Rachel Carson, Loren Eisley, as well as many of my precursors at this function; and we meet it again in all scientific romances that are worthy of the name. Any man who can read the opening pages of Wells' The War of the Worlds or the closing ones of The Time Machine without a tingling of the blood is fit only for

'treasons, strategems and spoils.'

The cultural impact of science-fiction has never been properly recognised, and the time is long overdue for an In a mind suffering from schizophrenia, the switch from 'Jekyll' to 'Hyde' can be savage in its intensity. Wagner volunteered for induced schizoid experiments and came up with something Man had lost long ago.

LUCKY DOG

by ROBERT PRESSLIE

one

Inside the strait-jacket Kirk Wagner was insulated from the constricting canvas by a film of hot sweat. The searing beat in his skull made him wonder if his brain was likewise detached from all adhesion.

He let himself be pushed over on his face while Myatt undid the buckles at the ends of the sleeves which imprisoned his arms

in the folded position.

"Thank you, Victor," he said, as Myatt mopped the sweat from his naked chest, with swabs of cellulose tissue. "Get me

a drink, please."

Victor Myatt thumbed the steel-rimmed glasses up his button nose. "Lisa's making coffee," he said. "Why don't you go to the washroom, Kirk? Have a shower, freshen yourself up. You look like it was rough this time. Coffee will be ready when you get back."

Wagner put his hands on his knees, pushed himself wearily erect. He exercised his neck, rolling his head on his shoulders,

easing out the tension.

" I'll do that."

"Fine, fine," Myatt said. He put a hand on Wagner's back as he accompanied him to the door of the lab.

" Are you rushing me out, Victor?"

"Rushing you? Why should I be rushing you? Unless it is to get you back in time to enjoy Lisa's excellent coffee while it is still fresh."

Kirk Wagner was almost out of the doorway when he turned.

"Victor—"
"Yes?"

" Nothing."

But when the hot shower was making fresh clean sweat push the old out of his pores he told himself there was something and he was going to have it out with the little psychiatrist when the others had gone.

He picked up his shirt from his locker on the way back to the lab. He thought he looked reasonably presentable when he saw Lisa.

She smiled. "Just in time," she said.

He sat on the edge of the bed. Lisa, Victor Myatt and Frank Rowinski took the three stools that adjoined it. They let him have his coffee in silence. He was not fooled; the questions would come inevitably.

He used the coffee break to let himself relax. He looked around the twelve-by-twenty lab that was his part-time prison.

The bed was in one corner of the room. The door was directly opposite, with just enough space behind it to house the television receiver designed to help him pass the time between tests. Down the adjacent wall, to Wagner's right, were rows of bookshelves, sixteen feet long and not enough room on them for one more book. The other long wall was stacked with Lisa's work things—drugs, chemicals, vaccines, sera. The short wall at the other end of the room was blank. There was a desk butted to it, a communal desk shared by Lisa, Myatt and Rowinski.

Lisa got up, collected the cups and went to the middle of the lab where a long work-bench faced the rows of chemicals. She rinsed the cups in the sink there.

Frank Rowinski picked up his stethoscope.

"Lie down," he ordered Wagner.

His examination was brief but thorough.

"Physically you took that dose safely, Kirk. Tomorrow we'll use the same dosage but with an e.e.g., this time to see what your brain makes of it."

Rowinski unslung his stethoscope, stuffed it in a pocket. "You about ready yet, Lisa?" he called. "I'll run you home in my wagon."

Myatt smoked his pipe in silence until Lisa and the doctor had made their goodbyes.

" Now you can tell me," he said, when they had left.

"Tell you what, Victor?"

"Anything and everything. As always, when we have finished a test. What did you think I meant?"

Kirk was going to say, "Nothing," again. But he changed

his mind.

"You're a crafty old devil, Victor," he said.

Myatt lifted a hand in an airy gesture. "I am your psychiatrist," he said quietly. "So it is right I should be able to tell when you are worried. And just as right that you should

tell me the reason. Is it the e.e.g., tomorrow?"

Kirk grinned. "No, that doesn't worry me any. I'm not exactly sure what does bother me. Maybe it's like you said vourself-it was rough. Obviously if Frank and Lisa keep stepping up the dosage, it's bound to have more effect on me and you must admit we don't exactly know what that effect might turn out to be. If we knew that we wouldn't be here."

"Is true. But don't forget, Kirk, I don't want you worrying. I can't afford for you to have a confused mind. Except when we want it confused. Maybe I could dig out your worry in a few minutes, maybe it would take longer. Right now the loving Frau Myatt is expecting her husband in about two hours' time and I've got to get down your test reactions."

Myatt switched on the radio at Kirk's bedside, tuned it to a station broadcasting light, featureless and soothing music.

"After we put the strait-jacket on, you were given an injec-

tion," he prompted.

The drug they were using was comparatively new. It was a development of Ditran, an American drug which had been discovered only five years previously, in 1960. Both Ditran and Propytran, their own drug, were psychomimetics—chemicals which could induce effects resembling insanity.*

^{*} The author acknowledges borrowing Ditran (or J.B.329) for literary purposes and begs forgiveness for its extrapolation to Propytran and the effects of the latter as herein described.

Ditran had been developed to discover possible cures for schizophrenia, and in fact two new drugs had emerged which

showed distinct promise in this field.

But while these chemicals, tetrhydroaminacrin and cyclopentimine, could effectively neutralise the induced schizophrenia produced by Ditran, they were ineffective against the more powerful Propytran. Just as Rowinski and Lisa Tucker had developed Propytran they had been forced to synthesise more powerful antagonists.

The difference between the American researchers and the team headed by Victor Myatt was that Myatt was not primarily interested at the moment in a cure for insanity. He was pursuing a line of pure research into the effect on the mind of

intensified schizophrenia.

The guinea-pig was Kirk Wagner, ex-candidate for Europe's spaceship project, passed over for no other reason except that of the six possible candidates only one could go; and that one had not been Kirk.

"I'm waiting," prompted Myatt again.

"Sorry, I was day-dreaming. What do you particularly want, Victor? You've got everything I said under test on tape. I think I recorded my reactions pretty accurately."

Myatt lifted his eyebrows, making his glasses slip down his nose. "You seem reluctant to talk," he said. "Why so? You know we always go over it again. It has happened before that you remembered certain reactions which you weren't coherent enough to tell me while the Propytran was working. What's so different this time?"

"That's it," said Kirk. "Something was different."

"You had a hundred microgrammes more than you had last week—"

"Not that kind of difference. Sure, I was more of a nut this time than ever before." Kirk laughed. "It must have taken about half a litre of antidote to bring me out of schizo. But this was a different difference, if you get what I mean."

"I don't. Which is for why I am asking!"

A double vertical crease brought Kirk's eyebrows together as he concentrated. "How long since we started this, Victor?"

"Sixth week this is. In the beginning two tests each week,

and now-"

"Yes, in the beginning," Kirk interrupted. "Monday I would be dosed, visual and aural observations of my reactions

taken, body examined to check for physical deterioration and on Wednesday the same thing all over again but with the electroencephalograph set up. Next week the dose was stepped up and we went through the routine again."

"Until I decided on once a week only."

"You mean until it got so I took a whole week instead of two days to get over the effects of Propytran."

Myatt made no answer. He pushed his glasses up once more and jotted on his pad, 'Controlled belligerence . . . Resentment? . . . Or residual paranoia? Memo: ask L. to be sure ample antidote prepared. Perhaps high dosage Prop. now having cumulative affect.'

"Victor," said Kirk. "There's nothing you've hidden from

me, is there ?"

"Nothing at all. So far you've been conscious throughout each test. You have heard every playback of the questions I asked while you were in schizo, you have heard your answers. You have seen your brain traces—"

"You know I can't read them."
"Do you think I would lie to you?"

"Not exactly. Play down the truth maybe. Look, Victor, you know damn well I'm worried. Tell me why."

The psychiatrist shrugged. "You are the one who is

worrying. You tell me. Nobody else can."

"All I know is it was different this time. The last couple of runs I've been getting sharper, more defined splitting. Some of the stuff my id has said must have made Lisa blush."

"She is a scientist."

"And also my good friend. But she is a woman and it makes

me think sometimes. You follow?"

Myatt nodded. "That need not worry you. Nobody's id is a clean thing, not even Lisa's I am betting. And no need for you to scowl at me; she is human, all humans are good and bad mixed-maxed together. Good and bad, saint and sinner, Jekyll and Hyde, angel and devil, civilised veneer over a lurking beast."

Kirk sat up, stuck out a finger like a gun.

"Beast," he said. "That has something to do with it. Every time you make me go schizo now you have been getting the beast in me better and better separated. So much so that now we need the strait-jacket in case I turn violent."

His eyes shuttered slightly. "I haven't, have I?"

"Been violent? I said to you about the tapes and the-"

"I know, Victor. But I wondered if you were hiding anything."

"The strait-jacket is precaution only," said Myatt. added on his jotting pad, 'Suspicious . . . Temper short.'

Kirk turned down the volume of the radio. "Do we need

this thing on ?"

"Is background. Very soothing after a large dose of Propytran. Finish what you were telling me."

"I'm going to take up smoking again," said Kirk in mildly threatening tones. He propped himself on one elbow as he talked. "What I mean about beastliness-incidentally all this has more to do with beastliness than just id, maybe you'll say there's no difference—anyhow, what I am remembering is that aside from the swearing, the filthy talk, the putrescent images I've described on tape, there has also been this other thing."

Myatt knew not to interrupt the flow. He waited patiently.

"Even beast isn't the right word, Victor. What would you call a deep-down basic animalness?"

" Beast."

"Yes? Well, look, Victor, call it anything you like but I can smell better !"

The phlegmatic Myatt allowed his eyes to pop.

"I can smell better, taste better, hear better. Every sense is sharpened like—like it must be in an animal when it must be so if the animal is to survive in the jungle. Even now, when the Propytran has been neutralised, I've still got keener senses than I used to have."

"Very very interesting," said Myatt. He meant it.

Kirk Wagner touched the radio. "You hear this? I've turned it down as low as it will go. But to me it's still too loud."

The psychiatrist's pen was flying over his pad. "More words, please," he ordered without looking up.

"Do you think it's possible for somebody with a split personality to have one side of that personality, the wrong one, developed out of all proportion-?"

"Words only, please. Theories are for me."
"I was going to say—"

"Kirk!" The older man's voice was hard. "I know exactly what you were going to say. It is my job to know. So I will say it for you, then perhaps we can have further news of reactions."

Myatt proved that he was not boasting. He also proved that he could put Kirk's thought into words far better than Kirk himself could—despite the almost submerged mid-European accent.

"We are at our present level of civilisation," he said, "because our ego has developed so thoroughly that it has almost completely submerged our id. Occasionally the id peeps through and we do something bad. What you are wondering is whether it is possible for the id to be dominant to such an extent that the ego is submerged. Complete evil you are imagining."

"Exactly. And—"
"And you are also wondering if it was possible that this was

happening to you. Yes?"

Kirk agreed. "I think that's what was worrying me. In general, anyhow. But there was still something in particular today. Only I can't remember."

He dropped the subject suddenly and wheeled up the volume

control of the bedside radio.

"Did you hear that?" he asked. Then said, "Shh!" before Myatt could answer.

Sometime in the last few seconds, the radio station had come to the end of its music transmission. The newsreader was now giving a toneless rundown on the news headlines. Myatt wondered what was so interesting about a labour dispute in the auto industry and guessed he must have missed the item which had taken Wagner's attention.

The newsreader went back to the beginning to expand on each headline. Myatt could tell from the tenseness on Kirk's face that it was the first item which had made him suddenly

turn up the volume.

"-first reported by Leipzig Observatory. The report has since been confirmed by other observers throughout the world although no statement has yet been issued by Jodrell Bank. However, it would appear to be quite definite that the satellite in question is Russian and was first put into space just over three years ago. The Soviet authorities have refused to comment on whether the satellite was intended to start transmitting data after such a lapse of time."

The newsreader went on: "Listeners may recall that this was the first satellite to orbit the planet Mars. It was intended to return to Earth but by a failure in its rocket system it became settled in an orbit some five thousand miles above the Earth's surface. Transmissions ceased simultaneously and it was not known whether this was due to mechanical causes or to a fault in the batteries which were believed to be of the solar cell type. A total of fourteen animals were presumed to have died in the satellite. Reliable experts state that in their opinion there is no possibility that one or other of the animal cargo, which included two monkeys, could have survived until the present and be responsible for actuating the satellite's transmitter . . . Shop stewards in the auto industry today-"

Kirk Wagner snapped off the radio. "I'm going out," he

said.

Myatt disagreed. "Not today. For your own sake we made the rule. Twenty-four hours after each test you must stay

"I'm going out, Victor. I'm over-ruling the rule."

"But why? And to where?"

"To Lisa, man, to Lisa! What state of mind do you suppose she is in right now if she heard that broadcast? And if she happened to miss that one, she's bound to get the news sooner or later. Somebody's got to be with her. Nobody has better qualifications for that job than I have."

Myatt's agitation had dampened. "Of course, of course. I did not think of the implications. I forgot that her husband also died in a satellite."

t wo

The man who had piloted Europe's manned satellite, the man who had trained alongside Kirk Wagner was Coleridge J.

Tucker. And Lisa was Cole Tucker's widow.

It was barely a year since he had died. His death had been spectacular. The crowd of officials had come in off the field when the rocket had gone too far out to be visible to the naked eve. In the control rooms there were radar eyes which mocked at distance. Simultaneous with the signal which told that the burnt-out boosters had been released and that the second stage was about to fire, there was a sudden blossoming of the blip on the tracking screens.

Lisa had taken it hard. For professional scientists, she and Cole had been unexpectedly human in their marriage. Where their dedication to their work, one as an astronaut, the other as a space chemist, made others presume a detached and clinical partnership, there was instead a boy-and-girl, holding-hands,

kiss-and-cuddle juvenility about their union.

Kirk Wagner was one of the few who was not surprised. He had never grudged Cole's preference over himself for the job of taking up the satellite. Cole Tucker had been the perfect choice; brilliantly intelligent, immensely cool and steady in his thinking, completely without any notion that his work made him a heroic figure. Cole was learning the job he wanted to do and that was sufficient.

The three of them had been good friends, even after Cole and Lisa had got married. The couple seemed capable of including Kirk in their social outings without making him feel an intruder.

Yet it was on Kirk that Lisa whipped the anger, compounded of grief, when she was told of Cole's death. Without ever saying as much, she appeared to imply that if Kirk had been capable of doing the job, Cole would never have died.

It was ten weeks before she smiled to him again, twelve before she agreed to let him take her out for an evening at the theatre, fourteen before she apologised for her behaviour.

The same night she apologised she told him about Victor Myatt's project and Kirk had never quite been sure since that her gradual thaw had anything to do with inducing him to be Myatt's human guinea pig.

But he loved her. He had loved her long before Cole had won. Since Cole had lost, his feelings had not changed, unless

it was in intensity.

He was at her flat within twenty minutes of hearing the newscast.

She was in a floppy blouse and tight slacks. That was a thing which had always amazed him; he could never reconcile the femininity of her when she was at leisure with the brusque near-masculinity of her when she was working. Yet he knew this was not a sign of any complexity in her but was only evidence of her extreme self-integration.

She shut the door behind him, took his coat and gave her

head a shake that sent her hair flopping across her face.

"Picture of a lady pill-peddler at ease," she said lightly "I was going to shampoo it later. Who opened your cage?"

Kirk kept the relief from his face. She had not heard the news. But in his hurry to get to her he had forgotten to prepare a story to explain his absence from the lab.

He ad-libbed. "I talked Victor into it."

"You're kidding !"

"Cross my heart," Kirk said. "Told him I'd been a good boy for too long. Do you realise it's nearly two weeks since I last saw the outside world—for what it's worth?"

Lisa's grey eyes twinkled. She knew he was going to lie. He hoped she did not know why. He decided the best way to

back his lie was to tell part of the truth.

"I told him I wanted to see you," he said. Instantly he saw how that small fraction of truth could give him a foundation on which he could build a strong lie. He raced on, "You know I've been holed up for two weeks. Well, I just got fed up. I felt fine, physically and mentally, and I saw no reason why I should not have a night out."

"I'll bet Victor did."

Kirk played it gay. "Natch! But that's where the genius came in. All right, Victor, I told him, if you can't trust me on my own, release me into Lisa's custody. Or words to that effect."

She gave him a sideways look. "And he swallowed that?"

"I'm here—"

She sighed. "Okay. Bang goes my shampoo. I suppose you want to do the bright lights?"

He was ahead of that question. Already he had anticipated the implications: news bills on street corners, television sets if they went to a quiet beerhouse, overheard conversations if they went anywhere busy.

"I had sort of hoped we could just stay here. You know, you at the hot stove while I go downstairs for a bottle of wine. Kind of like old times, eh? Outside of business hours we

haven't had time together for ages."

Lisa still had the smile in her eyes. "Kirk Wagner, you are pulling a fast one on me. If your intentions were as homely as you say, you would have picked up a bottle on your way here. That's not the sort of thing you would forget. And I should have thought that having fixed yourself a night on the loose you would want to do something more exciting than just sit with me."

He was telling himself he should have known her logical mind would catch him out when she spoke again. All the banter had gone from her voice.

"Kirk," she said softly. "I heard the news."

"And?" he said, then held his breath.

"And nothing. Cole and his memories and our life together—they're all parcelled up and tucked into a dark corner somewhere under this hair I was going to wash tonight. Not forgotten, Kirk. I can open that parcel any time I like. But I can also wrap it up again. There's no messiness lying about to stare me in the face."

He could think of nothing to say that she had not already

covered.

"But thank you, Kirk," she whispered and saved him the necessity of saying anything. "Now you get to the stove, fix us some coffee while I get dressed. It's still not too late to do the town."

They settled for a modest night out. Kirk whistled up a taxi, directed the driver to take them to the centre of the town. Where the lights were bright and the neons polychromatic, they left the cab, ducked down a couple of side-streets to a Chinese eating house of Lisa's choice. She had no particular passion for Chinese cooking but it was a restaurant they used to frequent back in the days when Cole Tucker and Kirk Wagner had been trainee spacemen. The awabi soup, the fried chicken and pineapple were behind them and they were finishing their almond cake dessert before Kirk spoke of the thing that had been in his mind since they left the flat.

"Why this place?" he asked.

She gave him an honest answer. "To prove I meant what I said earlier. About Cole, I mean. When you heard that broadcast you thought I would be terribly upset. You came running. I told you I was okay. I wasn't too sure you believed me. So—we're here."

Kirk thought this was the moment to tell her he loved her. She knew, of course, but it had never been put into words because the voicing of it would start a ball rolling that neither of them had been ready for.

He reached across the tiny dinner-for-two table and placed his hands on hers. She had them palms down, resting loosely on the split-bamboo place mat. With his hands on top of hers, he slipped his thumbs under her thumbs and lifted them into a vertical position.

She felt the trembling of him. She smiled, tenderly at first,

then uncertainly.

"Kirk-?" she said with a question in her voice.

The tremor of his hands increased. He was still pushing her thumbs with his own.

Lisa bit her lower lip. "Kirk!" she said again. "You're

hurting me."

The pressure on her thumbs increased, brought her out of her seat into a pain-crazed crouch over the table. Yet in her agony it was not fear that was in her face as she looked up into his eyes; not fear for herself.

"Let go, Kirk. Please let go. You're sick. You've had a recession. Let me get my bag, Kirk. There's a phial of anti-

Propytran. Kirk-!"

Her scream brought the other diners in the restaurant to their feet. For one whole second they watched the tableau in the corner. They saw a good-looking man, short-cropped dark hair, wide shoulders, early thirties; they saw a girl, slightly younger, a strong hint of length and litheness from what could be seen of her, blonde hair, natural blonde done in a French roll that was beginning to come loose. They saw the agony in her face, the feral sadism in his. And for one whole second nobody made a move to interrupt the tableau. For one whole second there was motionless silence.

Then there were two sharp cracks and the girl's thumbs were broken and the silence was over and the stillness was gone and in its place there was a mad scramble towards the couple in the corner.

But before the next second had passed the good-looking man had gone in a shattering straight-on leap through the window, gone out into the night and the darkness of the side-street before the last piece of glass had fallen to the sidewalk.

When they came back from the doorway to the girl they

found her in a dead faint.

Victor Myatt and Frank Rowinski had no sleep for the next forty-eight hours. People came to see them, asked questions, endless questions. Myatt and Rowinski went to see other people, the kind that were too big to go calling at an obscure laboratory, and answered more questions. After the questions came the castigations and after that came the clamp-down. The biggest people of all decided that secrecy was better than having the public scared out of its wits by one hell of a scandal that the newspapers would have laid bare with frantic headlines like 'Man-made madman at large' or 'Science blunders again.'

A man called Durham was appointed watchdog. From the beginning to the end of the whole affair, Myatt and Rowinski never did know whether Durham was police, military or intelligence. They tried asking once and got the blank-faced kind of no answer that was more than sufficient answer in itself.

This much they knew: Durham could use the lab phone and get straight through to names that Myatt and Rowinski had thought could only be reached at the end of interminable official channels. They also knew that Durham had as many junior watchdogs as he cared to call upon. Some to scour the city in all Kirk Wagner's known haunts, some to watch the rail and airway terminals, some to work in relays in a stake-out at Lisa Tucker's place.

The job of staking out the lab was kept by Durham for

himself:

"Sooner or later," he said to Myatt when the psychiatrist came to the lab on the morning after his first sleep for two days, "sooner or later Wagner will come here."

"Why for?" Myatt wanted to know.

Durham, lean, fifty-some, sallow cadaverous face, shrugged. "There's a pattern."

"What pattern? Kirk is not a criminal."

"No? Maybe he wasn't but again maybe you made him one."

"Frank and I have told you—Lisa herself will tell you—we were conducting a tightly controlled experiment."

"Controlled? Who let him out?"

"A mistake, Mister Durham. I have already accepted full responsibility."

"That responsibility might be extended yet."

"How do you mean?"

"I mean so far he's only hurt a girl. What's he going to do

next?"

"Nothink, nothink!" Myatt's English slipped in his agitation. "Kirk is a rational man. There was a slight hangover of Propytran in his bloodstream and he did something he would not do in his normal state of mind. You still make like he was a criminal. Like he was going to commit murder yet! Is part of your pattern also, I suppose."

Durham stopped the argument by the simple process of not answering. He went back to reading the case history of the experiment as laboriously typed up by Frank Rowinski. He was a man of many talents, basic psychiatry being one of them and he wanted to get some idea of what had been done to Wagner, why it had been done and what Wagner was likely to do next.

The watchdogs at Lisa's flat could have told him. In fact

they did so, when it was too late.

Lisa's phone rang. One of her guards took it off the hook, held it to Lisa's ear. The other guard lifted the newly fitted twin phone and set the recorder spinning. Lisa was given a nod.

"Hello," she said. "Lisa Tucker here."

"Kirk," the caller identified himself. "I've got to talk to

Lisa lifted her bandaged hands in a question. She got another nod for an answer.

"Come on up," she said.

"I don't think that would be wise. There's somebody with you. I've seen them coming and going. I want to talk to you alone. It's important."

"Where are you?"
"Are they listening?"

"No, Kirk. One of them is in the armchair, the other one is looking out the window."

"I'm not far away. Can you get out?"

Lisa took her cue from the nearest guard. "I could make an excuse."

"All right. I'll be in the news cinema, centre aisle, back row. Be quick. I can't stay in public too long . . . and, Lisa, last time I was in the flat I noticed a sour smell from the sink. Don't you think you should open the kitchen window a little?"

When the phone was back on the hook, they argued about which way Wagner was coming. It was pretty obvious Wagner knew his call was being overheard. The remark about the kitchen window was also too obvious. But did he want them to watch the kitchen or the front door? They called Durham for advice.

"Stay put," he said. "I'll send somebody to cover the cinema, just in case. I'll be with you myself in a few minutes. And don't trust the girl too much. I figure there's an emotional

tie-up somewhere. I wouldn't be too sure she wants him taken,

in spite of what he did to her."

The solitary guard that Durham left at the lab never knew what hit him. Less than thirty seconds had passed since Durham's departure when the door opened again. Expecting the caller to be his superior returning for something he had forgotten, the guard did not look up from the notes he was reading. Not soon enough, anyhow. Kirk Wagner caught him with a flat-handed chop on the side of the neck and he ceased to take any further interest in his job.

Kirk took a quick glance around. "Where's Victor?" he

asked Rowinski.

"In the john. You're taking a helluva chance, aren't you?" Wagner looked grim. "Frank," he said, "I don't know whose side you're on in this business but just don't stand in my way. Give me every ampoule of Propytran you've got and don't ask any questions because I can't give you any answers."

"It wasn't your fault what you did to Lisa. That I can condone. Giving you Propytran is something else."

"Frank, I can just as easily get it the hard way if you force me

to. Now, do I get what I want or do I have to fight you first?" "There's only a couple of ampoules here. Lisa was going to prepare more but-"

"What's in them?"

"One hundred milligrammes in each."

"I'll take them. And a hypo."

" Antidote ?"

"No. Only the Propytran."

A third voice said, "I was afraid of this, Kirk."

"Don't you give me any trouble, Victor."

"No trouble for me. The trouble is for you. I wondered if

you might get to like the effects of schizo."

"You're all wrong. It's nothing like that at all. Look, I can't hang around. Those people will have figured out by this time where I am. I'll need more drug when this is finished. Have some made. I'll pick it up somehow."

Myatt warned, "You don't know what you're doing. To

yourself. The effect of Propytran could become permanent."

"Can't be helped. I've got to do it."

"Do what?"

"Get back to the state of mind I was in." Wagner started for the doorway. "I'll tell you about it later."

"If you can-"

"If I can."

" No explanation?"

"I told Frank about that. I wish I knew myself."

Then he was gone.

Myatt and Rowinski had a few minutes to themselves before Durham returned. They had time to conjecture on Wagner's purpose. Myatt remembered something Kirk had told him days earlier and revised his opinion about the demand for the psychomimetic drug.

"He said there was a difference in the effect last time. Something about reaching a state of animalism. Now he wants to reach it again. Deliberately. Yet he says he does not know

why. What do you think, Frank?"

"Maybe you were right. Addiction."
"Who wants to be mad on purpose?"

And that was as far as they got. Durham came storming in with a half dozen aides. He was more than slightly displeased at being fooled into leaving the lab. He took it out on everybody, flaying Myatt, Rowinski and the now conscious guard in turn.

Five minutes later he had a phone call that shut him up for

one whole breath, then he started again.

"He's been at the girl's flat. Stevens and Nicholson never had a chance. Said he was the last person they expected to see. Said he was like a crazy man. Tore into them like an animal, half killed them. Took the girl with him. Must have. She's gone."

He pounced on Myatt and Rowinski. "You two had better have something to tell me. What did he want here, where is he

likely to have gone with the girl? Start talking."

three

Modern society being the close-knit thing it was, Kirk fully realised how difficult it was for even a man alone to submerge completely, to avoid discovery. He guessed the odds must be squared or cubed when it came to a man and a woman trying to hide. He realised too that having made his first moves and disclosed himself, the net would begin to close rapidly. He dragged Lisa to the street, hailed a cab and had them driven to

the outskirts of the city. There they stood in a darkened shop entrance like teenage lovers with nowhere to be together in

private.

He told Lisa he had Propytran in his veins, admitted that already he was alternating from one personality to the other, warned her that he might become violent at any moment. This, he told her, was another reason why he could not be with her

for any length of time.

"I must have more drug," he said. "I'm depending on you to get it for me. And try to get those bloodhounds off your tail. Make them believe I'm nuts, that I've left the country, anything that will give you an opportunity to leave the flat unobserved so that you can get the drug to me. I'll let you know where I'll be."

Lisa was huddled far back in the shop's doorway. She was

very silent.

"What's the matter? You're not afraid of me, are you?"

She showed him her hands.

He made no apology. All he said was, "I'm paying a price too."

Lisa put her bandaged hands on his shoulders. She was crying. But she managed to sob out, "You're asking me to trust you, trust you with my life even. Yet you haven't given me

a word of explanation."

"You too? There's only this I can tell: A lot of Propytran, the amount I had last time, can cause the mind to shed its human features completely. I tried to tell Victor about it but I didn't understand enough. I'm beginning to see it more clearly now. Funny, you know, I've got it in me now, the change is happening now, and that helps me to figure the effect better."

"What's funny about it?"

"Because the effect is to release the basic animal in me and yet it is the human part that does the theorising. Are you with me?"

"Vaguely. I still don't see why you want to go on taking

Propytran."

"It's the satellite, Lisa, the satellite." He took her hands off his shoulders. "You'd better go." He took a step back. His voice rose in pitch and volume. "You'd better go, Lisa! Go!"

She had seen too much of Propytran's influence not to recognise the transition of mental attitude, the inception of induced insanity. She squeezed past him, out into the street. She saw him begin to move. She thought he was coming after her. She started to run down the street, looking over her shoulder as she ran.

"Don't let me down!" he roared. "Don't you dare let me

down!"

She stumbled along, scarcely able to see where she was going for the tears in her eyes. The street opened out into a main road, there was a waiting bus at a corner stop. She waved her hands, white-wrapped in the glow of the street lamps. The bus driver slipped his clutch. She nearly fell aboard. The bus growled into motion.

Through the window beside her seat she thought she saw a

wild figure shambling out of a shop doorway.

She told Durham everything. There was no treachery to Kirk in her mind when she divulged where she had been and what she had been asked to do. If it had been a case of dealing with the police only she might have obeyed Kirk to the letter. Durham's people had none of the restrictions imposed on the police; they would be nowhere so easy to fool. And she had not missed the possibility that by laying her cards on the table she might be able to call on Durham for help.

"I'm asking for a trade, Mister Durham. Let me give him the drug. Take your men out of my flat so that I can meet him or at least talk to him on the phone in private. Don't try to

pick him up."

Durham looked gloomy. "Sounds more like stealing than trading. Seems like I do all the giving. What do I get out of all this?"

"Find out everything you can about the satellite that has

started transmitting again. You've got access."

"Anything else you'd like? I should go into orbit myself

and bring it down to you, for instance?"

"Don't be facetious, Mister Durham. Maybe it does sound a little one-sided, but believe me, I'm sure you have as much to gain as I have."

"It would be enlightening to hear how."

"Kirk Wagner doesn't have a speck of meanness or dishonesty in him. I'm talking about Kirk Wagner the whole man, not the dredged-up evil side you're thinking of. I've known him a long time. He loves me although perhaps he isn't aware that I know this. He loved me before I married

Cole Tucker, yet remained our friend throughout our marriage. He was passed over in favour of Cole for the European satellite job, yet he never carried a grudge. For a while after Cole's death I treated him shamefully, yet he understood and stood by me until I had got over my grief. So, if Kirk Wagner is voluntarily dicing with insanity for some reason connected with this satellite—and that's what I add up out of his talk with me today—then I for one am convinced that it is for some purely unselfish reason."

Durham considered her outburst. "Supposing," he said, "supposing I accept your assessment of his character at face value, what then?"

Lisa saw no concession in his words but at least he seemed

prepared to listen further.

She said, "I think that whatever Kirk is doing he is doing for all of us. Perhaps it sounds trite and corny but I think he's doing it for mankind in general. What I would like you to do is work on the satellite angle, try to discover in what way it could interest Kirk. In return, Victor, Frank and I will work on the mental angle. We'll go back over the recorded tests to see if we can find any clue to his behaviour. Fair trade, Mister Durham?"

Durham made his mind up quickly.

"You're an intelligent woman, Mrs. Tucker, so you should realise that while I have a certain amount of freedom in modus operandi, I can't make promises like that without consulting certain other people. However, I'll tell you what I'll do. I'll put an ear to the ground—maybe I should say to space—about this satellite business. As you say, I have access. I should know what there is to know by morning. I'll pass it on to you. Then, and only then, if what I tell you makes any sense and you can give me sound arguments to use when I consult my people—then I will consult them."

"And meantime? About Kirk?"

"I can't call off my men. You must understand that. But if he should phone you between now and morning perhaps we won't hear the bell ring."

Lisa was grateful. "I understand, of course. You can't

do more. Thank you."

Her small victory was slightly spoiled by the fact that Kirk did not call although she sat by the phone until well after midnight.

While she waited, she kept one ear on every radio and television newscast. Again she was disappointed. The haunted satellite had been dropped as a news item.

In the morning, Durham was able to tell her why.

News of the satellite was officially considered to be unsuitable for public ears. Until the reason for the satellite's behaviour had been rationalised there was a danger that the bare facts

concerning its behaviour could cause public alarm.

When the signals had been first picked up from the hitherto mute space menagerie they had been completely random. It was as if the transmitter had been made to function again without any attempt to broadcast the data which the satellite had been designed to send. And this was not surprising since the transmitter's original function had been to send back to Russia the physical reactions of the menagerie's cargo of animals and these were now presumably very much dead.

Thirty hours after the start of the mystery, Zverinets—as the Russians logically termed their satellite menagerie—had behaved even more strangely. The random signals ceased and were replaced by a series of transmissions which several of the listening stations, Jodrell Bank among them, were able to identify as being a repeat of the signals which had been sent

some three years ago.

Soviet space scientists were consulted and they confirmed that it appeared as if Zverinets' original tape transcript was being retransmitted. Their willingness to divulge this information was taken to indicate that the Soviet was just as bewildered by the satellite's behaviour as the rest of the world.

Then the taped broadcast stopped. After five hours silence there was a short burst of radio signals from Zverinets, followed by silence again. This time the signals were neither random nor were they an extract from the tape. There was a definite pattern to them but not a pattern which any of the listeners on Earth could decode.

The most startling move in the sequence of events came when the radio telescope at Jodrell Bank reported that Zverinets was moving out of its fixed orbit. There was no longer any doubt now; the satellite had been taken over by someone or something. Only by applied force could the capsule have been made to decelerate and drop into a new orbit considerably nearer Farth

With frightening accuracy the satellite was seen by the radio telescopes to manoeuvre close to another piece of space debris.

Durham paused in his story. "You sure you want to know the rest?" he asked Lisa. He said it with so little emotion, in feature or in tone of voice, that it was obvious he did not really care but was only going through the motions of asking. Somebody had probably told him sometime that outside his department it was customary to show a little respect for other people's feelings.

"Go on," said Lisa, deceived by the flatness of his tone.

"The capsule that Zverinets closed in on is the one containing your late husband."

If he had been expecting Lisa to break down he was disappointed. But only because on the basis of the facts as she knew them, she was too surprised to have room for grief renewed.

"But that's impossible," she said. "The capsule, the rocket, everything was destroyed when the second stage blew up."

It came easy to Durham to be brutal, which was just as well for brutality was what was needed to stop any emotional nonsense from the girl. "The capsule was blown clear. You weren't told at the time. They thought it was better you believed he died instantly and not the way he did."

For a moment Lisa let herself see the picture. Cole's loneliness, his knowledge that he would die when his oxygen supply ran out, his utter detachment from the world below, no

one to talk to even while he waited for death.

She wondered about that. "Did he . . . was he able to call

anyone?"

"They believe the transmitter was put out of action by the explosion." Durham's voice was still toneless. But he was really trying now to be brutal when he added, "The project was a complete write-off for all the information that was learned."

Lisa's face was bloodless. Durham waited for her to pass out. Yet even he had to give her marks for sheer guts when she said, "You were telling me about the runaway satellite—"

"The rest won't be very nice," Durham said, baring a tiny

sliver of humanity.

"Get it over with, please."

Durham had put it mildly. Lisa sat with her eyes closed for most of the time as he continued his story.

Only Jodrell Bank possessed equipment with sufficient finesse to verify that the two space capsules were actually in contact. But every one of the listening posts could tell the same thing when Zverinets started to broadcast again, unknown hands feeding the transmitter with the tapes containing Cole Tucker's physical reactions during flight, through the explosion and in slow death.

"There's worse yet," Durham warned. "We now know that although your husband's capsule was unable to *transmit* his personal reactions, the recording apparatus was not out of function and he carried out his pre-arranged duties to the very

end. He was a very brave man, Mrs. Tucker."

Coming from Durham this was an accolade beyond price. Lisa nodded acknowledgement. "How do you know?" she asked.

Durham tapped his briefcase. "Zverinets has broadcast his recorded words from beginning to end. I have a transcript here if you—"

Lisa shuddered. "Someday perhaps. Not now."

"It doesn't matter really." Durham was being callous again. "It's not the content of the transmission that is important but the transmission itself. Cutting the rest of my news short, it goes like this: someone took over the Russian satellite, tinkered about inside and got the transmitter going. That was when the random signals were heard. Then there was more tinkering, the tapes containing the physical data of the animal cargo during flight were found, their purpose divined and fed into the transmitter.

"The next is conjecture but probably accurate since it was deduced by men from my department. It seems that whoever took over the satellite was trying to contact Earth. Having no success, so far as they knew, they now took time off to study the tapes. That was when the satellite stopped transmitting. When the broadcasts started again, in an unrecognisable pattern, that we believe to have been the inhabitants' attempt

to send signals of their own."

Durham paused to study the girl. He thought that if she had not been sitting bolt upright he could have taken her for dead,

she was so pale.

He went on, "From the final part of the procedure we know that these signals were friendly in content. You see, Mrs. Tucker, those people up there—we are sure they are people of a kind—they moved over to your husband's capsule and used his tapes to learn human speech. My latest information is that after transmitting his last words as I already told you, they are now transmitting friendly messages to us. Oddly enough, or perhaps not really, their vocabulary is confined to the words your husband spoke while in space. The thing that really astonishes is that their voice or whatever they use for a voice has all the tones and accents and inflections of your husband's. You might almost think he was doing the talking."

That was when Lisa finally did give way to a merciful faint.

four

Durham signalled for Frank Rowinski to exercise his skill as a doctor. He told Myatt to see to the making of coffee. He felt generous in allowing Lisa fifteen minutes to compose herself and drink a cup of coffee when Myatt brought it through.

"We made a bargain," he said. "I've done everything you asked me to do, told you all there is to know about the satellite. Now let me hear what you have to say. What about you for a

start, Doctor?"

Frank Rowinski shook his head. "Myatt is your man. All I do, or did, was keep a check on Wagner's physical health, to see that he was bodily fit before and after each shot of

Propytran."

"Is right," Myatt put in. "We talked this thing over before we went home last night. Frank is a doctor, Lisa is a chemist. But the business with Kirk is up here." He tapped his forehead. "And Victor Myatt is the man who understands most about this. Me."

Durham looked at his watch. It was a favourite gesture of his, calculated to make a witness get a move on.

"I'm listening," he said.

The gesture was not lost on Myatt. He recognised it for what it was but refused to be bullied. He took his own sweet time in explaining the conclusions which had been reached the previous day after running over the tapes of Wagner's tests.

Kirk's own words had given him the key. Remembering Kirk's remarks about animalism, Myatt had listened to the recordings with those remarks at the front of his mind. He now believed he could understand Kirk's behaviour.

"Think," he told Durham. "Think of the best man you know. A saint maybe. Perhaps in this saint you will presume there is no wickedness, no other personality except the one he shows to the world. You would be wrong, as I, Victor Myatt, or any other explorer of the human mind can tell you. Your saint has as much devil in him as any man. Why then is he a saint? Why does he act like a saint, think like a saint, even look like a saint? I believe I can tell you."

Durham grunted, "I'm too old for religion."

"Who said religion I am talking about?" Myatt pushed his glasses up his nose as he paced the floor in agitation and concentration. "The spirit perhaps. Or the psyche."

"Speak up !"

Myatt realised he had been muttering more to himself than aloud.

"I am trying to make you understand something. This saint, he has as many sides to his character as any man, yet he has managed to submerge all the evil ones. But how? Consider this: is it that he has a certain chemical in his bloodstream, something like our Propytran, which splits his personality to such a degree that the evil in him is forever swamped by the supreme saintliness of his true ego?"

Durham answered, "I know something about the mind, psychiatry was part of my training. But chemicals in the blood-stream? That's something they never told me."

"I am not really saying about chemicals in the saint's

body-"

"You just said it."

"Will you be patient, please. I was making with an analogy. I also know quite well that a saint is a saint because he is built that way. I would say built by God if I thought you would accept it. But you will not so I will simply say that a saint is a saint because he is incapable of being otherwise. His mind is so made that his ego is forever dominant over his id."

"Wagner is no saint," Durham reminded.

"Exactly. That is what he was trying to tell me. That with the aid of Propytran he was able to achieve schizophrenia of such intensity that his id broke free of his ego's control. Instead of a saint, we made him a sinner, a completely ruthless sinner."

"So it comes back to saying I was right in wanting him taken

into custody."

"No!" Victor Myatt was vehement. "Long ago there was only the id. Men were as beasts. With the rise of the ego, came the civilization of man. He became less of a beast. But in the process, he lost something. He lost nine-tenths of the use of his five senses. Perhaps he lost entirely a sixth sense which animals still possess but which we are touched by only feebly and rarely. Maybe also a seventh or eighth sense."

Durham stopped Myatt's pacing with a finger on his chest.

"Wrap it up in one sentence, professor."

Myatt removed his glasses, held them up to the light. He had as fine a theatrical feeling for gestures as Durham had.

He said, "I think Kirk, in his drugged state, has been in

communication with the things in the satellite."

Lisa, sufficiently recovered from her shock to take part in the proceedings, was able to substantiate Myatt's statement. She recalled Kirk's excitement about the satellite, his insistence on further supplies of Propytran.

"It's pity and sympathy he needs, Mister Durham, not being hounded from house to house like a criminal. He is deliberately taking chances with his own sanity so that he can keep in touch with the satellite. Anyhow, you promised you would help."

"I promised nothing. I said I would hear what you had to

say and then decide."

" Well ?"

"You could be right. But on the other hand we don't need Wagner now that the satellite's inhabitants are talking to us vocally. Talking friendly, as I told you."

"I don't believe you," Lisa said.
"You don't believe? Why should you know better than the

world's best security force?"

"I know Kirk. Under the influence of Propytran he's sheer animal, with all the suspicions of an animal. But if the contact he has made had indicated a friendly attitude he wouldn't want to continue taking Propytran. Furthermore, if they're so friendly, what have they come for ?"

Durham was just about to tell her he was waiting for information on that point when two things happened simul-

taneously.

The phone rang and Kirk Wagner stumbled into the lab.

Durham was quick to assess the priority of events. He made motions for Kirk to be seized and held while he answered the phone himself. His own part of the dialogue consisted of a

couple of yesses and a final, "Can you stall a decision until I ring you back. I've got something this end which might make them change their minds. What? I said it *might*. Just you stall them. I won't be long."

He turned to Kirk.

He said, "I don't know whether you're a curse or a blessing. It's not enough I should have my department asking is it all right if we agree to the aliens' request to leave orbit and come down. I've also got you telling me—through your friends—that the selfsame aliens are hostile."

Kirk had stopped struggling. His only response to Durham's statement was a mumbled request to be put in the strait-jacket.

Durham signified approval and went on.

"Fortunately for you, and unfortunately for my own peace of mind, I am a professional doubter. My people say the aliens are friendly. You say otherwise. That makes me the man in the middle, the man who has to decide what the truth is. Because you are the one who put me in that position, I don't think I like you very much. But I'm going to listen to what you have to say—"

Kirk interrupted Durham. "That's what I came back for." Durham showed no gratitude. "Obviously," he said.

The other occupants of the laboratory were now mere spectators. Durham and Kirk Wagner held the stage. Kirk seemed at a disadvantage. He was laced into the strait-jacket, lying on the bed and the bed was flanked by wary security men.

Durham said, "I've heard something about your recent behaviour. I also know that Propytran was the cause of it. What I want to know next is whether you want a shot of antidote to help you tell me the things you've got to tell me."

For more than a minute, Kirk struggled with himself. With only his face mobile, he still showed ghastly signs of rapidly changing personalities. His eyes had all the whites visible. His lips peeled back and his lower jaw jutted and his whole facial appearance was like that of a wolf. Then his mouth clamped shut with a vicious snap and his eyes closed and peace crept across his face.

"No antidote," he whispered. "Must be more Propytran, not antidote."

Lisa protested. "He'll kill himself!"

Durham glared. "Have the drug ready," he said.

Kirk's temporary serenity persisted. He opened his eyes, talked coherently.

"If I start to look insane, no matter how wild I get, don't let them give me antidote. Leave me to come out of the bad spells by myself. While I'm able to talk sense I'll tell you what I have to. In between you'll have to be patient."

Out of curiosity, Durham asked, "Why no antidote?"

"Because it has taken me so long to reach this stage of animal sensitivity that I can't afford the time to go through the whole process again. And there is something which I must do and can only do if I am as I am."

Durham accepted the explanation with silent reservations that Wagner would do nothing whatsoever until Durham gave the word.

"Talk fast, then," he said. "And keep it terse and to the point. I've got a deadline too. So snap it out. Give me facts only. Save any guesses, suppositions, etcetera, for later."

Kirk was immediately disobliging. He fluxed quickly from

human to animal, wailing, snarling, mouthing gibberish.

Without looking at Lisa, Myatt or Rowinski, Durham went straight to the lab sink, ran a swab under the water tap and twisted the wet rag into a loose rope. He went back to the bedside and before anyone could protest he lashed Kirk about the face, first one side, then the other, every powerful slap raising spontaneous crimson weals.

The only reason why Frank Rowinski was the first to utter disgust and protest was that, being a doctor, he was quicker to react than Lisa or Victor Myatt. He grabbed Durham's arm.

"What the hell d'you think you're doing?" he yelled. Durham shook him off. A glance was all he needed to get

one of his men to restrain the doctor.

"If I am offending your sensitive natures," he said, "it's just too bad. I'm in a hurry. And if goads and whips can tame a lion, a tiger or a wild mustang, then what I'm doing to Wagner should cure him of being the self-confessed beast he is. Don't interrupt me again, any of you. You can always shut your eyes."

He flicked the wet rag twice more before Kirk vindicated his theory by returning to normality. His eyes were bright and

sharp in spite of the pain in them.

"You are a dedicated man," he said to Durham. "If I didn't understand your motives I could get to dislike you as much as you dislike me."

His quiet sarcasm was in violent contrast to his previous bestial mouthings. He went on, "However, I am grateful to you."

Durham allowed himself a morsel of compassion. "Could be," he said, "could be we are a pair of a kind. Some other day we'll sit together over a drink and find out. Meantime—"

"Of course," said Kirk. "I remember. No side-tracking.

Only facts."

He squirmed on the bed to attain some degree of comfort

before continuing.

"We're facing an invasion," he said. "If they have fooled you into believing that this is the great and glowing moment of man's first contact with an alien race and made it look like the dawn of a new age, forget it. A new age, yes, but an age, an endless age of serfdom for us."

Durham, obviously quoting, replied, "The ship they came in is only slightly larger than one of our one-man space-shot capsules. They—if they are plural—can't be more than two men strong. What kind of invasion force is that? Even if they are not humanoid but some sort of monster born of your druginduced fantasy."

"You've got the size of the ship right," said Kirk. "And they are approximately human. But there are ten thousand of

them !"

"Little men?" Durham asked. "Little green men?"

"I didn't get their colour. Their number I did. Not as an actual figure because their numeric system appears to be different to ours. But I got a picture when my animal senses were fully active, a picture I could look at long enough to make a rough count. There are, I assure you, at least ten thousand of them in the waking state, with several million others in a cargo of deep-frozen pre-fertilized ova."

Durham was monumentally patient. "All right, there are ten thousand of them, forgetting the ova for the moment. That makes them somewhere around the size of an insect, a small insect at that. Assuming their intentions aren't all they make them out to be, what have we got to fear from ten thousand tiny men who could be swatted aside as easily as I could swat

a fly with this rag?"

"No danger at all if we don't let them land on Earth." Kirk sighed. "I realise this must be difficult to believe unless you've seen it as I have. Do me a favour: let me say my whole piece first, then ask your questions later. It'll be quicker and also it will give me a chance to get it all said before I lapse again."

Durham looked at his watch. "I'll hear you out," he

conceded.

five

Kirk kept his explanatory preamble brief. He felt obliged to make some explanation of his method of seeing the aliens, if only to convince Durham that he had indeed seen them. He cited familiar cases of animal perception; the family dog whose back hairs bristle as a result of the dog's assessment of a stranger's intentions; the lice that jump in scores from a hedgehog when its life is threatened; the rats that leave a doomed ship before she has even parted company with the dockside.

He could have used many more examples of animal perception of a degree which could not be explained by the mere hyper-sensibility of their faculties of smelling, hearing or sight. But with time sitting on his back—and on Durham's—he

preferred to elaborate on his personal experiences.

The first crossing of the threshhold, the first step backwards towards repossession of early man's full animal senses had come with the most recent experiment. He had started to tell Myatt about it when the radio newscast had interrupted him and sent him to comfort Lisa. But it was not then that he made first contact with the aliens.

Contact came after he had unwittingly broken Lisa's thumbs in the restaurant and he had fled into the night. The personality switch that was responsible for his cruelty to Lisa gave way to a return to normal. Out in the night streets he had been horrified at the knowledge of what he had done. He had tried to find some reason for his cruelty. And in trying, he had mulled over everything that had happened in the immediate past.

He remembered the broadcast.

At once he discarded the ex-Russian satellite's sudden strange behaviour as having nothing to do with his. The only connection was his breakthrough to bestialism. First, it exposed the hidden sadist in him, made him twist Lisa's thumbs until they snapped. Secondly, in thinking about the satellite, in projecting his thoughts in that direction, his acquired animalism enabled him to see what no ordinary human could have seen.

He said, "It was a fantastic experience. To see through darkness, through distance, through metal walls. To see the aliens. And not only to see but to know their intentions. To

hear them planning the shift to Cole Tucker's old capsule. To know they mean to take over this planet."

Durham broke his promised silence to ask, "You don't, I presume, use the words see and hear in their usual meaning?"

Kirk took the question as a sign that Durham was beginning

to come over to his side.

"You've got the idea," he said. "I didn't really see or hear the aliens yet I knew exactly what they looked like in size, why they had come here, how they intend to accomplish their mission."

"Which is?"

"Let me backtrack a little first. To begin with, they are normally about five feet tall and back on their home planet they were faced with the problem we'll have to face someday—too many people in too little space. Migration was the best answer, but—and somebody has computed similar statistics for Earth—it would have taken around five hundred years for their population to be shifted from their planet to another by space-ship, and, of course, during that time the population keeps increasing faster than it is being syphoned off."

Kirk closed his eyes and for a moment it looked as if he had another schizoid attack coming on. But he was only gathering his thoughts to lay them out as briefly as he could in compata-

bility with clarity.

"Their solution of the problem had to be a long term one. One generation had to find means of moving the next, since they themselves could not make the journey for the reason I just mentioned. Their biologists came up with the answer. They found a way of limiting the growth of their progeny, something like the Japanese can grow trees in miniature. The idea was to move these tiny people to a new world—being so small they could get so many more into each ship—and being so small, they computed that their stay on their new world would be practically indefinite since no matter how fast they continued to breed, their food and space requirements would perhaps never exceed their chosen planet's potential."

But, as Kirk explained, something had gone wrong. A planet of the star Menkar was chosen. A fleet of ships ferried five hundred million miniature men and women to Menkar. Then the trouble began.

In two generations the new Menkarians were twelve inches tall, weighed around the same number of ounces. The fourth generation Menkarians were as tall as their original ancestors and it became apparent that sooner or later they would be back

where they started as regards over-population.

What had started out as a purely internal project, entirely peaceful in purpose, had to be transmuted to one of deliberate aggression. Using the same technique of miniaturisation, the Menkarians embarked on a cold-blooded policy of spreading their own population over as many habitable planets as they found, regardless of the priority of any existing inhabitants.

Their biologists worked on the flaw in their original plan and developed a miniature Menkarian who could assume full five-feet tall proportions, not in a few generations, not even in one, but in himself. Their technique was to land on a planet, ingest the hormone which had been developed to accelerate growth and before the planet's true inhabitants knew what was happening they had been taken over. The additional refinement of transporting dormant fertilized ova which could be brought to life and then to full adult maturity in a matter of months was quite an asset.

Kirk said, "As no single planet could contain them they were forced to steal any habitable planet whose people were foolish enough to permit their entry. And that is exactly what is likely to happen to us, right here on Earth."

Durham took no time to make his decision. For one thing, he had been weighing up Kirk's statement as he went along. For another, he had already had a thorough investigation into

the ex-astronaut's background.

He put his conclusions bluntly. "I could dismiss everything you have said as the drivellings of a nut, but I know you are sane, intelligent and highly educated. On the other hand, I could say that although you are sane, intelligent and highly educated, you are suffering delusions brought on by the effects of Propytran. Therefore I can do one thing and one thing only."

Kirk asked, "You'll tell them not to let the aliens land?"
Durham shook his head. "That would be going too far too fast."

"What then?"

"First I warn them to look out for an unauthorised touch-down and to cordon off the ship until I call them. Then—"

He turned to Lisa. "You have ample supplies of that drug?" Lisa nodded.

Durham picked up the phone, made a call on the lines he had described. He put the phone back on its cradle and unbuttoned his coat.

"I hope you have another strait-jacket available," he said. Frank Rowinski saw his intention. "You can't do it, Durham. At a guess I'd say you were about fifty and certainly not one hundred per cent fit, not with the fitness of a man like Kirk who is young and has been specially trained for the job."

"Through no wish of my own I am the man, the only man, who can decide what must done. But the onus is on me and I intend to discharge my duty in the only way I see possible. The aliens say one thing, Wagner says another. And there is no other way for me to evaluate their statements."

Durham rolled up one shirt sleeve. "I want the maximum dose of Propytran, the most that can be given without killing

me."

"That could be the tiny dose we started off with on Kirk. It has to be built up by stages."

"Give me the dose that put Wagner round the bend."

Durham's voice was hard and insistent.

"There will be no comebacks in the case of accidents. My men here will testify that the responsibility is wholly mine. Get on with it!"

When it was patent that Durham was obdurate, the laboratory team slipped into gear and functioned with all its previous smoothness. Individually and collectively they disagreed with Durham's decision, but as much as they loathed the man they

had to admire his sheer guts.

There was no strait-jacket other than the one Kirk wore. It mattered little. Frank Rowinski had Wagner moved off the bed and insisted on festooning Durham with so much apparatus—from e.e.g., pads to sphygmomanometer, salivation tubes to skin pH tapes, arterial tapping tubes for blood sugar analysis to cardial microphone—that to encase the voluntary patient in a strait-jacket would have been superfluous and impossible. Rowinski was prepared to risk any violence on Durham's part rather than have him die because of the lack of any piece of analytical apparatus.

"Is he ready?" asked Lisa, a loaded syringe in her bandaged

hands

Rowinski lifted his shoulders, as much as to say that he was not personally satisfied that all precautions had been taken but, nevertheless, Durham was as ready as could be. Lisa glanced at Kirk, saw him writhing on the floor, once again in the throes of unfamiliar sensations and emotions.

She passed the syringe to Rowinski and walked quickly from

the lab, one hand pressed to her mouth.

The drug had been in Durham's bloodstream barely thirty seconds when Victor Myatt's glasses dropped down his nose as he watched the needles of the electroencephalograph judder wildly, their inked lines going from the regular sawtooth pattern to a new scrawl that had no pattern at all. He went to the sink, picked up the second syringe that Lisa had prepared.

Rowinski said, "Not yet. He wouldn't like it if we pulled

him out too soon.'

"After too soon comes maybe too late," warned Myatt.

The strain Rowinski was under showed when he snapped, "Are you telling me my job? Do you think I like playing with a man's life? Don't forget that every doctor is duty bound to—"

Victor waved one hand to make peace, pushed his glasses up his nose with the other.

"Forgiveness, please. We were pressed into this. No blame can be stuck on us if it goes wrong."

"Would you feel any happier if anything did go wrong just

because you have a ready-made absolution?"

The question was not answered. In the first place it had no satisfactory answer and in the second place the changes in Durham's physical and mental condition were happening so fast there was no time to talk.

Durham was probably as fit as the average man of his age. But the immense dose of Propytran had been designed for a man much younger and a man of peak fitness. His transmitted heartbeats raced erratically until they reached a state of tachycardia, bordering on tetanus. Acid sweat poured from his skin. His blood pressure had the mercury in the sphygmomanometer bouncing up and down in its tube like a piston. The continuous flow analyser showed that he was in danger of passing into coma if he continued to burn up his blood sugar at the same alarming rate.

"Yet?" asked Myatt.

"Not until he has been schizoid. That's what he wanted." The transmutation from human to animal came then, right on cue, with a hysterical scream from Durham that brought Lisa back from the washroom on the run.

Wild arm-flinging sent the tapes and tubes flying in all directions. Only the fact that the e.e.g. pads were under a strapped headpiece kept them in place.

The laboratory was a vault of sound, mad incoherent sounds that no known animal could have uttered-unless it was the animal that man had once been. It was incredible that so much noise could emanate from one person.

Kirk had been back to normal long enough to catch the

start of Durham's schizoid breakthrough.

"Durham!" he shouted above the screams and screeches. "Durham! Project to the ship. Focus on the aliens. Lisa, Frank, the rest of you, Victor, everybody—tell him. Tell him what to do. If I wasn't tied up-"

Myatt looked up from the brain traces, added his own warning. "If you don't give him the antidote now you'll never

get him back."

Lisa took the syringe to Rowinski and the doctor was trying to snatch one of the flailing arms when Durham spoke and the hand that held the syringe became rigid, poised in mid-action.

"The dirty sneaking bastards! Ten thousand lousy. filthy-" The rest was only repetition, foul-mouthed, sub-

civilized obscenities.

But the two most important words had been heard. Even conceding that both Kirk and Durham might have suffered induced hallucinations, it was beyond the realms of possibility that both would have seen the same images.

"Ten thousand," Rowinski repeated. evidence for me." He motioned for assistance and when Durham was helplessly pinioned he shot the full load of

antidote into an artery.

"Traces improving," Myatt reported almost immediately.

While Durham was being held, Rowinski took the opportunity for a quick check on his heart and blood pressure.

His face wrinkled in despair.

"Let up," he said. "He won't be any trouble. He hasn't the strength left. Give me the adrenalin, Lisa."

The girl asked a question with her eyes.

"Any moment now," the doctor answered. "I knew it was

too big a risk to take."

Durham had heard. "The phone," he said faintly. He was a limp flaccid effigy of his former self. "Give me the phone."

While he dialled his number he reached inwardly for strength to say, "You expect to pay this price sooner or later in my

job. Don't feel bad about it."

His party came through. Slowly, spasmodically, husbanding the feeble flame of life that remained burning inside him, he divulged what he had learned. He made no mention of the method or the cost. His word appeared to carry sufficient weight to be accepted without quibble.

"What to do about them?" he said into the phone. "For . . ." he faltered, tried again. "For reasons somebody else will tell you I must pass that one up. Kirk Wagner is your man. Trust him. You'll have to. He's the only one who knows what to do. Hold . . . hold on, I'll get him on this end of the line."

The line.

The phone slipped from his fingers and he was dead.

One of his men picked up the instrument, said, "Hold on, sir," and went to help the others release Kirk from the jacket.

"This is Wagner speaking," he told the phone when he was free. He tried not to look at Durham's pale corpse. He asked, "Who am I talking to?"

His eyebrows shot up when he was told and he stiffened

perceptibly.

He listened in silence for several moments, then gave a brief version of what Durham had done and how it had confirmed

his own suspicions of the aliens.

"Blasting them from the sky is out of the question," he said.

They've learned how to use the capsule's controls. They would take evasive action as soon as they spotted a destroyer rocket. There is another way. I can go up there."

There was protest from the other end of the line. Kirk countered it. "You're forgetting, sir, that I am a fully trained astronaut. I know there is a suitable ship ready. The weather may not be perfect, my reactions may be unpredictable, but

these are risks that must be taken."

To another question, he replied, "No sir. It has to be me. I'm the only one who can eavesdrop on their intentions. If they start to dodge I can alter course and chase them. With a warhead in the nose of my capsule I can chase them until I'm within point-blank range and send the warhead out on its own rockets when I am sure it can't miss. No, sir, there is no danger to me from the warhead. When I said point-blank

range I didn't mean as close as you think. I'm taking into account the limited movements their capsule is capable of-I was once in line for that one myself, sir, but Cole Tucker got it."

He listened some more.

"As soon as you are, sir. I should say that by the time you get a copter out here to take me to the launching pad, the technicians could have the ship fuelled and primed to go. Yes, sir. Thank you, sir."

Apart from filling in a few details there was little that Kirk needed to tell Lisa and the others to bring them fully into the picture.

"Of course it's risky," he answered their protests. He

gestured at Durham. "But he took a risk too."

"That's what is worrying me," said Lisa. "You might come to a similar end. You have no idea how you'll react to multiple gee or null gee with Propytran inside you. Your reactions could go haywire. You could have a personality shift in mid-space and animals can't fly spaceships."

"The greater part of the journey is under pre-set or ground control. You should know that, if anyone should. It's only at the last stage that the pilot takes over. I'm gambling that I am as sane as I am now when that time comes."

Lisa went close to him. She lifted her bandaged hands, the hands which had so recently held a syringe awkwardly.

She said, "I think I'd rather you did this to me again than

take that gamble."

Kirk looked her straight in the eyes. "Would you?" he asked.

She dropped her gaze. She said, "I suppose not," but it rang false. She had an afterthought. "Suppose the gamble doesn't come off?"

"There are other astronauts, other ships, and you have more Propytran. If it takes ten men and ten ships the cost will still be cheap at the price."

The egg-beater sound of the copter touching down outside the lab put an end to any further conversation until they were outside and Kirk took Lisa in his arms before getting aboard the waiting machine.

"Be waiting," he said. "I'll need you. First as a chemist to get this stuff out of my bloodstream. Then I'll need you just for yourself, if you'll have me after what I've done to you."

"Kirk," she murmured. "You couldn't help it."

"I was a dog," he said.

The phrase appealed to him and he laughed. "Maybe that's truer than it sounds. I am half animal anyhow and I've acted like a dog to you. If I have to be an animal I'd just as soon that animal was a dog."

"Don't talk that way."

"Well," he said, and kissed her lightly. "You've heard the expression-"

She called to him as he left her and started to climb into the

copter. "What's that?"

The rotors began spinning and she just managed to catch his parting words.

"You know," he yelled. "Maybe I'll be a lucky dog."

He was.

Robert Presslie

THE LITERARY LINE-UP

Colin Kapp, who wrote such fascinating stories as "The Railways Up On Cannis," "Enigma," "The Glass Oflargo," "The Bell Of Ethicona," and several others a few years ago, returns next month with a complex other-space rescue novelette entitled "Lambda I." It is as fascinating as the recurring Time theme but based upon an entirely different premise. Along with it will be a long novelette entitled "Mood Indigo" by Russ Markham, concerning a small party of scientists on an island who have invented a force-shield. Naturally, they become trapped inside—and this makes the story.

Short stories by Joseph Green, Francis G. Rayer, David

Rome and others, and Guest Editor Lan Wright.

Story ratings for No. 119 were:

- 1. The Cage of Sand - J. G. Ballard 2. Minor Operation (Part 1) - - Brian W. Aldiss
- 3. Birthright - -- - Lee Harding
- - E. R. James
- 4. Six-Fingered Jack - 5. Sacrifice - -- - Francis G. Rayer
- 6. Visual Aid -- Steve Hall

In six short months Steve Hall has made quite an impression in the British science fiction field and as his experience grows so does the stature of his writing technique. We can predict quite an exciting future for him if he continues at this pace.

JUST IN TIME

by STEVE HALL

The three men lounging comfortably in the twentieth storey penthouse looked like successful business associates, as indeed they were. But their association had two faces to its success story, and only one of them was within the law. The trio were criminals of the rarest type: they were intelligent, could trust one-another implicitly, had no police records, and had successful, legitimate businesses to provide a convincing front for their obvious opulence.

Justin Wright, tall, hawk-faced, and prematurely silverhaired, was playing host to his two companions in a room so carefully studded with art treasures, that it was striking without being ostentatious. They had been patiently culled, over the years, from the best that had passed through his hands in his

profession as an art connoisseur and dealer of repute.

Sitting to one side of Wright, was a small, darker-skinned man whose blue-black, crinkly hair shone in the lamplight like polished, corrugated steel. Jado Marino, the Philippino head of a flourishing import-export house which was not averse to some discreet smuggling, always provided that it was foolproof and profitable, looked as sinewy and as sleepy and as competent as a panther.

Directly opposite his host, admiring an exquisite, nude statuette which Wright had recently added to his collection, stood the broad-shouldered figure of Duncan Rezel, expert pilot, veteran of World War II, and the big, white chief of Trans-Planet Airlines. His company was a moderate-sized, but highly profitable organisation dealing mainly with specialised, charter flights.

"Well gentlemen," drawled Wright, "our last operation has been concluded very satisfactorily; have either of you any ideas for the future?"

Marino blinked lazily, like a cat. "I regret that I have nothing to offer—I was hoping that you might have some

scheme in mind."

Rezel swung around to face his partners.

"I'm in the same boat—not a darn thing new. What can you do for us, Justin?"

Their host smiled and avoided answering the question

directly.

"I can offer you some very old brandy which has just been delivered. Maybe that will stimulate our cortexes and produce

some inspiration."

The other two nodded unhurriedly, and Wright pushed open the door to the adjacent room and passed through. It had barely swished back into place behind him when the Time Capsule arrived. There was no noise, just a slight movement of air displaced by the transparent, bee-hive shaped object.

Marino and Rezel sat perfectly still, staring at the man seated within the capsule. He was pale and weedy, and somehow looked as if he ought to be wearing thick-lensed spectacles, but was not. For a moment, he returned their hard-eyed stare with an incredulous one of his own, and then jabbed agitatedly at a button set in the arm of his chair. The capsule remained immobile. The man inside moved slightly again, and a bugle-barrelled gun appeared in one hand.

Marino blinked admiringly. The stranger might be studious looking, might even be dangerous, but the little Philippino felt a professional admiration for anyone who could produce a

weapon at that speed.

A section of the capsule's wall dilated and the man stepped into the room.

Marino remained unmoving, his right hand was well away from the slim, automatic pistol which nestled under his left armpit, and there was no easy way to reach for it without being observed. He glanced covertly at Rezel, who was slowly bunching his muscles and obviously measuring the distance to the newcomer through narrowed eyes.

The Philippino spoke softly. "Take it easy, Dunc-don't do

anything foolish."

"Good advice," agreed the man from the capsule.

Rezel relaxed by careful stages.

"What are you doing here?" queried Marino calmly.

The stranger looked somewhat taken aback at the matter of fact way in which the question had been put.

"I had expected you to ask who I was and where I was from." Marino spread his hands. "What's in a name? It isn't essential, just a matter of convenience." He eyed their visitor's silvery apparel appraisingly. "Wouldn't it be more to the point to ask 'when' you are from, and why are you here?"

"Yeah," echoed Rezel aggressively, "what do you want?" The stranger's eyes flickered over Rezel warily, and he angled

the flaring barrel slightly more in his direction.

"My name is Lorenz and I am from the year 2621. I am a historian on a field trip—the first one into the twentieth century-my purpose was to observe, but not to interfere in any way. The spatial settings of my machine should not have caused me to emerge here, but in the atmosphere." He looked around anxiously. "I do not appear to be at my correct temporal destination either—what year is this please?"

"1965," replied Marino succinctly. "Why, where were you

hoping to go?"

Lorenz shook his head. "My controls were set for 1900. It was intended that I should start there, and cover the next hundred years of the century, stopping at important historical points. However, my storage capacitors have unaccountably been drained of their energy—would you permit me to recharge them from your electrical system?"

"Of course we will help you," said Justin Wright's smooth tones from behind Lorenz. "Only don't move suddenly will you, or I might be tempted to see if your silvery suit can stop a twentieth century bullet at six feet."

The weedy stranger froze as Wright padded up to him and nudged the Beretta's muzzle against his spine.

" Now hand your gun very slowly to Mr. Marino."

The Philippino held out his hand for the weapon, and after a second or two's hesitation, the time traveller reluctantly parted company with it.

"Excellent," continued Wright, "now we'll all sit down like civilized folk and have a drink. Duncan, will you do the

honours?"

Rezel poured out Napoleon brandy into four glasses and silently handed them around. Lorenz looked at the contents of

his doubtfully.

"Go ahead my dear fellow," said Wright pleasantly, "it's the best that can be obtained in this or any other century." He nodded approvingly, as Lorenz decided to take the plunge and sipped at the potent liquid, first gingerly, then with more enthusiasm. "Would you like some more?"

The stranger's answer was wordless but eloquent. He held out his glass to Rezel, who with eyes glinting with sudden under-

standing, refilled it to the brim.

Unobtrusively, Wright put his gun into his pocket, but his hand never strayed far from the projecting butt. "You were saying, a moment ago, that your machine's energy charge was exhausted. Was it supposed to be in every way adequate for

your journey?"

The time traveller downed a jolting slug of brandy and nodded. "In theory it should have been sufficient for a journey of twenty times this duration. Temporal mathematics, however, have predicted the possible existence of barriers or stress points which would require a prohibitive amount of energy to penetrate—maybe one of these warps has somehow been created at this point in time, although we have not actually experienced one before." He swallowed some more of his drink. "If this hypothesis is correct, it means that this year is the farthest that we can journey into the past." He stared gloomily into his glass, which Rezel topped up. "My historical programme will then be impossible to complete." His voice was beginning to thicken somewhat, and blurr his words.

"Suppose we recharge your capacitors," said Wright, soothingly. "You could then have another try before

abandoning your attempt to reach 1900."

Lorenz brightened at this apparent encouragement.

"You will recharge my machine, then?"

"Certainly," replied the silver-haired man. "Tell us what to do-Duncan you'd better listen to this, I'm no technical man."

Lorenz raised his glass again, and nodded his head like an ornamental mandarin. "You are very kind, and I appreciate it torbellishly." He grinned foolishly, apparently unaware that the alcohol had loosened his tongue to the extent of causing him to lapse momentarily into his own language. "What are the constants of the supply you have here?"

Rezel took over the conversation. "It's two hundred and forty volts, 50 cycle A.C., and we've got all three phases available at the main board," he gestured towards the next room. "Will that do?"

"Perfec'ly, perfec'ly," smiled Lorenz. "The flex under my seat in the capsule will be plenty long 'nough to connect up to your mains. The selectors will then adjust automatically to

convert your supply and recharge the storage banks."

The airman reached into the capsule and started to unreel the thin, flexible cable. He paused when he had laid it through the doorway into the adjacent room. "By the way Lorenz, what level of current will your chargers require?"

Lorenz counted unsteadily on his fingers. "About forty

amperes per phase, I think."

Rezel nodded, satisfied. "O.K., we've got sixty amp cartridges in the fuses—standby for switch-on." He disappeared from view, and they heard the clang, a moment later, as the switch blades made contact. The lights dimmed slightly with the extra load. The airman reappeared with some more queries. "How long will it take to fully recharge your unit, and how will we know when it is completed?"

Lorenz refilled his glass from the bottle himself, and stood swaying gently. "It will be ready in about four hours, an' a

bell will sound to signal that it is so."

Wright entered the conversation again. "Lorenz you look tired. Perhaps you should tell us how to try out your machine, then we can test it while you have a rest. Duncan is very skilful in handling any control system and I'm sure he wouldn't mind piloting it on a short run," he swung to face Rezel and winked with the eye which Lorenz couldn't see. "You'll do it, won't vou. Dunc ?"

Neither Marino nor Rezel knew what the game was, but they realised that something was fermenting in Justin Wright's agile brain. Marino followed his host's lead as Rezel hesitated. "Come on, be a sport Dunc, Lorenz will explain everything to you."

"Yes," said Lorenz blearily. "It's ver' simple to unnerstan." All right," agreed Rezel, "I'll do it just for you Lorenz,

because I like vou."

"An' I like you torbellishly," said the man from the future, draping one arm over the airman's broad shoulders and leading him across to the Time Capsule. "You are ver' kind to do this

for me."

Wright and Marino watched like a pair of hawks while Lorenz explained the controls to Rezel. When he had finished, they escorted him to a bedroom, and laid him on the bed, still babbling his thanks for their kindness as he almost instantly fell asleep.

Marino gently closed the door of the bedroom in which the unexpected visitor lay sleeping, and turned to Justin Wright.

"So you've got Lorenz out of the way for the moment and you know how his machine works, or at least Duncan does—now what?"

Wright led the way into the room where the Time Capsule

had first appeared before replying.

"I haven't got anything worked out yet, Jade, but we've got about three hours to go before the charging process is complete—surely we can think of some way in which we can profit from an opportunity like this." His words were more in the nature of a confident statement than a doubtful question. He poured drinks for them all and handed them around. "Unless I miss my guess, Lorenz will sleep the sleep of the just for the next eight hours or so, which gives us say four hours after the charge in which we can make use of the machine. According to what he told us, there is some difficulty about going into the past, so we've got to figure out some deal involving going into the future, doing something or obtaining some information, and getting back to profit from it. Try and think along those lines."

They had sat cogitating in silence for at least five minutes before Rezel picked up his glass, tilted the contents into his mouth, and held the liquid there for a few seconds before swallowing it. He placed the glass down with an air of having reached a decision.

"There's nothing complicated about this—all we've got to do is go ahead in time for a day or two, buy a few newspapers, return to the present, then stake out our cash on some winning horses. How about that for a scheme?"

"It's a possibility," returned Wright, thoughtfully, "but

I don't like it too much for several reasons.

"First of all, we'd have to make contact with some one in the future to get the papers, which might lead to some complications, and secondly, it would mean us running about quite a bit to spread the money around so that it went unnoticed and didn't shorten the odds."

Marino chipped in before Rezel could attempt to defend his scheme. "What about using the machine to carry out a robbery—say collecting a sackful of diamonds from Hatton

Garden?"

Wright shot that one down too. "No go, Jade. Your idea's got two strikes against it. The diamonds would be missed, and we'd have to be damned careful about disposing of them not to attract attention to ourselves. You see, I'm not interested in chicken-feed—I want to make a real killing without risk. But I think you're on the right lines; robbery is the answer." He ruminated a little longer, then: "I think I've got it. Come with me a moment."

Wright took them into the room where the cable from the Time Capsule snaked its glittering way across the floor to the electricity supply mains. He pointed to a painting dominating one wall. "I think that's the solution to our problem. It's a copy, and a damned good one of the original in the New York State Gallery of Fine Art."

"What's it called, and how are you planning to make use of

it?" asked Marino.

"The original of this picture is Valancetti's 'The Martyrdom of Joan of Arc' and I'm proposing to swap this for the real thing."

"How much is the original one worth?" queried Rezel.

"Not less than half a million—pounds not dollars."

Marino and Rezel whistled softly. The Philipino's dark eyes gleamed as he said, "What's your plan exactly, Justin?"

Wright smiled confidently. "If Duncan is sure that he can pilot the capsule to the art gallery, this is what we do:

"We aim at about forty-eight hours in the future as the time to arrive at the gallery. Since we'll arrive during the hours of darkness, nobody will see us. Then we change the pictures

over, bringing the real one back here.

"Tomorrow, I get in touch with the Gallery of Fine Art in London and inform them that I have discovered what appears to be an original Valancetti; would they give an opinion? And then, after a couple of days checking and testing, they confirm its authenticity and contact New York to have them check their painting. Our copy is discovered, and the Americans think that they were gypped when they acquired it forty years ago.

"Finally, we collect on the real painting."

Marino blinked admiringly. "That sounds like a really foolproof scheme, Justin. I've a few questions though. For instance, are you going to be bothered with burglar alarms when you break into the gallery?"

"We're not breaking in, Jade. We'll materialise in the hall concerned without breaking any photo-electric beams, if

Duncan can navigate dead accurately."

"I'll manage that all right," said Rezel, breathing on his fingernails and buffing them on his jacket lapel.

"Fair enough," nodded the Philippino. "Now what about

Lorenz-how do we square with him?"

"You stay here and keep an eye on him while Duncan and I do the job. When we get back, we'll tell him we've given the capsule a short test by taking it two days into the future, and that's that. We'll have to let him go or we may get somebody from his era coming back to look for him. I don't think he'll suspect anything, and anyway, it wouldn't pay him to say so when he gets back to his own time, even if he did."

"Right," said Rezel briskly, "now, is there anything special

that we need to take with us, Justin?"

"There is indeed," replied the art dealer. "Unless they've altered things since I was last there, the picture we're after is about eight feet up on the wall—we'll need a folding stepladder. Also, I'll need a kit of mine to take the Valancetti from its frame and replace it with my copy. We'll have to take some torches too, as the place will be in darkness. Let's get all the stuff together ready for the trip."

They spent the next couple of hours packing away their gear in the capsule very carefully. Space was at something of a premium, as the model in which Lorenz had arrived was obviously a one-man job. Eventually, however, the stowing away was completed, and Rezel meticulously adjusted the spatial and temporal controls for their journey, while his two partners laid out a light meal.

" All set, Dunc?" called Wright.

Rezel nodded, "All we have to do is get in and press the button—now where's my chow?"

Wright handed him a chicken sandwich.

"Try this for size, there's some coffee waiting as well."

Ten minutes later, Rezel finished his food, entered the capsule, and sat down in the seat. He motioned for Wright to get in. "You'll have to sit on my lap, Justin, there's no room

for you anywhere else."

Wright got in and Rezel sealed the transparent wall behind him. They gave a thumbs-up to Marino, and Rezel pressed the control button. Blackness enveloped them instantly and utterly, then there was a slight jar which almost dislodged Wright from his partner's knees, and a faint, flickering illumination became visible.

Rezel thumbed the control which activated the capsule's wall opening, and both men stepped out on to a marble floor.

Wright shone his torch carefully around him, and paused when its beam picked out a certain painting. He clapped the pilot gently on the back. "You've done well, Dunc, there she is."

The broad-shouldered man grinned back at him in the pulsating glow of the neon-tinted New York sky reflected into the building by the clouds. "So far, so good, now let's get weaving, they may have a watchman who trots around at intervals." He took up his stance at the entrance door, opened it softly and peered out. "There's no sign of anybody right now, but I'd better stay here and keep a watch."

Wright got out the stepladder, and soon had the painting down on the floor, handling it gently with rubber-gloved hands. He worked fast, removing the backing, then the three-hundred year old canvas itself. In twenty minutes flat, the job was done. "O.K. Dunc," he whispered, "let's go—everything's aboard

except us."

Rezel took a last look into the corridor.

"We're just in time," he whispered. "I've been watching a guard going into all the rooms off this corridor, he's got two to do before he gets to this one."

They scrambled into the capsule, and seconds later were two

days and several thousand miles away.

Marino grinned with relief when the capsule reappeared in Wright's penthouse. "That was the longest half-hour of my life—did everything go according to plan?"

"Couldn't have been better," replied Wright. "How's the

sleeping beauty?"

Marino grinned again. "Still in the arms of Morpheus."
"Let's get rid of all our stuff in case he comes around quicker
than we had bargained for," said Rezel.

Shortly afterwards, at 2 a.m., the three men went into the room where they had left Lorenz. He was sprawled downwards on the bed. Wright shook the historian's shoulder until he grunted and turned over on to his back, mumbling incomprehensible words.

"Come on, Lorenz, it's time to wake up. Your machine's

all ready to go."

The weedy, little man swung his legs over the edge of the bed and knuckled his eyes.

"Oh, my head. It aches fustarvishly."

Wright was more than anxious for him to get going, but didn't make his feeling apparent to the historian. He produced a glass of his own formula pick-me-up and a couple of tablets which he handed to the man from the future.

Lorenz swallowed and drank gratefully, then got to his feet. He still looked a little pale but was obviously beginning to feel

better.

"Your capacitors are fully charged, and we've given the machine a trial run for two days into the future," said Wright. Lorenz looked anxious, "You didn't speak to anyone or do

Lorenz looked anxious, "You didn't speak to anyone or do anything special did you, or you might have caused a divergence of the time stream?"

"Don't worry," soothed Wright. "We merely paid a visit to an art gallery in the middle of the night—we saw no-one—

now what could be more harmless than that ?"

"And are you sure that no-one saw you arrive or depart?" pressed the little historian.

"Duncan," parried Wright, "did anyone see us?"
"Not a soul," replied the pilot, "as far as we know."

Lorenz sighed his relief at the escape from what-might-havebeen, slowly got into the capsule, then paused.

"What about my gun?" he queried. "Sure," said Marino, "here it is."

The weedy man looked at them doubtfully and pressed the button set in the arm of his chair. The Time Capsule wavered and vanished.

After a late breakfast the next day, Justin Wright picked up the telephone and dialled a number. He waited patiently until the call was answered.

"The Gallery of Fine Arts here, who's calling please?"
"Justin Wright, connect me with Sir Basil, will you?"

"What business shall I tell him, sir?"

"Say that I have a Valancetti that I'd like to show him."

A few seconds of silence, followed by some clicks and buzzes,

brought the President on the line.

"Now Wright, what's all this about a Valancetti you'd like

me to look at? What's the subject?"

There was genuine excitement in the art dealer's voice when he replied. "Sir Basil, I think I can say that I've never misled you have I?"

"Quite so, quite so," said the brusque voice.

"Well, I'd much rather show you the picture I've got and leave it with you for examination before I tell you anything more of its history."

"You're being rather mysterious about the whole thing,

aren't you?" quibbled the baronet.

"Believe me, there's a good reason for my reticence," replied Wright, perspiring a little. "When can I come and see you?"

There was a pause while the baronet consulted his engage-

ment book.

"I've got half an hour spare at noon today; come around then."

"Thank you—I'll be there, and I don't think you'll regret it." The President harrumphed doubtfully and rang off.

Justin Wright unrolled the canvas carefully and laid it before Sir Basil Trelawnie.

"What kind of a joke is this?" said the President suspiciously.

"It's not a joke; examine it please."

Trelawnie grudgingly pored over the painting, paying detailed attention to the brushwork and the signature. He

looked up at the art dealer finally: "Where did you get this? It can't be genuine, but it's the best fake I've ever seen."

"Give it all the tests you like," said Wright confidently, "I have a very good reason to believe that it is completely authentic."

"If it is, the New York State authorities are going to get a horrible shock."

"And you might have the chance of the bargain of a lifetime."

"We'll see, we'll see," retorted the baronet with a return to his normal peppery manner, "I'll contact you in two days meantime not a word to anyone. I don't want to look a fool over this."

"I don't think you will," said Wright suavely. "Both you and the Gallery will get some wonderful publicity though."

The President's eyes glistened; it was the chance of a lifetime

after all, he reflected.

Two days later, Sir Basil rang Justin Wright.

"Look here, Wright," he began without preamble, "your Valancetti's undoubtedly genuine—I've been in touch with the New York people and they're in a hell of a flap—their picture's

a reproduction. Where did you get the Valancetti?"

Wright took a deep breath. "A few months ago I bought a number of paintings from an Italian nobleman," he said truthfully. "The frames were in a bad condition so I've been removing the canvasses from them. One of the portraits had the Valancetti canvas behind it," the big lie rolled smoothly from his tongue.

"I shall want proof of all this," said Trelawnie.

"You shall have it," replied Wright, "meantime, are you interested in purchasing, or shall I contact New York?"

"What's your figure?"

"Half a million, and it's worth every penny of it."

"I can't answer you right now, I'll have to consult the trustees. The Gallery is not enormously wealthy you know."

"What about your three-quarter million grant from the

Government a few days ago?"

"I'll have to consult my trustees," repeated the harassed baronet. "How much time can you give me?"

"Until say, seven o'clock tonight. That's five hours."
"Five hours! Don't you realise man that these people are all over the city? I'll have to contact every one of them and convene a special meeting."

"That's your problem," said Wright, coldly, and rang off. He picked up the telephone again, and rang Marino and Rezel. To each of them, he gave the same brief message: "I think the deal is on—see me at six."

When Marino and Rezel arrived, Wright filled them in on his

conversations with Sir Basil Trelawnie.

"What about this consignment of paintings from Italy?" ventured Marino. "Sir Basil will probably want to see a bill of sale and probably the picture and frame that were supposed to have contained the Valancetti."

"I've attended to every detail," replied Wright calmly. "There was a consignment and a bill of sale. And for good measure, the Italian count has since died, so they can't backtrack any farther, as he was the last of his line. There was also a picture and frame of the same size as the Valancetti."

"Nice work," nodded Rezel, "that seems to sew up every-

thing pretty neatly. When do we collect?"

"I hope we'll have confirmation of the sale within the next forty-five minutes. Now that the gallery have their hands on a masterpiece, I can't see them parting with it; they'll dig up the cash somehow."

It was at that moment that the second Time Capsule arrived with a swish of air like its predecessor. This time, however, it was a larger model and contained three men, one of whom was an unhappy looking Lorenz. The other two were grimmer featured, and all of them held a flaring barrelled gun at the ready.

Justin Wright and his two partners exchanged startled glances and sat tight. In the face of the mysterious weapons,

there was little else they could do.

The Time Capsule's wall dilated. Lorenz and one of his companions stepped through the opening. The other member of the trio remained seated at the controls.

Lorenz spoke first. "This is Commissioner Fitzallan of Temporal Security. He wants to speak to you. Please remain seated."

The Commissioner was dressed in an all-black uniform in startling contrast to the silvery rigout which Lorenz still wore. He looked business-like and very, very competent.

"Lorenz has turned in his report of his field-trip to this century," he stated, "but we in Security are not certain that he

has accounted in a satisfactory fashion for all movements of his capsule—that is why we have decided to visit you. I must warn you that I want truthful answers to my questions."

The three twentieth century men decided mentally to co-

operate, at least until the going got too rough.

"In what way can we help you?" ventured Wright.
"I want information," returned Fitzallan. "Lorenz told us that you and Duncan Rezel gave the Capsule a trial run after recharging the capacitors, and that you visited an art gallery by going forward in time about forty-eight hours."

Wright nodded agreement at the implied question. "Which gallery was it, and why did you go there?"

Justin Wright's cool brain considered the question at lightning speed, and he answered after only the slightest hesitation, because there seemed to be no trap there that a good lie couldn't cover. "We went to the New York State Fine Art Gallery—the reason for selecting it was because I was familiar with it and could check that we were, in fact, where we had selected."

"How did you know that you had moved temporally as well

as spatially?"

Wright opened his mouth, then closed it. How did he know

that the machine had travelled through time?

"I just assumed that if one set of controls worked, then it followed that the others would as well," he answered tentatively.

"As it happens, you are correct," said the Commissioner. "The controls are interlocked in such a way. It would be dangerous if they were otherwise.

"Now," he continued, "what did you do in the gallery?"

"We stayed about twenty minutes and looked at some of the exhibits."

"Did you touch or remove any of them?"

Somehow certain that he couldn't be checked, Wright told

the biggest lie: "No."

Fitzallan stepped back a pace and spoke to the man seated at the controls of the Security Capsule. "Runcorn, make one trip and check Mr. Wright's statement—you have the approximate temporal details-return in five minutes."

Marino, Rezel and Wright exchanged guilty glances. This was a development that they had completely overlooked, and it seemed as if their scheme was bound to blow up in their

collective faces.

The man in the capsule adjusted dials, pressed the master control, and the machine abruptly vanished.

No-one broke the uneasy, dragging five minutes of silence while the Time Capsule was away. Lorenz looked even more unhappy than when he had arrived for this second visit to the twentieth century, as if he were obsessed with some morose foreboding. The trio of time thieves were convinced that their duplicity was about to be discovered, but couldn't see what Fitzallan could do about it.

A familiar pressure in the air announced that the Capsule

had returned.

"Well, Runcorn, what have you to report?" said the Commissioner.

Runcorn looked a little discomforted. "I didn't get my arrival point quite right sir."

"What do you mean?" demanded his chief.

"I arrived too late to observe exactly what they did in the gallery. Not having their exact position, I had to search each room. As I was going along the final corridor, I thought I saw some-one looking out of one doorway, but when I went into that room there was no sign of Mr. Wright and Mr. Rezel. I can't repeat the run because of the danger of Proximity Parallax."

Wright and Rezel breathed more easily, mentally congratulating themselves at having escaped being observed by the man whom they had taken for an ordinary watchman, and blessing the Proximity Parallax effect, whatever it was.

Fitzallan cogitated frowningly, then returned to the inter-

rogation of his assistant.

"Did you search the room thoroughly where you thought

they had been ?"

Runcorn nodded. "There must have been a lot of visitors to the gallery the day before, as the floor was quite dirty. I saw marks where the Time Capsule had rested in the centre of the floor. There were some other marks too, but I don't know if they are relevant."

"Tell us about them anyway," ordered the Commissioner "Well," continued Runcorn diffidently, "there were four

small, round marks in the dust on the floor beneath one picture, and I found this nearby," he sheepishly handed something small and nondescript-looking to Fitzallan.

"What was the name of the picture?" asked the blackclothed Security Chief, taking the object from Runcorn without

showing it to the others.

"'The Martrydom of Joan of Arc,' I think it was called," said Runcorn, running a nervous finger around his tight-fitting collar.

Wright felt like mopping his brow, but restrained the impulse. Fitzallan was getting perilously near the truth, and any betraying sign might give him some more information to work on.

"Keep an eye on things, Runcorn," snapped Fitzallan, "I'll be back in a few moments." He glanced speculatively around the room, and then went prowling into the remaining apartments. He returned after ten minutes, his eyes gleaming.

"Mr. Wright," said the Commissioner softly, "I would like to put a hypothetical case to you—we policemen love doing this

-will you help me ?"

"If I can," muttered Wright helplessly, wondering where the

net was going to be cast now.

"Suppose, just suppose you went to the New York State Gallery with the intention of stealing a picture." He held up his hand to forestall Wright's interruption. "We're only supposing. And let us further postulate that the picture which you wanted was 'The Martyrdom of Joan of Arc.' The picture might be fairly high up on a wall—how high would you say, Runcorn?"

Runcorn wrinkled his brow in an agony of remembering.

"The top of the picture must have been eight or nine feet above the floor, the picture itself was about four feet in height overall."

"If you were going to take that picture down, you would have needed something to stand on wouldn't you?" said Fitzallan, spearing Wright with a hard-eyed stare and an accusing forefinger.

"Runcorn said the picture was still there after we had gone."

pointed out Wright triumphantly.

"Of course he did," soothed the Commissioner. "But you

could have substituted a fake for the real thing."

"This is all supposition," retorted the art dealer, "now suppose you show us some proof of this theory."

"A good point," nodded the Security man. "I'll do just that." He strode into the adjacent room and returned carrying

a stepladder. "This ladder is of all-metal construction. To prevent it marking floors and to avoid slipping, it is fitted with small rubber ferrules. In my opinion, it was these feet which made the four round marks in the dust on the floor below the picture."

"Still pure theory," sneered Wright.

"Look a little closer," said Fitzallan urbanely, "and you will see that one of the ferrules is missing. And strangely enough, Runcorn finds an exactly matching ferrule to these on the floor below the picture—quite a coincidence don't you think ?"

"That still doesn't prove anything," blustered Wright. "There must be thousands of stepladders like that about—

maybe they even used one in the gallery."

The telephone shrilled its way into the conversation with

mechanical persistence.

Marino looked at the ebony instrument as if it was a black mamba about to strike at a victim, and he wasn't far wrong.

Fitzallan scooped it up from the table and answered briefly: "Wright speaking—who is that?" He held the earpiece away from his head as the unmistakeable voice of Sir Basil Trelawnie pounded out from it.

"Trelawnie here. My trustees have agreed to your price for Valancetti's 'Martyrdom of Joan of Arc.' When can we meet

to finalise the transaction?"

Fitzallan spoke again. "Thank you for ringing, I'll let you know tomorrow—goodbye." He looked mockingly at the three partners in crime. "So you didn't substitute the painting?"

"All right," said Rezel, "so you know the truth; now

what ?"

"Yes," echoed Marino, "what can you do about it? Trelawnie has the picture and the New York authorities know that they have a fake on their hands—how can you disentangle all that without revealing yourselves."

Wright said nothing. He had a premonition that somewhere there was an answer to the dilemma, and moreover, that Fitz-

allan would come up with it.

The Security Chief tapped Lorenz on the shoulder. "Can you see the only way out? We must rectify these alterations to the Time-Line without further delay."

The little man nodded dumbly, seeming to shrink in upon

himself as if consumed with some private misery.

"Look after things here while we make the adjustment," said Fitzallan gently. He made sure that Lorenz was covering the group with his gun, then turned and entered the Time Capsule. It flickered and was gone, leaving behind three bewildered men and one who was almost griefstricken.

"Lorenz," murmured Wright, "what is going to happen?"
The historian looked at him bleakly. "There is only one thing that can be done to correct the whole matter—can't you

see what it is ?"

Wright shook his head wordlessly.

"Fitzallan is going to make everything unhappen."

Rezel looked blank, Marino seemed like a brown statue, while Wright repeated the word in bewilderment. "Unhappen!"

"Look," said the little time-traveller patiently, "what was the one thing which enabled you to steal the picture in the way you did?"

"The Time Capsule."

"Correct. And if it hadn't appeared?"

"But it did," objected the confused art dealer.

Lorenz smiled sadly. "That incident is not unalterable. Fitzallan is on his way to prevent me setting out on that trip."

"What will happen to us?" stammered Marino.

"You will all revert to the point in time at which you were when I first appeared in this room—only I will not appear as I did before."

"Will we still have our memories of what has happened?"

questioned Wright.

"No; because none of it will ever have happened. The whole continuum will be altered because of what you and I have done, and a discontinuity will be automatically produced at that point in the time stream. That is the barrier which stopped my capsule in the first place, and which will prevent the exploration of earlier years forever. My researches can never be completed now even if they were possible otherwise."

His listeners' minds were spinning as they attempted to

follow the historian's explanation.

"Look," objected Rezel, "the barrier was there before you came—that's what stopped you—so how can it be produced by something which Fitzallan is arranging now—and what else were you hinting at a moment ago?"

Lorenz shook his head in sorrow. "Believe me it will happen, has happened, as I have described it. Who can tell

where a circle begins and where it ends, or what is cause and what is effect? As for the other matter; I do not know exactly how the changes will affect all of our brains and minds. One thing only is certain—we will not be the men we are."

Seconds later, Lorenz vanished.

The three men lounging comfortably in the twentieth storey penthouse looked like successful business associates, as indeed they were. But their association had two faces to its success story, and only one of them was within the law. The trio had been criminals of the rarest type: they were intelligent, could trust one-another implicitly, had no police records and had successful, legitimate businesses to provide a convincing front for their obvious opulence.

"Well, gentlemen," drawled Justin Wright, the host, to his partners Marino and Rezel, "our last operation has been concluded very satisfactorily; have either of you any ideas for

the future ?"

Rezel swung around from the exquisite, nude statuette that he had been admiring, and faced his companions. "It isn't often that I get a good idea, but I've had one tonight. We've all got plenty of money and the means to add to it lawfully. Why don't we give back what we've taken from the poor wretches that we've robbed in the past? After all, we've used their money and we've prospered, surely they're entitled to a return on their enforced investment."

Slow smiles spread across the faces of Marino and Wright. "You've got something there, Dunc," said Wright. "It'll make quite a change—let's start putting together a list of our creditors. Has anyone got a pencil?"

Steve Hall

'Gone Away-No known address'

Subscribers are reminded to keep us informed of any change of address to ensure the safe delivery of their copies as far too many issues are returned by the Post Office marked as above. Overseas subscribers are particularly requested to let us known in good time.

Most pageants are symbolic of an event in history but a pageant depicting the survival of an entire race could possibly contain some rites which would be repugnant to a civilised person.

LIFE-FORCE

by JOSEPH GREEN

Yoachim Haralaqure looked skyward when he heard the low, vibrant hum of the approaching flitter, and his narrow young face grew angry. Around him the laughing, chattering crowd of juvenile Hued Ones fell silent as the small craft landed, but when they saw Scott at the stick they broke into yells of welcome and surrounded the stubby, stalwart old diplomat as he emerged. He greeted them in friendly fashion, speaking their language with an ease Yoachim could only envy, and made his way through the jostling throng of bright naked bodies to the other Earthman.

"Is something wrong?" asked Yoachim frostily. Scott was the head of the small Earth Legation on this planet and carried the title of Minister. There were only two other Earthmen in the Legation, and at the moment Yoachim was the only visitor. His student's permit stated that he reported to, and accepted the authority of, the resident Minister. Scott's first action, unfortunately, had been an attempt to persuade him to accept a position in government service and join the staff here, an offer Yoachim declined with noticeable asperity. Relations between them had been barely cordial since the refusal.

"Not a thing," answered Scott, taking no notice of the cold tone. "It's just that you came over here for a four-day stay, LIFE-FORCE

and it's been two weeks. I wouldn't have bothered you even so, but this is the night of the Pageant and I think you should see it."

"I've never heard of this joyous celebration, and do not anticipate that any primitive poetry these isolated people have worked into their little ceremonies will be worth recording. I have found my interest here. Why, already I've outlined their segment in my epic, and composed a few trial stanzas. I think I have the—the *feel* of the Hued Ones already. Their gorgeous colour tones I will translate into sparkling words, recreating for the reader—"

"I thought you were a planetary biologist," interrupted Scott, leading the way to the small house where Yoachim was staying. The slender young man followed without protest, and

once inside began to gather his belongings.

"I seem to recall explaining previously that my profession is that of *poet*, and while it may be true my graduate degree is in extraterrestrial biology this in no way places it first among my interests."

"I've heard of this new fad on Earth, calling your job your hobby and vice-versa," said Scott, waiting impatiently while

Yoachim packed.

"Oh, please don't think I'm contemptuous of planetary biology," Yoachim hastened to say. "After all, it is the variety and multitude of life on all the explored planets which prompted me to begin my epic, and the P.B. Research Foundation which provided the funds for this graduate's field trip. My love, though, will always be the verse. Life-force, when completed, will be the most original poem since Sargin's Nebulose."

" Never heard of it."

Yoachim spluttered in indignation a moment, then consigned the old diplomat to the realms of poetic ignorance and changed the subject. "What can you tell me of the history of these wonderful people? The briefing your secretary gave me before

I left was very sketchy."

"Quite a bit. They were here when the ship crashed on landing a thousand Eryears back. Very primitive types, then. They slept in caves, ate fruit, drank water and lay around in the sunshine. They had no fire, no weapons. Climbed trees when in danger. They had a long lifespan, maybe three-hundred Eryears, but at that time a very low fertility rate."

"Why, that's amazing! I assume they attained their present

state, then, through help from the settlers?"

"I suppose you could say that. The Pageant will explain more fully. What do you think of them from the viewpoint of a planetary biologist?"

"Most interesting extraterrestrial life form I've ever examined. So absolutely humanoid, excepting the lack of hair and slightly smaller skeletal structure, and yet so incredibly different a metabolism. Has anyone made a serious effort to analyze this ability to absorb energy direct from sunlight? The bright skin is the receiving mechanism, obviously, but receiving is the smallest part of the marvel. How is this energy transformed into usable form and passed through the circulatory system? And why is their blood red when it's half chlorophyll?"

"I can't answer specific questions. When the ship crashed, lost, all contact with Earth was broken. Settlers and crewmen had a tough time staying alive. All the scientific and technical skills available were used to find or produce food. There was neither time nor energy to spare for research. About a hundred years after landing the Earth people decided to separate the races. They rounded up all the Hued Ones and brought them to Newland. There was no further open contact between them

until I arrived."

"I'm no biologist," the old man went on after a moment, "nor an anthropologist. You don't have to be to appreciate the Hued Ones. During the nine-hundred Eryears since they were expelled from their original home they've progressed roughly fifty thousand years. They now have gunpowder and are starting on steampower. They have a strongly organized central government that rules the entire race. They found their conception problem and solved it. Multiplying like flies. They'll soon be too big for Newland and need to get back on Hope. War then, probably."

Yoachim closed the last bag with the sealing strip and Scott picked up two of them. When they emerged from the house they were again surrounded by the friendly children, who formed a small procession behind them as they walked to the flitter. Waiting there were Yo-san and Jinna, Yoachim's host and hostess, and an older Hued One whom he recognized as the town leader. Scott and the elder held a brief, intense conversation as the young Earthman was thanking the two

LIFE-FORCE 63

small, sparkling red people for their hospitality. Then they were in the flitter and Scott sent it vaulting skyward in a swift,

steep climb.

Below them the scattered town of the Hued Ones dropped rapidly away, the odd little wooden houses with the sliding roofs fading swiftly into the general brown of the rocky hills. The beautiful humanoids used their dwellings largely for protection during the night and in bad weather, spending most of their time in the open. If home in good weather for some reason, they opened the roof to let in the strong Barren sunlight.

Yoachim, despite the protection of clothes and a hat, had

already burned and was now starting to tan.

The young Earthman had stayed with Yo-san and Jinna because Scott knew them well and had persuaded them to accept him, and it had been one of the most unusual and rewarding experiences of his life. It had taken him several days to grow accustomed to the family's nudity—especially that of the nubile young females—and the fact that everyone in the house slept in the same room, but after a time it had ceased to bother him. And in return the bright-skinned humanoids, after an initial period of coolness, accepted him as a member of the family and revealed themselves to be warm and friendly people.

The flitter, which was Earthmade and fast, was already flying over ocean water white with lime, and behind them the small continent of Newland was fading in the distance. The planet Barren's other and larger continent, Hope, was four-hundred

Ermiles away.

"I can tell you a little about their insides," resumed Scott, after he had the course set and the controls on automatic. "They have a few unknown glands, but also most large human ones. The heart and lungs are almost Earthnormal. Reproductive glands are virtually identical. Body tissue is different, but in a way so subtle it's defied our amateurish efforts at analysis. All skins are white to red, with all possible shades between, and as you've seen, they sparkle in sunlight. Apparently only their energy comes from the sun; they must have fruits and water for building material. A full-grown adult can go for months without food if he has plenty of water!"

"What I would give for laboratory facilities and the corpse of a recently deceased Hued One," said Yoachim softly, staring

out the viewglass at the endless reaches of the white sea.

"The lab we don't have, but you might be surprised to find how easy it is to get a fresh corpse," said Scott, with no particular emphasis.

Yoachim turned and stared at the old man in mild surprise.

"Would you explain that somewhat cryptic remark?"

"I could, but the Pageant will do it much better. There's Hope ahead now, on the horizon."

The dim, faint line in the far distance solidified into land as the fast aircraft ate up the miles. In a very few minutes they were settling toward the planet's single airport, in the city of Hope. There was no traffic but themselves, and no Controller, there being but a few of the Earthmade flying craft on the planet. The population had gained to something near a hundred-thousand since its small start a thousand Eryears back, but almost everyone lived within fifty miles of the main settlement. Very little effort had been expended on fast

transportation.

It was growing dark as they landed and got out of the flitter, the mountains of Barren casting long shadows over the city. Scott had a land vehicle waiting. Moments later they were bouncing down the unpaved road to the amphitheatre in a wagon pulled by a Barren draft animal, the old diplomat handling the reins as skilfully as he handled the stick on the flitter. All around them other vehicles, some powered by steam-engines but most drawn by animals, were hurrying along the same route, and hundreds of people were on foot. There was a sense of excitement in the air, the anticipation of hard-

working people seeking a holiday from care.

The crowd grew steadily more dense, the walkers becoming so numerous the vehicles were slowed to a crawl. They passed one group of young people, their tanned skins shining in the last of the light, their arms around each other, who were singing in good voice and excellent rhythm a song forgotten on Earth a thousand years ago. Here and there throughout the crowd the slender student heard gay voices calling like windblown echoes, saw bright eyes flashing in the fading light, young arms clasped, radiant faces uplifted to a light-spangled sky. 'Hey, Joe' 'Waltzing—' 'Sing softly, my—' the strong voices blended and rose and fell behind them, a patchwork quilt of vibrant sound. They sang of joy in life and belief in love, of youth and need and purpose.

LIFE-FORCE 65

"Son, if you're really writing a poem about life-force in the universe, and you're going to make something of it, you're on the right planet but you're studying the wrong people," said Scott as he manoeuvred the awkward cart among a swarm of laughing, chattering teenagers. "The Hued Ones are an interesting subject, true, but the real life-force you're seeking is in these youngsters you see right around you."

Yoachim stared at the old man with patent disbelief on his sensitive features. "I fail to see any comparison," he said

stiffly.

"Now you do, but the Pageant will change that."

The old diplomat turned off the main road, following the steady procession of walkers and vehicles along a much more narrow street to a rock wall at its end. They parked, then joined the hurrying throngs passing through an open archway

in the wall and hunted seats.

The amphitheatre was a huge affair, a natural formation that seemed to be an extinct volcano crater, with rising, sloping walls surrounding a central flat interior over two-hundred feet wide. One half of the wall had been converted into seats. In some places the rock had been chipped into tiers, in others heavy timber halves attached with the flat side up. The whole arrangement was crude but massive, with seats for at least seventy-thousand people. Heat-lights blazed above the flat field, supplying fair illumination, but the seats were lost in flickering shadows. The stands were already approaching capacity, a small crowd collecting on the flat land at their feet.

Without warning the brilliance of the heat-lights dimmed, fading to a smoky red, like predatory eyes in the gloom of the moonless Barren night. A hush fell over the huge audience. A feeling of strain, of breathless waiting, filled the crowd. Then from somewhere in the centre of the darkened field a clear soprano voice lifted in song, soaring effortlessly through a high introduction. A baritone joined it. One of the dim lights in the centre brightened again, showing the two singers standing together, facing the side where the audience sat.

The slender young man listened, impressed; there was a faint but haunting familiarity about the song that tugged hard at his memory. As he sat musing, the people around him began singing, a few at first, then more and more, until everyone in

the audience had joined the performers.

"A childhood nursery prayer," said Scott quietly. "These

people adopted it as their anthem."

The song ended, the light flared brightly and the Pageant began. A crumpled and twisted structure now stood in the middle of the field. It was a transport in miniature, a model of the huge carriers that had left Earth by the thousands before the Solar War. In front of it were perhaps fifty actors, of whom twenty were lying rigid on the ground. There were almost twice as many men as women among the standing ones.

"Symbolic representation of the crash landing," the old diplomat muttered, low-voiced. "Over a third of the people

killed, including a large group of pregnant women."

On the field the living people picked up shovels and began to cover the prostrate bodies with imaginary soil. The strains of a mighty funeral march swelled from a hidden orchestra, flowing over the audience in a river of sound. When it was over the survivors gathered in council, talked a moment, then set out to explore their surroundings.

"You're seeing the actual history of these people condensed from days into minutes. Everything is symbolic, but it's all reasonably plain. Those scouts are coming back now, for instance, with a few pieces of fruit, to show that food is very

hard to find here."

The proferred fruit was examined under a huge fake microscope, then passed out to the group of actors and eaten. Two

of them lay down and died.

The remainder began to erect temporary housing, using poles and leaves laying unobtrusively on the ground. In a few minutes a tiny model village sprang up. Everyone was working at some task, the entire scene resembling a busy antbed. The scouts who had brought the first food continued to move in and out of the colony, each time bringing in smaller and smaller portions.

The settlement was finished. People were sitting about in the streets, apparently too weak to work. And then scouts came in holding two upright creatures by the arms. Their beautiful

pink skins sparkled like jewels in the flaring lights.

There was a concerted gasp from the mass audience and Yoachim gasped with them, leanning forward in his seat.

"Done this way for dramatic effect," said Scott. "They knew about the Hued Ones the day they landed here, and they'd already caught some and let them go."

LIFE-FORCE 67

The shorter Hued One was a female, a very pretty one, standing nude as usual in the midst of her captors. The men were poking and pinching her with eager fingers. Hairless head erect, her face expressionless, she ignored the ceremony, doing her part by the compulsion of rough hands. Her companion was so securely trussed he could do nothing but glare at his tormentors.

There was a swirl of movement on the field, people gathering into groups and swiftly dissolving again, and then the women formed into a determined band, waved their arms and shouted, and advanced on the Hued Girl. The scouts holding her ran backwards in symbolic retreat, made a half-circle and brought her near the centre again in a different place. The men of the group who possessed wives pacified them and led them off to their huts, while those who remained adopted a furtive manner of walking and went in a group to the girl. The scouts held her immovable while each man went through a mock rape. When it was over the men returned to the huts and one scout bound the girl thoroughly and stayed with her.

"Symbolic again, of course," said Scott in his quiet voice.
"Most of the men who were keeping sex-slaves had one apiece.
There were untold thousands of Hued Ones here, and each family lived to itself. Easy prey for two or three determined

men working together."

"But why?" asked Yoachim, his voice strained. "You said

they were primitives, uneducated-"

"The ratio of men to women was over two to one; they voted against polyandry, thinking jealousy would prevent it working properly. The Hued Ones were the only women available to the bachelors. They spent most of their time lying about in the sunshine, soaking up energy, and like animals they made love whenever the mood struck them, regardless of possible audience. Can you imagine the effect on the lonely, unhappy men watching? Can you find it in your heart to blame them when I tell you most of the females were willing companions after they were captured? At that time the Hued males acquired mates in virtually the same fashion."

Yoachim did not answer. Below them the huts were stirring to life again. A new day was breaking and there was work to be done. The people emerged and began attending to various tasks. One woman began to play with a group of dolls, feeding them bits of fruit and water. Others cooked leaves

from the hillside trees and dumped the product on the ground after a single taste. The scouts continued to move in and out of the settlement every few minutes, carrying their loads of fruit, and now on their return trips they brought in more Hued Ones. The rape ceremony was repeated several times, and the securely tied females left alone at the fringes of the action when their men were not with them. The males, all securely trussed, were herded together until there were six in their group.

The heartbeat of the Pageant speeded up, the events coming faster and faster. The slender young man glanced at his timepiece and was amazed to see that two Erhours had passed.

Now the scouts were returning empty-handed, trip after trip. Some of the dolls were buried with hasty honours, and mothers stood weeping by the graves. At last a conference was called and the entire colony gathered together, shouting and waving their arms. Fights broke out. Strong men walked away from the group, waving their fists and shouting. Women wept, then stood silent and waited. And in the end some strong faction won and the rest agreed with the majority. The people as a whole approached the six male Hued Ones.

"The question under discussion: 'Resolved, that the Hued Ones are animals.' Resolution of debate: 'Affirmative,'"

said the old man's quiet voice.

Some of the men in the main group broke away, ran to their captive girls, freed them of their bonds and left the lighted area with them, running fleetly into the darkness. Most of the men found their slaves and brought them over to the group. When they were all assembled by the tail of the wrecked ship there were six men and six women of the Hued Ones captive, with the entire colony gathered around them. As the audience watched in breathless anticipation a large man with a hammer walked around the group of Hued Ones, striking each a blow on the head that was not symbolic. The males fought as best they could, but none got away. A moment later all were lying unconscious on the ground.

The young poet rose to his feet, a cry of protest on his lips, as he sensed the inevitable climax swiftly approaching. Scott pulled him back to his seat, holding him firmly with one wrinkled hand. "Quiet! There's nothing you can do to stop

them."

Yoachim turned away and hid his face. He could not hide from the low, intense voice of the old diplomat. LIFE-FORCE 69

"Can you imagine how it was for those first survivors? Can you picture a man watching his new-born baby shrivel and grow thin, watch its mother's breasts dry up from lack of food, feel his own stomach clinging to his backbone, and look around him and see on all sides the idle, carefree, idiotic Hued Ones leading lives of ease and plenty on water and a few fruits? And can you picture the emotions of those men who had the strength to take their captive sex-partners, when the decision was reached, and turn them in for the community meal? Many couldn't, and so took their girls and left the colony, to die in the interior. Those who surrendered their slaves lived. No. my young friend, the progress of the Hued Ones is as nothing compared to the power and drive of our own people. Selfish, yes, as life is always selfish, being dedicated wholly to its own survival, but at least a force, not an accident of nature. The Hued Ones were the greatest sybarites in the known universe. having little to do but eat fruit, drink water and make love in the sunshine. They were animals a thousand years ago !"

"But the Wilson Declaration of Humanoid recognition—"
"Hadn't even been postulated, much less adopted, when

these people left Earth."

On the field the twelve unconscious Hued Ones were being hoisted by their feet and hung head downward on hooks protruding from the sides of the mock spaceship. Two men with knives went down the line of unconscious humanoids,

leaving bright gushes of red behind them.

"That which is animal can be eaten," said the old diplomat heavily. At his side Yoachim had begun to cry uncontrollably, the tears flowing down his smooth cheeks. His eyes were closed, he was muttering indistinguishable words in an unbroken stream, and his tanned face had faded to a deathly white. He had not been able to look away during the slaughter.

"And there," the calm, emotionless voice went on relent-

lessly, " is Life-force!"

As the butcher-actors began to dismember the bodies a host of men emerged from a hidden door and advanced on the field carrying huge pots of uncooked food. Portable tables appeared as if by magic, the pots were set over fires, the meat was distributed so that each pot had a small share, and a feast was prepared for the multitude.

Most of the crowd rose to its feet and began to descend to the

tables. The Pageant was over.

The old diplomat angrily brushed the tears from his own eyes —who was he to weep, who had seen this twice before ?—and led the sobbing youth away.

Yoachim accepted the glass of *relax* with a hand that still shook slightly. His colour was better, though, and his head had cleared. He had managed to at least partially recover his

sense of objectivity.

"I suppose it's possible to understand how they could, in their desire to live, turn to cannibalism. But why, when you tell me the two races have been separated for nine-hundred Eryears, do they still persist in this orgiastic ceremony? These people have regained their cultural standing to the point where they are at least nineteenth century in outlook, and the Hued Ones speed of development has brought them to the point of fifteenth. Both are thoroughly civilized, completely human races."

Scott rose and began to pace the floor. "To stop is to acknowledge that it has been wrong all along, to admit that the Hued Ones are not animals. That is why these people practise, at least in ritual form, the act of cannibalism. That their ancesters were cannibals, and that their survival, for most of a hundred years depended on the practice. It ceased only when the Hued Ones were decimated to the point where they were no longer an important source of food."

"And the Hued Ones' progress since—the arousal of the

survival instinct on a racial scale?"

"Yes, this being brought about by the individual recognition of each member of the race that they must band together and fight or perish. All the fighting instincts were there, but held in abeyance by a complete lack of need. The colonists gave them that need."

There was silence for a moment. Then Yoachim asked, "What part do I play in your plans? I don't think you took

me there just to shock me."

"Hardly. I need a good planetary biologist. I'm organizing a team here, our purpose being to get these people back on the track. I've already requested an alien psychologist from Earth, preferably a graduate student like yourself, and I've received a grant of funds. Before I can present Barren to Earth Central as a civilized planet ready for recognition and admission into the Union I must stamp out the cannibalism and force

the colonists to recognize the humanity of the Hued Ones. To do so will create a national trauma of no mean proportions, but it must be done and the effects faced. Your part calls for a buildup of the economy here by importation of edible animals capable of surviving and reproducing on these rocky hills. Meat is still a luxury in Hope, and food always at a premium."

"May I ask why it is important that this planet join the

Union?"

"Certainly. This is a comparatively new planet, and these rocks contain thick deposits of uranium. Earth is in desperate need of new sources. That attempt to mine Jupiter was a dismal failure, and the Venus beds are almost exhausted. Within five Eryears there will be a mining colony here, whether established in peace or by force. I'm trying to make it in peace. Underneath your somewhat brittle exterior I thought I saw the makings of a man. I'd like to know whether or not I was right."

"I hope you are. We'll have the chance to find out

together."

"And your epic poem, Life-force, which was to be the

greatest thing since Nebulose?"

"I've no intention of giving up my hobby of writing poetry," said Yoachim. His voice was growing dull with sleep and his head sagged to his chest.

"Write all the poetry you like. I still think I just hired myself a good biologist," said Scott softly, and rose to call his

servant to put the younger man to bed.

Joseph Green

New BBC-TV Serial

Provisionally planned to start on November 8th is the first of a four-part, 45-minute serial entitled "The Monsters," based on the possibility of prehistoric monsters still surviving at the bottom of the Great Lakes. Produced by George Foa, directed by Mervyn Pinfield, and written by Evelyn Fraser and Vincent Tilsley, the story centres round Professor Cato (played by Robert Harris) a former Chemical Biological Warfare expert, who, disillusioned by modern methods of destruction, becomes a violent nuclear disarmer. Once over that hump, the plot should thicken rapidly.

It isn't so much the method that counts when used in any major endeavour to ensure victory—but knowing when to apply it.

THE METHOD by PHILIP E. HIGH

Marsin woke to a half-world which seemed to have no connection with reality or, for that matter, with himself. He knew it, recognised it but refused to accept it. There seemed no possible link with a violent past and improbable present.

'I am delirious,' he thought, suddenly, 'resistance or

'I am delirious,' he thought, suddenly, 'resistance or rationalisation will only confuse the issue.' Almost thankfully he allowed the tide of improbability to carry him away. It was, on consideration, something of an achievement to be delirious and know it.

God, what a set-up—could this ever be. Ten little nigger boys—no, ten little soldier boys, that was it. Ten little soldier boys, that was your army, your *entire* army, it was also the enemy's entire army.

SINCE UNDEVELOPED INTELLIGENCES ARE IN-CAPABLE OF RESOLVING MAJOR PROBLEMS WITH-OUT RESORT TO VIOLENCE, THEN VIOLENCE WILL BE PERMITTED WITHIN LIMITATIONS AND INSOFAR AS IT SERVES AS A PSYCHOLOGICAL SAFETY VALVE.

Who said that? Oh, of course, the Levanoon. That was why they were here on this horrible planet. It was why thirty other races were here as well. A race of super-beings, the Levanoon, were insuring that their less advanced cousins lived long enough to reach maturity.

'What's the matter with me?' thought Marsin, dully. 'I should be grateful, everyone else is grateful—I think. The Levanoon have never interfered with anyone's internal affairs. All they've done is to create a sort of Interstellar U.N.O., and make it work. If a problem gets past negotiation then the Levanoon permit a little ten-a-side war as a safety valve but even so there seems to be an endless line of problems leading to countless wars. As each war was backed by the entire technology of an individual race, the less advanced races were slowly losing their Empires. Earth was losing hers that was why—why what?'

"Wake up. Marsin." Something stung his cheek painfully.

" Wake up."

Yes, that was right, must stay awake, can't afford—Marsin? Who the devil was Marsin? No one of that name in this lot, no one left in this lot, knocked out, done for, the whole commando shot to pieces. Those blasted idiots at Intelligence with their bland references to light covering forces. Those same light covering forces had turned out to be an entire brigade well equipped with light tanks, mortars and far too many 88's.

He remembered clearly the grinding of the small boats on the shingle, the frantic rush for cover with the soul-sickening fear that the beaches might be mined.

It had gone well for the first five minutes and then they'd run slap into an alert patrol which had given the alarm before it

could be silenced.

Major Willard pressed his hand to the hole in his stomach and clutched at a tree for support. Marsin? Never heard of Marsin, it wasn't a code name was it? No, the code name was

Hull, Hull to Mercury.

Willard squinted at the luminous face of his watch but the figures refused to remain still. Must be nearly dawn, the landing craft would be pulling out any minute, never make them, never . . . How had the stars got down there, how had the coast and the sea—who was tilting the tree sideways—who?

"Wake up, Marsin." He was shaken so violently that it hurt his neck. "Wake up, you're non-contact now." Something struck his face painfully and he struck out blindly at nothing.

" Reaction, thank God, he should make it now."

"Let's hope he makes it sane, this was a tricky experiment."
Marsin shivered and almost convulsed but somehow he controlled his muscles and forced open his eyes.

"All right, Marsin?" Rentsure's face looked strained and almost terrified.

"I—I—" He pressed both hands to his head and shuddered.

" My head, I feel like death."

"Drink this, we daren't give a shot directly after an impression, but don't worry, it will work just as well if not quite so quickly."

Hands raised Marsin's head and he sipped quickly at a small glass of green liquid. It seemed that almost at once the throb-

bing in his head began to cease. "That's better."

"Don't delude yourself, boy." Leuris appeared at the foot of the bed sucking an inhalant tube. "Someone tipped off Valant, he's crouched outside the door waiting to pounce as soon as you regain consciousness."

Marsin felt himself pale. "In that case I could have saved

myself a lot of trouble."

"Don't jump to conclusions, the Director is not ready to return you home in disgrace—yet. He's dubious and open to discussion, providing of course he gets in here before his patience runs out—"

Settlement Director Valant was a tall remote man with grey-

ing hair and a pale, colourless skin.

"It has been brought to my notice that you have recently jeopardised your specialised knowledge by a dangerous experiment, is this true?"

"I sought to increase my knowledge, sir—" Marsin saw the bleak look in the other's eyes and added hastily. "Yes, sir,

it was dangerous."

"I am glad you decided to be honest, Marsin. You will kindly explain this experiment, and its purpose, at once."

"Yes, sir." Marsin sighed inwardly. He'd have to make this fast and slick. Valant was noted for his impatience with technical detail.

"It's fairly simple, sir. As you are aware, our position as a galactic power is lessening yearly. We've lost three wars in a line and we look like being manoeuvred into a fourth before we can counter the latest weapons of our immediate enemies."

Marsin paused and cleared his throat nervously. "In point of fact, sir, we've done so damn badly I thought the race may have lost or discarded some vital psychological factor in their upward climb." He paused, frowned, then decided to throw down the statement like challenge. "I went back into the past to find it."

Valant looked at him coldly. "Don't over-simplify, Marsin. I have heard of the Reconstruction Focusing Device, naturally, but you must explain its function in relation to your experiment."

You would be awkward,' thought Marsin, savagely. His head was beginning to throb slightly again and that damned eighty-eight blasting away at the beach— He felt absently in his pocket for Willard's pipe— God, he'd have to watch himself, wouldn't he? Better get on with it.

"Well, sir," he began evenly, "if you can imagine the structure of the universe as a huge recording tape upon which all events are inscribed as we pass through it, we may be getting somewhere. One could liken the position to an undersea vessel passing through an ocean with every sound, impact of drive-power and individual rivet being impressed and photographed by every molecule of water passing over its surface. In the universe, however, the position is reversed, the vessel is still and the time-continuum flows through it but it records just the same. Everything which has ever happened, everything which has ever been seen, heard, felt or experienced is indelibly inscribed on the atomic structure of the universe."

Marsin paused and thought briefly and bitterly that he would never smoke a pipe. He couldn't cadge a cigarette, no one

smoked cigarettes in this age.

"The mechanism called the R.F.D.," he continued, "is sensitive to these recorded impressions, can be manipulated to focus on them and will play them back in sight and sound like a recording unit."

"I see, and what bearing has this instrument on your

experiment?"

"It was adapted to focus on the sensory impressions and memorised impressions of a man who lived fifteen hundred years ago. Those impressions were fed to me, directly into my brain while in a state of deep hypnosis. Consequently I am now familiar with the combat techniques and thinking processes of a long past age."

Valant looked at him without friendliness. "You have also the memories of two different lives. How this will effect you remains to be seen but I am dubious of the gains, if any." He rose. "I shall enter this experiment in your personal record as

subject to reprimand."

Marsin said; "Yes, sir," politely but scowled at his back as he left the room. If anything went wrong after this he'd probably be cashiered. Strangely the thought troubled him less than he had imagined. It gave him a curious feeling of determination and freedom—you could only be hung once, couldn't you?

He sat upright, winced and held his head—perhaps the throbbing would pass in time.

"Hang-over?" Wayfe's voice was dry but his eyes were

sympathetic.

"What the devil are you doing here?" Marsin frowned then shrugged. "Silly question—Valant has appointed you."

"With some discretion, we've always been friends."

"That proves something, who'd be friends with a psych." Marsin shook his head and sighed. "Valant could be right, this could have been just a risky experiment but someone had to do something—the Musicians want Calthrine."

"Another war?"

"We've no choice, we can't hand the damn planet over just because a superior technology wants it."

"But what sort of weapon did you expect to find in the

past?"

"I wasn't looking for a weapon. I was looking for something our people seem to have lost, something psychological." Marsin clicked his tongue irritably. "It was desperate, a wild jump into darkness."

Wayfe nodded understandingly. "What sort of man was

your contact?"

Marsin smiled faintly. "There I was lucky, he was combat technician in a specialist unit called a commando—" He paused frowning. "It's strange, factor for factor I'm stronger, healthier and more alert than he could ever be but he had something I lack. Perhaps, after all, I may have gained something."

"What sort of person was he?" Wayfe was genuinely

interested.

Marsin laughed and winced slightly. "You'd be damn glad you were not in his age. Major Willard's mind was like a junk yard. The people of his age were mental kleptomaniacs who collected massess of unrelated information for no other reason than passing interest."

"How did they find room for it?" Wayfe was frowning.

"That's an interesting point and one which immediately concerns us. Today a man simply cannot afford useless or unrelated data. To rise to the top of his profession or even to hold his own, he must *specialise* to the exclusion of all else save kindred or overlapping subjects. Despite the dire necessity for specialisation, the practice has made the race naive."

"Naive!" Wayfe looked shocked.

"Yes, we depend entirely on hearsay. One expert must, of necessity, rely wholly on the word of another when a query arises in another specialisation. This practice is making us naive and is slowly strangling our curiosity. If for example, I ask a chemist for a substance with certain properties and he, in his turn, assures me that such a substance cannot be made, I must accept his word because he is the chemist and he knows."

"But surely he does." Wayfe was plainly puzzled.

"Of course he does." Marsin was impatient. "But can't you see we're crippling research, there's no one to question and no one to challenge. We're creating a closed shop, a hundred thousand priesthoods all jealously guarding their secrets against each other. What happens, may I ask, if one of these little sects of knowledge decides to hold out against the rest?"

Wayfe lost a little colour. "Civilisation would collapse—tell me how did they get on in the past with limited specialisation?"

"Strangely they made it work—Willard knew enough about most subjects to get by. He was neither technician, chemist nor arms specialist but he maintained and repaired his own ground car in peace time. He knew enough about plastic explosives to do the hell of a lot of damage and enough about weapons to use and maintain all his own and the enemy's as well. Again, his knowledge of the human body was elementary, but he had so many ways of stopping it with his bare hands that it makes me shudder to think of it—" Marsin stopped, frowning. "It wouldn't hurt our reserves to go through that course, again there are one or two other things. Wayfe, we're becoming effete, I have a mind to wake things up a little."

"You realise that if I consider your actions reckless, ill-advised or too strongly influenced by impressed memories I

must refer you for treatment."

"Oh, for God's sake, man, have I given any signs of mental

"So far, no, but I'm reserving judgment, that was a risky experiment, with dual memories you could be teetering on the edge of schizophrenia."

Marsin scowled. "Could be. Right now I'd sell my soul for a cigarette." He stood upright carefully, held his head briefly then touched a switch. "Get me the Technical officer, ordnance section—Marsin here, Director Combat-Intelligence."

In the corner of the room, light built up in the viewingalcove and the technical officer appeared. The projection

saluted and said: "Sir?" politely.

"Ah, yes." Marsin reached for a hand terminal, pressed the transfer ring and concentrated. "Watch the screen, please."

A section of wall lit and in it something began to form as Marsin concentrated. When the picture was complete Marsin cut contact. "I don't suppose you know what that is?"

"No, sir." The technical officer was refreshingly honest.

"Candidly, I haven't a clue."

"You will. Fifteen hundred years ago they called that a Tommy gun. It was an automatic weapon and I want one very much like it in weight and size for which, of course, you will have to refer to archives. Apart from this, it will be a conventional energy weapon but with an interrupted rate of discharge—ratio ten a second—think you can do that?"

"Oh, we can handle the general details, sir, but an inter-

rupted discharge will make the devil of a racket."

Marsin showed his teeth. "Good, I'll want at least five and as quickly as possible." He turned to Wayfe, "I'm sick to death of silent insidious weapons which almost raise their hats before they kill you . . ."

"Perhaps I was over-confident, sir." The recruit struggled up from the mat looking pained and slightly outraged. As a soldier he was in first class condition and topped Marsin by six inches but he had been thrown heavily and very painfully over the other's head.

"The causes are immaterial, the vital point is that I could

have killed you."

"But under normal conditions, sir-"

"In war there are no normal conditions." Marsin was abrupt. "Although this is a highly technical age, technologies might still run out reducing one to basics. "He looked directly at the recruit. "Basically, therefore you are vulnerable, you could be killed by a more skilful life-form and, if that's too hard to follow, let's bring it nearer home. Out beyond this settlement is a magnificent city created for the benefit of every race in the galaxy." Marsin leaned forward. "You can't go there—

know why? Because it's run solely and exclusively for the benefit of two dominant races. Oh, yes, we're united on this planet in principle but try a night out in the city and see what happens. Both of those life forms love creating incidents which can be applied politically later. No weapons are used but the visitor generally ends up in a ward and, untrained, so would you."

The recruit's rather sullen expression slowly brightened.

"You mean we might have a night out some time, sir?"

"Don't be pointed soldier, that's a leading question." He

turned away and found Wayfe at his elbow.

The psychologist smiled. "You seem to have acquired a new drive, let us hope you have as good a balance. I've bad news-Rentsure is missing, vanished on a journey to the space port."

"You mean he's been picked up by someone for interroga-

tion, don't you-any race named ?"

"Not named, suspected."

"I was not asking for proof but this settles it, a few days intensive training and we're away."
"Doing what?" Wayfe looked vaguely alarmed.

"Conducting an investigation and trying to win some respect."

"I'm not with you."

"Well, we're not exactly admired here are we? We're acknowledged on the battlefield but otherwise despised. And, before you ask the question, we're conducting an investigation because of a hunch. I regard this whole set-up as highly improbable."

"I haven't the faintest idea what you mean." Wayfe was

looking perturbed.

"Come into my office."

Marsin lead the way and waved the other to a chair. "Consider our presence on this planet and how it came about. In brief, we had a nice little twenty-world stellar empire with encouraging instrument readings for our twenty-first. Before we got there, however, we were stopped by a couple of invulnerable spaceships almost as big as planets. These, according to history, were the vessels of the super race, the Levanoon. Planet number twenty-one for which we were heading was, they informed us, already occupied by another race. Our approach had been observed and the unknown race was preparing to defend itself. Well, you know the rest, the Interpreters acting on the instructions of the Levanoon invited us to join Interstellar Union and here we are, five thousand of us, stuck in the Terran settlement side by side with thirty other races, each with an equal number of picked representatives."

"Surely you're not disputing the facts?"

"Not the facts—the results. We've been on this caper four hundred years with very little result. True there has been no major war destroying entire planets but the possessions of the weaker are passing into the hands of the stronger just the same."

"So?" Wayfe sounded resigned.

"So Marsin accepted it, but Willard questions it. The combination of Willard's cynicism working through Marsin's intelligence makes the whole business highly improbable."

"The Levanoon might take a dim view of your gratitude." Marsin smiled. "Perhaps, if one came and told me, I'd think about it. As it stands now I have only hearsay as proof of their existence."

Wayfe's eyes widened. "That's a dangerous inference and,

even if it were true, where would you get support?"

"If I can force respect I might get support."

"That could be damn dangerous politically."

"I can only be cashiered once, my friend."

"You think this business worth that risk?"

"Definitely. Are you going to try and stop me?"

"No." Wayfe shook his head slowly. "I feel I should but I'm not going to."

"Fine-who has Rentsure?"

"Oh." Wayfe was suddenly grave. "We think the Musicians have him . . ."

The ground car left the Settlement discreetly by a secondary

gate and drove down Highway One towards the city.

Marsin leaned back in the comfortable seat and looked at the scenery with new interest—perhaps he would never see it again. The view still shook him a little although he had seen it almost every day for nearly five years. Once clear of the Terran Settlement one felt one had done a hyper-jump. Gone were the wilted lawns, the palms and blousy rhododendrons with which the Terran representatives sought to make their surroundings look like home. Here, lining the twelve-lane highway, were bubble bushes with repulsive bloated leaves, skeleton vines, pout-plants and the crazy looking meccano trees.

Things lived in those trees and sometimes, if you were unlucky, arose in hordes when you were passing. There was no one living capable of deluding himself they were birds or even bats, drunk or sober there was no mistaking the repulsive undulations of what, to Terrans, were all too obviously flying squids.

Marsin shivered slightly and looked ahead. Already visible in the distance was Interstellar City, dominated as always by the awe-inspiring and shimmering needle of the Levanoon

Spire.

From the air, and at a distance, the Spire rose majestically from the centre of Union Square. The point was, of course, that when you got into the square, the Spire rose from just behind the surrounding buildings, but if you walked round those buildings—the Levanoon tower was either illusory or one of the most brilliant examples of refractory engineering ever conceived. Those who swore it was an illusion were confounded when they found they were able to photograph it.

'In any case,' thought Marsin bitterly, 'it was a grim reminder to thirty races that something tremendously advanced

ran the galaxy—or did it?'

Wayfe was also lost in thought. All these races, all these people, all these things with two arms, two legs, a head and the ability to walk erect. Factors which permitted them to wear the label 'Humanoid' but even then seemed dubious. God, the variations you could get.

He smiled faintly to himself, perhaps it was peculiar to the human race that it dubbed all its neighbours with nicknames, some of them humorous, most of them pointed and all disrespectful. The Pulps, The Goons, The Centaurs, The Mickeys,

The Pinheads, The Creeps, the Musicians.

Wayfe felt a sudden unease. This was no sightseeing tour, this was an unauthorised night out which had nothing to do with food or drink. He looked quickly at Marsin and the three carefully selected and commando-trained recruits. This night out would mean a clash between the Centaurs or the Musicians or both and a Centaur could tear this ground car apart with his bare hands.

"You wait here."

Wayfe jumped. He had been so deep in thought that they had entered the city without him realising it.

"Now, look-"

"Don't be awkward, my friend, you're not trained or ready, you'll hinder rather than help." Marsin patted him on the shoulder. "If you're worried, put on the glasses, there's a pair in the right hand pocket."

"What are all these parcels?"

Marsin bared his teeth. "Christmas presents, keep an eye on them."

Wayfe stared after him. For a few seconds it hadn't seemed like Marsin but someone tenser, violent, leaner of face.

The psychologist sighed and looked about him, uncomfortably aware that he was aiding and abetting. The car was

parked by a cafe and the men had gone inside.

Wayfe found the glasses and put them on. Immediately the inside of the building became visible and he watched the men passing between the tables. Thank God the Settlement subscribed to the entertainment pool which included the spectacles. All these places did a confined-area broadcast for the benefit of those who might have to wait outside for tables but still wanted to take in the floor show. Wayfe leaned back and made sound and vision adjustment to the spectacles.

Inside, light was dim, sullen and reddish. No one entered the cafe these days except Centaurs and they sat now at their tables and glowered. The Centaurs did not possess the bodies of horses but they looked animal enough to have been lifted straight from the pages of mythology. They wore tightly fitting trousers like male ballet dancers surmounted by an elaborate weapon belt which emphasised the slender almost effeminate waist. Above this waist however was the enormous bulging chest and massive shoulders of a wrestler. The Centaurs were tough, ape-like, covered in curly brown hair and gave an impression of stupidity. They were, unfortunately, technical wizards and far in advance of Earth.

Marsin chose a corner table, pressed the button which said: Lighting, Terran-type and sat down. His three companions followed suit as a Terran menu appeared and the lighting about

them changed to the familiar brightness.

"Dial for coffee." Marsin kept his voice low and casual. "We probably won't have time to drink it but it's a gesture."

It was a good guess, the auto-serve had barely delivered the

order before they became conscious of company.

"The light hurts our eyes." There were exactly four Centaurs to match the four humans. These aliens, Marsin remembered, had a kind of off-beat sense of sportsmanship.

"It does?" He leaned back in his chair and smiled. "It's a strange thing, my friend, but your kind of light hurts ours."

The hairy, wide-nostrilled face seemed to darken and Marsin had the brief, irrelevant impression that the thing was going to

snort and stamp its foot.

"You hope to provoke something human—you have some political manoeuvre in mind?" Even through the tiny diaphragm of a standard translator, the voice sounded suspicious.

Marsin laughed. "Our discussion concerned the lighting

which, as far as this table is concerned, remains as it is."

"I suggest you leave before some harm befalls you. We do not need a public incident as a political lever and, are therefore determined to thwart such attempts by others. You will leave or be removed."

Marsin said: "Ha! ha!" He had no idea how the sound would come out through a translator but he hoped the alien got the drift. He need not have worried, the translator was almost an inspired mechanism. It summed up the sound in exactly two words.

"Inferred derision," it said.

The Centaur's brown, slightly bloodshot eyes seemed to smoulder. "None can deny that we were deliberately provoked." It stepped forward and reached out huge hairy arms.

Wayfe, watching through the spectacles, caught only a melee of hairy arms and lithely moving humans. He saw the table over-turn, he saw someone swing a plastic chair, the lights went out for a few seconds and when they came on it was all over.

The overturned table was now upside down and one of the Centaurs lay beneath it. Another lay against the wall, a third nursed what was obviously a broken arm—the last one crawled slowly and unsteadily away, purple blood dripping from its face.

Marsin brushed his clothes and looked about him. "Any

volunteers?" He and his companions were unmarked.

"Please, no trouble." The Goon manager appeared from nowhere wringing its green stick-like hands. "Humans please leave, we shall make no report, send your settlement no bill." It looked round at a circle of Centaurs and its rag-like ears twitched in agitation. "If any attempt is made to harm you I will press the alarm for the robotic police but please leave—"

"As you wish." Marsin's smile was convincingly casual.

They walked unhurriedly down an aisle of scowling Centaurs which stretched from the table to the door. Most of them had their fists clenched or fingered their weapon belts but none of them did anything. In their eyes was anger, puzzlement and faint but disbelieving respect.

Back in the ground car Marsin forced himself to relax. It had been so easy, hadn't it? You used another's strength to

supplement one's own and . . .

Clearly in his mind he could see the small commando book with its simple illustrations—' mayhem sketches' Willard had called them. Both of us, thought Marsin wonderingly, were shocked by that book. It was not only the childishly simple sketches but the casually horrific instructions which too often, concluded with the words: this will undoubtedly kill him.

He realised suddenly with a vague feeling of alarm that the recruits were discussing the action loudly and with evident

enthusiasm. Good God, they'd enjoyed it!

"Where now?" Wayfe's face still showed signs of strain. "I'm hoping our little demonstration has preceded us. If it has the Musicians may permit us inside their embassy."

" And then ?"

"It will be our move probably, we'll have to impress them."

"You think they'll admit they have Rentsure?"

"Of course they won't but if we can reach an agreement our

man will be 'found and returned.' "

Wayfe opened his mouth to ask another question but realised that the ground car was slowing by the ornate doorway of the Musicians embassy.

Marsin presented his diplomatic authority to the door unit.

"Terran official requesting an interview."
The door slid open. "The Terran deputation may enter."

They waited. They waited a long time and then a Roboid entered by a side door. "The Director offers his apologies but regrets he can find no record of an appointment with any Terran official. I am, therefore, directed to escort you from the premises."

Marsin would have taken the words as a polite request but Willard had lived in a harder age and read in them a deeper

meaning.

Marsin smiled with Willard's savagery. "How do you propose to do that? I came to see the Director on urgent official business and I intend to see him."

The Roboid, naturally, was constructed to look like a Musician and had, therefore, a long suave face and metallic-blue hair, heavily greased and, by tradition swept to the left and hanging to the shoulder.

"So?" It smiled. "You force me to other measures but

rest assured there will be no pain, merely . . ."

Marsin made the gutteral exhalation or stomach shout of a commando and leapt before the other could raise the weapon. Inwardly he was conscious that he was a diminutive David battling an enormous Goliath without the benefit of a sling but there was no going back now.

The Roboids wrist was warm like a human wrist but it wasn't human and it wasn't Musician. The Roboid was artificial organic life grown round a plastic skeleton in a culture tank and

powered by a mechanical heart.

The result was a highly intelligent almost tireless servant of

incredible strength but—it had not been judo-trained.

It sailed over Marsin's shoulder and struck the opposite wall with a force which would have killed a normal man. The Roboid, however was only dazed, it shook his head and struggled upright.

Marsin kicked at it legs, dropping it again.

As the force applied would drive a sharpened stake several feet into the ground, this action will undoubtedly kill him.

Marsin-Willard jumped high in the air and came down

savagely, heel first with all his weight.

The Roboid opened its mouth exhaling air and moisture with a shrill whistling sound. As Marsin stepped aside it arched its body, flapped its arms and rolled over twice. There was a crackling noise, a wisp of black smoke curled upwards from a burned spot on its clothing, then it shivered and went limp.

The humans looked at each other without speaking—all

were pale.

Before they had a chance to speak another Roboid entered but this one bowed politely and spoke a lisping, if uncertain Terran in a deferential voice. "If the Human gentlemen will pleathe to follow me, the Director will grant them thome time—"

Grayth, the Director, sat in the centre of a completely circular desk like a pilot in a cockpit and frowned reprovingly.

"Very well, we recognise the link between violent demonstrations and this interview. We also admit to being impressed, if not by your crudity, at least by your determination. It was also, Human, an expensive gesture. Roboids cannot be repaired and a replacement will cost your settlement forty thousand interstellar credits."

Marsin shrugged. "It will be paid."

"That, at least, I may be sure of. Human financial integrity

when the issues are clear is above reproach."

"Well, thanks very much." Marsin made no attempt to hide his bitterness. "Now shall we get down to business which, incidentally, you're not going to like. In the first place, one of our people is missing and we have reasons to suppose you have him. In the second, from our end of the telescope you look like a robber, you're using your technical and political superiority to force us into a fourth war which we are bound to lose. In short, this is not a fair fight and we're losing an Empire." Marsin paused and leaned forward. "At the moment however, there is something more important than single individuals or even single races. I think all of us, including you, are being deceived and exploited—this is a survival question and I'd like to talk to you about it."

"Really?" Grayth smiled remotely and stroked his shining oily hair thoughtfully with his finger tips. Then he seemed to reach a decision. "Very well, Human, I accept your statement as true but I also require a little time. I am a precise intelligence and it is better first you understand the motives of my race." He paused and looked at Marsin directly. "We do not have your man but we know who has-clear?" Again he paused

and smiled faintly.

"Marsin, sir, you Humans are an ingenious race, do you really think we want your miserable little empire? It is not us, but conditions which force this measure. Are you so blind that you cannot see that the great ideal has degenerated to paltry political intrigue? This entire planet is now but an enormous gaming house in which races, peoples and planets are stakes on a gambling table. These conditions are imposed upon us not manipulated by us but, if we are to survive, we must play according to the rules. At the moment, unfortunately, the rules demand we play with your Empire."

Marsin leaned forward. "I am glad you admit to the degen-

eration of an ideal. We admit to being in some respects

ingenious but not that ingenious. To us that ideal was never intended to be reached. I see that because I recently underwent an experiment, rumours of which have no doubt reached you. Let me tell you what I have learned and the conclusions I have drawn."

The alien heard him out without interruption and there was a marked respect in his eyes when he had finished. "You are correct. Specialisation, the altar of advanced science, has made us naive. As for your first contact with the Levanoon, your experience was almost exactly similar to ours and, for that matter, every race with whom we have discussed the subject.

It begins with the enormous space ships—"

"And then the Interpreters arriving in their decrepid little ships for the benefit of the super race." Marsin's face was hard and suspicious. '"They say the Levanoon chose them for liaison purposes but if that's the case what the hell are they doing here with a settlement of their own? Again, we have only their word they were appointed or that there is a Levanoon." Marsin paused then continued grimly. "Back on Earth we have defenceless plants and creatures which get by on deceit, they change colour, or blow themselves up to double their size and quite often appear with the markings of a more violent species."

The alien's eyes brightened then narrowed. "Human, you are making out a logical and very dangerous case but one which I am inclined to support. Looking back I am reminded that we were living in perfect harmony with two stellar races and were engaged upon delicate but progressive negotiations with a third. It was the alleged Levanoon who brought the ideal and, also, the bogey of war. Incidentally, am I right in assuming that, like

most of us, you dislike the Interpreters?"

Marsin scowled. "We detest them but probably our reaction is more emotional than reasoned. They resemble one of our smaller pests blown up to human size. To us they are like naked mice and as such, repulsive. We call them Mickeys, which is almost flattery."

Grayth said: "What do you intend to do?"

Marsin sighed. "There's only one thing I can do. When I tapped the past I picked up a number of things, such as distrust, directness, and so on, now I have to apply the most obvious of all. I was hoping for support, but if you won't ride with me I'll have to go it alone. I have to. I appreciate the appalling risk

but I must get this thing rolling before the Mickeys get wind of it."

"You are aware that photographs have been taken of the Levanoon spire, does this not cause some small doubt?"

Marsin rose. "I am also aware that a psych could make me

think I was looking at a developed print.'

The alien rose and the desk suddenly became an arc. "You will have your support and I think I can promise the support of at least six other races once their eyes are opened. Let us begin to plan as we make the necessary contacts."

Wayfe sighed. "I'm getting out of my depth—where now?"
"The Mickey Embassy and, to quote my late contact, I want to push a force right through that place to the bigger buildings out the back."

"Force!" Wayfe sounded horrified. "You're actually

going to attack the place?"

"You're not with it, are you? Oh, hand me up one of those—er—Christmas presents, please, we're nearly there—thanks."

Now almost emotionally stunned, Wayfe saw him pull aside the wrapping and expose the copy of a sub-machine gun but before he could demur the car had stopped.

Unhurriedly the men climbed out, raised their weapons and

fired in unison.

Wayfe put his hands over his ears and nearly screamed. The reverberating detonations shook the car and blurred his vision but he saw enough.

Great jagged holes appeared in the door, lumps were torn from the surrounding plastoconcrete and then the entire door with all its supports fell inwards in a great billow of dust.

"Come on." Marsin leapt over the rubble to the long, low-roofed room beyond. A Mickey was crouched in one corner, hands over its ears, literally paralysed with fright. Another lay still in the middle of the room either dead or unconscious. Marsin leapt over it. "This way."

They raced down a corridor, turned a corner and ran almost full tilt into four Mickeys pushing some dangerous looking equipment on a gravity plate. One of the recruits fired and the

whole dissolved to fragments and dust.

Marsin reached a rear door and blasted it open. Then he was racing with the others across a paved courtyard to a windowless black building beyond. Out of the corner of his eye he saw a

shaft of white flame rise silently from the other end of the settlement and a small building collapse. The others were keeping their word and backing him up, that must be the Pinhead contingent.

The Chief Mickey wrung its hands and tried to look dignified at the same time. "This is virtual murder, unprovoked

assault, we shall insist on the direst penalties."

"Why don't you send for the Levanoon?" The translator conveyed the contempt in the Musician's voice perfectly. He held up a blank black, square. "Perhaps they have disappeared like the photograph which once appeared on this material or their famous spire which also vanished when the Humans destroyed your special equipment."

"You speak in insanities." A tear rolled out of the Mickey's

eye and down its cheek.

"You think so?" The Musician drew up one of the curved narrow chairs and sat down. "Very well, I will relate the story and you, in your turn, must convince us later of its untruths." He leaned back in his chair and smiled faintly. "I see a race of highly skilled technicians torn between an overwhelming cowardice and incredible delusions of grandeur. These people had no military heritage but they had the demanding hunger of parasites. As soon as they became conscious of other races in the galaxy, many of whom were in advance of themselves they hit on an ideal scheme for attaining dominance. In the first place they were skilled psychologists and this, coupled with their high technical ability soon resulted in devices capable of inducing illusions in any intelligent life form. From there the story is easy to follow, the projected delusion of enormous spaceships belonging to a super race and the humble interpreters moving in to explain the need for peace. Even the ideal of a united galactic people was brilliant psychologically. Few races respond to coercion but nearly all can be blinded by a splendid objective."

The Musician paused and sighed. "The mythical Levanoon permitted us our little restricted wars, Unfortunately, however, each war was backed by the entire know-how of a race. This know-how was of course being skimmed off by our interpreter friends for future use. In a few more generations, rest assured, our humble friends would have been our technical superiors and dominating us all as a master race." The Musician paused

and there was silence. The Mickey had hands like pink hairless paws pressed to its eyes and its shoulders shook. There was obviously no question of it refuting the allegations.

"We owe much to our Human friends." The Musician almost beamed. "They realised at once that these debased creatures must be struck without warning and panicked before they could increase an illusion which might enslave us all forever. The Human named Marsin employed for this purpose an abstract which gained our support and completely disorganised the Interpreters." He turned and smiled. "Explain

this, please."

Marsin smiled faintly. "Abstract is hardly a good description but it will serve. It's not so much the means which counts but knowing when to use that means. One can't use this method too often because it soon becomes blunted and ineffective but for this situation it was just right. It is so long since this method was used it looked new. It startled our allies and completely demoralised the Mickeys." He paused and smiled at an amiable looking Centaur. "Perhaps this is the first time in history that subtlety has been defeated by—brute force."

Philip E. High

This should interest you . .

Today photographs are being taken at speeds up to 10,000,000 pictures a second. Scientists "see" where there is no light; they examine the internal structure of huge metal castings; they "slow down", photographically, phenomena too fast for the eye to see; they measure every slightest vibration and stress in moving machinery.

Details of unusual photographic applications are described each month in "The Industrial and Commercial Photographer", the professional's technical journal. Subscription 30s. a year; specimen copy 2s. 6d. post free.

Dept. L.M. 'I.C.P.', 319 High Holborn, London, W.C.1.

To discover ancient ruins on another planet would be an archeologist's delight, but to find a modern city temporarily uninhabited would pose an intriguing problem. Where had the people gone?

WHO WENT WHERE?

by RUSS MARKHAM

The Galactic Union Survey building was big, it had to be if it hoped to keep track of the multifarious activities involved in space exploration and survey. Entire floors were devoted to the personnel records of field teams, spaceship maintenance scheduling, analysing and categorising of the stellar system data received, certain aspects of the selection and training of new

intakes, and special department work.

Controlling the whole vast complex known familiarly as GUS, was a man whose speciality it was to make decisions; the dapper, thin-moustached, experienced director of all he surveyed, Marvin Conte. It was rumoured, not without justification, that Conte could charm the stripes off a Venusian tiger. Space-hardened members of survey teams who had gone in to see the Director while enveloped in the white heat of a fancied or real grudge, had emerged convinced that their boss was the best man who had ever absorbed oxygen, and that moreover, he had done them a personal favour in giving them the very job which had caused the original animosity.

Conte, somehow found the time and energy to divide his interests fairly over all the many phases of the activities under his supervision. A personal suite on the top floor of the huge

building helped to maintain this close control.

In the outer one of his offices, the Director was seated behind the curving sweep of a desk, into whose facing surface were sunk the miniature telescreens linking him with all sections.

Gazing expectantly at Conte, were the four members of a Special Survey team, newly returned from leave, and ready again to tackle another mission which had worked its way to

the head of an ever-waiting queue.

Lola and Ellis Hunter were enough alike to be taken for brother and sister, but were, in fact, man and wife. Both were dark haired and fresh complexioned with the same brown eyes, but where he was thick-set, she was slender and only three inches short of his five feet ten.

Kim and Dave Laing, however, were a distinctly different couple. He was a good six feet tall with the golden hair and blue eyes inherited from his Nordic ancestors, while his wife was

petite and auburn.

The Special Survey teams were always composed of young veterans of ordinary Survey teams who had shown the peculiar mixture of multi-faceted talents and patience and innate stubbornness essential for special work. They were invariably two married couples, who together formed a balanced quartet of temperaments and knowledge; they had not yet reconciled themselves to settling down and producing families, but had every intention of doing so when the time was ripe. Because of this, they had a communal sense of interdependence and mutual trust which usually prevailed against the toughest odds; all-in-all, they were difficult groups to beat.

In an expanding spheroid of space, the irregular surface of which was already two hundred light-years away from Earth in many directions, the Survey teams were the first to look in close-up at a new stellar system. The time which they could spend upon each was limited by the sheer magnitude of the work. Any difficult problems were therefore referred to the Special Survey section; inhabited worlds became the prerogative of the Initial Contact teams. Sometimes, both the Special and the Initial Contact sections had to co-operate on one job.

Conte leaned back in his multi-poise chair and looked over his steepled fingers. "I expect you're wondering what we've cooked up for you this time? Well, I'll get right down to business and tell you what we know to date.

"Shortly before you people went on leave a month ago, one

of our survey ships landed on Palladia II."

Lola Hunter was content to listen silently, as were David and Kim Laing, but her husband Ellis, ever-eager for details interrupted the Director: "Where is Palladia—I can't say that I've heard of it?"

Conte raised his hand to cut off any further questions.

"Just give me a chance, I'll fill you in on everything as I go along.

"The Palladian system is well away from any sector in which you've worked before, so you'll be seeing some new territory.

It's about two hundred light-years distant.

"The survey boys were starting to look it over and had touched down initially on the second planet. It was obviously habitable, in parts at least; there are even cities which have been occupied recently, but there's no sign of the inhabitants."

David Laing entered the conversation when the Director paused: "Have the survey team found any clues at all?"

Conte shook his head. "No; during the last month, they've tried all they know to crack the problem with no luck—they've drawn a complete blank. It looks like a disappearing act on the largest of scales."

"What are the team doing now?" asked Lola. "Have they

left the system ?"

"No," answered the Director, "there are four other planets to check over in the group, so they have to work fast to complete what is outstanding in time to leave for their next assignment."

"In which case," said Kim Laing, "if we leave now, we should arrive at Palladia II before the boys leave. Then they

can tell us all they know at first hand."

"You have summed things up very precisely, my dear," nodded their dapper chief, well-pleased at having manoeuvred the conversation to the point where the group before him were about to swing into action of their own volition. "Now, unless there's something further you want to know from me, I won't delay you any longer, I'm due down in Maintenance in a few moments." With a pat on the back for the two men and a fatherly squeeze of their arms for the girls, the Director shepherded them out of the room to the gravshaft, where they rose the fifteen feet to the roof.

Thirty minutes later, the waiting gravferry-craft had fallen away from Earth like a runaway balloon and had reached the G.U.S., satellite station in its 5000 mile orbit. Compressed air jets took over, gently propelling the small visitor towards the cloverleaf landing apron. Rocket power was not permitted for landing or take-off at the man-made moon, so gas under pressure was de rigeur for close-in work. The ferry-craft floated slowly over the apron until it could touch down alongside an entry port. A passenger transit tube sensed its arrival and extended itself gropingly to lock on to their exit port. The indicator light on the inner door flickered, and then glowed steadily. It was actuated by a pressure switch on the outside, and could only light up when the air pressure overcame a retaining spring.

The four Special Survey team members passed into the orbital station, following a series of glowing arrows which directed them to another transfer tube, at whose entrance their personal gear waited for checking. Everything was in order, so that in another ten minutes, crew and baggage were aboard

the F.T.L., ship.

The interstellar vessel rested sedately in a skeletal docking cradle, moored securely by a series of peripheral magnetic and mechanical locks. Beneath the stubby, cylindrical body designed specifically for deep space only, was the slimmer, winged outline of its own gravshuttle, poised like a pilot fish below an overweight shark.

Shortly after the smooth transfer of their gear aboard the faster-than-light ship, the trouble-shooting foursome were en route for Palladia and Planet II—a 200 year journey for the electro-magnetic crawl of light, but only two weeks away for the

multi-light velocities available to the Galactic Union Survey

The Palladian primary was a larger star than Sol, and its globe glowed like the fiery red of an earthly sunset. Circling the second planet of the star's family, was the ship which had

started a survey and drawn a blank.

The incoming Union ship sidled gradually closer to its orbiting sister, so that eventually it was within the range of a questing transit tube, which crawled across the gap between them along invisible rods of radio energy to connect both airlocks. Even with the slight delay which accompanied the use of the tubes, it was still much quicker and more pleasant than having to don and discard spacesuits and propel oneself across the star-spattered canyon between ships. And so, the

using of suits was confined to instances where there was no other choice, like having to work on the exterior hull when in space, or moving around in hostile or virtually non-existent

atmospheres.

Inside the waiting vessel, Captain Staddart welcomed the group into his main control room, showing them briskly to seats in front of a large vision screen, in the centre of which floated the daylight side of the disc that was Palladia II. Evidently the captain was anxious to speak his piece and be on his way.

"Glad to see you all," he boomed in a resonant voice. "I'll get straight down to business if you don't mind and fill you in on the essential details of our pet mystery, as my time is short." Stoddart moved over to the screen, picking up a pointer on his way. "The planet is almost entirely desert, similar to Mars," gesturing at the dull, orange portion. "However, there are fertile regions fringing the small seas and the rivers feeding them in the northern hemisphere."

The seas reminded Lola of a string of sapphires spread around the throat of a portly, ageing dowager. All of them were set in sunken regions, whose precipitous edges became more apparent as the captain stepped up the magnification with a zoom device.

Stoddart resumed his lecture when the picture steadied. "It was here that we found the cities. The larger ones are at the estuaries for obvious reasons."

Seeing Kim's raised eyebrow, he paused, then answered her

unspoken question.

"The larger population centres would need correspondingly plentiful sources of fresh water; the rivers would provide that supply. Again, the rivers are navigable for some distance upstream from the estuaries, and so can be used as traffic arteries for transporting produce and goods each way."

The little redhead nodded her understanding and thanks.

"Regarding the cities themselves," continued the captain, "the buildings are of stone and have been well constructed. Roads are cobbled. The general impression we get, is that of a developing civilisation without mechanical power other than water wheels and a few windmills.

"Areas beyond the cities and on the edges of the rivers have been well laid out and cultivated recently. The people,

whoever they were, had a knowledge of irrigation too.

"There are, of course, polar icecaps, smallish admittedly, but big enough to feed the rivers. By far the largest part of the

planet though, is an apparently useless wilderness."

"Is there any sign of a war or an epidemic-you knowdestruction of property, bodies, anything that might give some hope of formulating an explanation as to what might have happened?" queried Ellis.

'Quite the reverse. There are no bodies, no broken buildings, nothing to indicate any peculiarity, except, of course,

the complete absence of any inhabitants.

"You know," confided the captain, thoughtfully, "I get the feeling sometimes, that they've all packed up and gone away for a holiday—crazy idea isn't it ?"

"Right now," responded Dave Laing, "we're wide open for any suggestions. Tell me-do you get the impression that whatever happened was really recent? After all, you did say that the fields looked as if they'd been kept in good order."

"For my money, everything was normal to within a few weeks of us arriving," replied Stoddart.

Lola was the next to ask a question. "I'm interested in this holiday idea of yours—if they had moved away from the cities, where could they have gone? Out into the deserts maybe? What are conditions like nearer the equator for instance?"

"In a word, Hell," said the captain briefly. "Keep away from that part, it can get up to 180°F, and there's no water or shade for thousands of miles."

Ellis chipped in again, "Can you give us a rundown on the

surface conditions generally, where we'll be based?"

The captain nodded, reeling off the data requested. "Gravity 0.92 Earth normal; mean midday temperature around the seas, about 90°F; air a little short on oxygen, but adequate; no inimical bacteria to bother you."

The thick-set, Special Survey man whistled. "Mean midday temperature 90, and that's in the temperate zone—I take it that it's high summer in the northern hemisphere right now?"

"Not particularly; you see the planet has very little axial tilt, so that there are practically no seasons. It's more or less a permanent summer by our standards."

"That seems to wrap it up," said Kim dryly. She stood up,

"Shall we go?"

The captain looked grateful. "I would like to make a move. We've got to shift orbits for the outer planets, with only four more weeks to complete our survey of the system.

"You can use the base we've established planetside while we're away. When we get back we'll check to see how you're

getting on before we leave finally.

"Incidentally, you might like to have one of our crew with you to show you the sights; it might save some time."

"Thanks," nodded Ellis, "be glad to have him. What's his

name?"

"Peterson," replied Stoddart, "he's waiting for you ground-side, you'll find him quite a useful lad to have around."

Peterson certainly lived up to the captain's description of him. After helping the four newcomers to stow away their gear in one of the double-walled, air-conditioned, plastic domes which had been erected in the open country outside a city, he rustled them up a first-rate meal from canned supplies and a well stocked deep-freeze unit.

When they had finished eating and were sitting back hot but contentedly replete, Peterson downed the last of his coffee and

lit up a briar pipe.

"If you folks are okay for the moment, I think I'll have my evening stroll while you get settled into your quarters. Pick any dome you fancy, there's plenty to choose from. When I get back, we'll have a natter about your plans, as I expect you'll want to get started in the morning." He waved cheerily and ambled off into an air temperature which had dropped to a modest 75.

Lola and Ellis picked a dome which had a built-in dark-room kitted up for the processing of any type of film—a vitally, necessary requisite for Lola, who went nowhere without her battery of cameras.

After stowing away their gear, all four took a shower that refreshed them against the dry, hot air, changing afterwards into

lightweight clothing.

Peterson returned from his constitutional, sat down with them outside one of the domes, and looked at all four expectantly.

"We'd like to start off with a look at the nearest city, Carl," said Ellis Hunter, starting the conversational ball rolling.

"What do you recommend as a modus operandi?"

The Survey team man considered briefly, then looked at his watch. "This planet has a twenty-hour rotational period. If we go to bed shortly, we can get eight hours sleep in, and be up at dawn. Allowing say, an hour for breakfast and travelling to the city, that would leave about three hours for looking around before it gets too near midday. Then we could get under cover for the next couple of hours, have a meal and siesta, and push on a bit more before returning to base. How does that programme strike you?"

"Sounds fine," agreed Ellis gazing around at his companions who nodded their agreement. "I think we'll all hit the sack

right now."

The smouldering rim of Palladia was hoisting its obese form swiftly above the horizon when a miniature reproduction of Carl's voice woke them from their beauty sleep.

"Wakey-wakey, rise and shine . . . '

"I know, the sun is burning your eyes out," continued Ellis getting out of his bunk.

"Breakfast in five minutes," droned Peterson.

The appetising smell of bacon and eggs encouraged them all to leave the Land of Nod, and join him at the table.

After breakfast, Peterson led them to a little power-boat

moored at the bank of the nearby river.

"The city's about three miles downstream," he said. "It

will be quite a pleasant trip at this time in the morning."

They got into the boat and nosed out towards midstream. The river was about twenty-five yards wide and flowed relatively sluggishly. Along its banks, they could see a few barelooking trees and the withered remnants of vegetation. Other than the gliding forms of fish visible in the clear water, and the waving fronds of underwater plants at the river's edges, nothing seemed to be alive. On such a beautiful morning, it felt strange not to hear the song of a bird, or see small creatures scurrying about somewhere.

The Palladian primary had risen higher in the sky and was picking up speed along its rapid path towards the zenith. It displayed a dull-red orb, about half as large again as Sol. Slightly above its equator and roughly a quarter of a diameter from one edge, a bright region shone with considerably more brilliance than the remaining area of the sun. It looked like a

cyclopean eve in a particularly ruddy face.

Ellis adjusted a pair of dark glasses over his eyes, and peered directly at the sun.

"Dave, that's a bit unusual isn't it?"

His blond team-mate brought out his own sunglasses and followed Hunter's pointing finger. "What's so different about

it, except the size?"

"That blemish on the sun," explained Ellis. "It looks like an inverted sunspot. I had always thought that spots were darker and hence cooler regions—this one is brighter and presumably hotter."

Laing corrugated his forehead. "Does it matter?"

"I don't know-what do you think, Carl?"

"All stars in the middle stage of their development have hot spots on them, they come and they go," replied Peterson

indifferently.

The boat glided on down the smooth river in silence for a while, then Kim Laing spoke: "Carl, what do you think the population of this planet might have been—could you form any estimate?"

"It can't have been very large. There are only four seas—all in this hemisphere. In the south, the area around the icecap is pretty flat, so that the melted ice just forms a mushy area with no sizeable lakes or seas. Up here, there are about four cities around each sea. They vary a bit in size, but allowing for approximately fifty thousand inhabitants each would give us about eight hundred thousand city dwellers. On top of those, there could have been another couple of hundred thousand strung out in the riverside communities—say a million or so altogether."

"This is a planet the size of Earth," remarked the redhead to her husband. "We may have a lot of needles strewn about, but it's still a pretty big haystack. Where do we look first?"

Dave cogitated for a moment. "That may not necessarily be the case. Let's assume first of all that the inhabitants are still alive. It doesn't seem reasonable to suppose that they're in the deserts—why should they be? Their civilisation grew up here. Therefore, they must be somewhere in the fairly narrow belt which includes the seas, because it's the only part of the planet suitable for their kind of life. And nobody can kid me that a million people could have moved without leaving some clues."

"What if they've all died of some disease which caused their

bodies to disintegrate?" suggested Lola.

"That seemed to be the only conclusion that we could come up with," agreed Peterson. "There's absolutely no guarantee that they're still alive."

Dave shook his head stubbornly. "I know there's a first time for everything, but we've never encountered such a disease

anywhere to date, so why postulate it now?"

"Because it fits the facts," answered Peterson dryly. He swung the boat alongside some steps at the river's edge, jumped ashore, and tied her up to a metal ring set in the stonework. "However if you think there was an evacuation of the cities, you have to determine why and to where."

The five spent the next few hours wandering through the echoing avenues, soaking in the peaceful atmosphere of the place. Occasionally, the streets opened out into a square, and from the statues on display, it was obvious that the inhabitants of Palladia II had been of two sexes and very human in appearance. But still there was nothing to point to where they were or what had happened.

It got steadily hotter, the mercury hitting 95 when the bloated sun reached its peak. Even the girls in their halters and shorts

were beginning to wilt under its influence.

Ellis mopped his brow. "Let's try looking inside the buildings—it'll be cooler in there." He suited action to words and led the way randomly to the door which took his fancy. It wasn't locked but was held in position by a simple drop-latch. He opened the door, stood experimentally in the doorway, and looked up. "They must be about our size. This frame is about six feet six high—near enough the same as we make them

for ordinary dwellings."

They trooped thankfully inside, glad to be away from the baking oppressive blast of heat pouring from the cloudless sky. The house was sparsely furnished. Evidently wood had been at something of a premium if the few articles of furniture were anything to go by. A few reed mats covered the floors and there was no sign of a fireplace. In one wall, however, was set a crude, foot-diameter lens, pivoted so that it could focus the sun's rays on to a metal cooking pot which was suspended from the ceiling by a long cord. Both the inside and outside of the pot were covered by a fine layer of dust, but otherwise clean. Pottery drinking vessels and plates were stacked neatly in niches around the walls.

Lola unslung a cine-camera and wandered from room to room, staring absorbedly at the few paintings that hung in them From time to time she paused and shot some film of the glowing, almost three-dimensional representations. Some were seascapes with outrigger type boats upon them; others were portraits, always of smiling, cheerful-looking faces—white-skinned faces with only a faint fuzz of hair upon the well-shaped heads. Not unnaturally, the people portrayed wore only a minimal amount of clothing.

Kim joined Lola in a short tour of the house; women, it seemed, were always more interested in other peoples' homes than their men were. Ellis, Dave and Peterson, were glad to unhitch their haversacks and settle down to the mundane but necessary task of preparing a meal. After a salad, somehow kept crisp in a portable cooler carried by Peterson, washed down with a flagon of wine also satisfactorily chilled, the five explorers settled down for a siesta while the enervating noon

heat slowly subsided.

During the fortnight that followed, the pattern for each day was much the same: the group would set out from their base each morning, more often than not as a foursome because Peterson had work of his own to complete, and it was easy enough anyway to drift around the city without getting lost. Lola and Kim joined forces for most of the daytime exploring sessions and gradually seemed to become more purposeful in their searchings. Each evening, at base, they would spend an hour or so processing and editing the day's harvest of film. Dave and Ellis had projects separate from each other and their wives; Dave became more and more determined to try and crack the written language, while Hunter spent a considerable time each day taking careful measurements from an image of the sun's disc which he projected on to a screen of squared paper.

Weather conditions were unchanged from day to day, Always the huge sun stared down at them with its one sightless eye from an unmarred, deep-blue sky. At the end of the fortnight, the bright region was noticeably closer to the edge of the stellar disc. Ellis was fascinated by it and added certain

other tests to his daily routine.

One evening, when the girls had, as usual, disappeared into their processing lab, Dave Laing was in his hut poring excitedly over his latest find, which appeared to be a child's primer for reading. Ellis and Peterson were watching Palladia fight its nightly ballet with a horizon drenched in the familiar, bloodred glow, when the Special Survey team-leader spoke: "Carl, you're more of an expert in these things than I am; tell me all you know about the sun and this planet's relationship to it, so that I check certain conclusions of my own."

"What do you want to know exactly?"

"Well, I can see that the bright spot is gradually moving towards the limb of the sun, and according to the rough measurements which I've made, it'll go out of sight altogether in the next few weeks."

"That's correct, Ellis. Palladia is rotating on its axis quite

slowly, only about two revs per year."

Hunter thought for a while.

"That means that while this planet goes once around the sun, Palladia itself turns twice with respect to a fixed point in space, okay?"

Carl nodded affirmatively.

Hunter drew some diagrams on a sketch-pad for a few moments, while Peterson watched in mystified silence. Finally, the Special Survey man threw down his stylo in disgust.

"Damn," he said, "I can't get it to work."

"What's the problem exactly?"

Ellis pointed at his sketch. It showed a small circle with a blob on its circumference. Around it was drawn a larger dotted circle also with a very small blob marked at one point on the circumference. "This is Palladia in the middle. That blob on the edge of it is the bright sunspot. The dotted line outside again, is the orbit of this planet which is in this position," he jabbed at the small dot on the outer circle. "Now, according to what you've told me about the relative rotations of the sun on its axis, and the planet about the sun, that bright spot would be visible for six months of each year. It would appear at one edge of the disc and move slowly across its face until it went out of sight around the other limb. And if that's the case, it mucks up my theory." He paused for breath frowning fiercely.

Peterson smiled a little, "Your theory is a Curate's egg, Ellis—good in parts. The spot wouldn't be in view for six months—it would be more like four. You're forgetting that Palladia has a pretty fair girth, and that the bright spot is an

area on the surface, not a flag-pole sticking up from it. I mean, it doesn't protrude as you've drawn it, so that although it's nominally at one edge or the other of the sun's diameter every six months, it wouldn't be visible for the whole of that time because the curvature would keep it out of sight at the beginning and end of each six months."

Ellis' eyes glistened with new hope for his theory. "I'm with you, Carl, now tell me this—that bright spot would push up the amount of heat radiated in this direction when it faced the planet, right?"

Peterson nodded.

Hunter continued jubilantly: "And that would make it a

good deal hotter, wouldn't it?"

"A little. Possibly five degrees, but not enough to matter. After all, the spot is only a small percentage of the total solar area."

Hunter began to look desperate again, but kept trying nevertheless.

"Would there be any other significant effect from the spot?"

"Yes. Normally, while the spot was hidden around the other side of the sun, there would be no ultra-violet component in the spectrum. When it was facing in this direction, however, there would be quite a bit of u.v., flying about, particularly in this thin, cloudless atmosphere—but even at maximum intensity, it wouldn't be enough to bother us, if that's what you're thinking."

"Not enough to worry us," repeated Ellis quietly. "Why

wouldn't it affect us, Carl?"

"Take a look at your skin," was the other man's answer.
"You've obviously got well-tanned before you came here—most of us always are—that's why it wouldn't have any harmful effect; we're used to ultra-violet."

"Exactly," nodded Hunter triumphantly. "We are used to

it. But what about the effect on somebody who wasn't ?"

"I don't get it," muttered Peterson with a baffled air.

"Let me ask you another question," was the reply. "How long do you think that the spot has been there?"

"It's difficult to say—quite a short time though—not more

than five hundred years perhaps."

"And you call that a short time?" exploded Hunter.

"It is, astronomically speaking; a few hundred years is

absolutely nothing in the life of a star."

"Agreed," said Hunter, more calmly. "But it could have meant death for the race who had evolved here." He grinned at the still perplexed man facing him. "Don't you see how it all clicks into place? The natives here had always been used to the light of a reddish sun. There was plenty of radiant heat, so they would have little or no body hair and would only wear what clothes they needed for decoration, utilitarian or modesty requirements. Their body mechanism would not have included the means to deal with ultra-violet, so that they would probably be of the albino type. Then, after millions of years of evolution under one set of conditions, their sun starts emitting u.v., from a bright spot that it's grown overnight—what effect do you think that would have on the locals?"

Peterson, who had listened in fascinated silence to Hunter's

theory, awoke from his reverie.

"It would be a killer—they'd develop skin cancer, possibly go blind and God knows what else besides—if they could survive at all. Presumably the vegetation and animals indigenous to the planet would be similarly affected. Is that what you mean, that the natives have been wiped out?"

"No; they're not dead. The houses are reasonably spick and span, and there are no bodies, remember? They can't have had time to adapt to the ultra-violet naturally, so the next best thing would be to stay under cover during the danger period. What baffles me right now is where have they gone?"

"That," said a feminine voice, "is where we can help."
Both men turned to see Lola standing behind them.

"How much of our conversation have you heard?" asked

"Enough to get the drift of your argument—you're quite right, and I can prove it *and* answer your question. Call Dave, and come and see the film show that Kim and I have rigged up for you. I don't think it'll take too much time to dig the Palladians out from their hidey-holes."

They saw the show, and Lola was proved correct in her assertion that it wouldn't take long to unearth the Palladians. The days of patient filming, processing and editing had paid off

in a big way.

* * *

Marvin Conte leaned back in his multi-poise chair, a patient expression resolutely held on his face.

"All right, you've made it clear what did it, now if I might

coin a phrase: where was it?"

Hunter gestured to his wife. "Lola will tell you what the film showed."

"Kim and I spent a lot of time looking at the interiors and got a tremendous amount of what we saw on film," she commenced. "Quite a lot of the shots were of their wonderful paintings. You'll remember us mentioning that they were mostly of two types—portraits and seascapes?"

Cont wrinkled his brow in recollection, then nodded.

"Well," continued Lola, "we decided to put all the 'portrait' film together in one piece, all the 'seascape' shots in another

strip, and so on.

"When we projected the various sequences, it was obvious that the portraits were just that and no more. There was no information which we could draw from them, other than what the people looked like. The miscellaneous scenes were just a hodge-podge also and had no particular significance. But the remaining pictures could be divided into two definite classes, each of which had the same characteristics. One set showed convoys of boats leaving the city, while the other showed them returning to it. None of the paintings illustrated boats going in various directions. Then we noticed that one set of pictures portrayed the spot on the sun just coming into view at one edge, while boats on the homeward journey had the sun in the sky, but with the spot disappearing at the other limb.

"It was reasonably certain after this discovery that the Palladians had hideouts somewhere around the edges of the seas. Again, since the seas were in sunken areas, the best bet seemed to be natural caverns—and that's where Dave came

into the picture to clinch matters."

"Yes," said Laing, "I was fortunate in finding the kids' elementary reader. It didn't enable me to speak Palladian, but

it did make some restricted reading possible.

"It transpired that when the spot originally appeared, it did cause chaos in a very short time. The people became panic-stricken at this, and some of them fled to the caves in terror at the imagined wrath of their God. Those who did, survived unscathed. Of course, they would have been just as safe if they'd stayed indoors during the day and confined their outdoor

activities to the hours between sunset and dawn. But the horror and hope of that first exposure to the sun, had made such a deep impression upon the survivors, that the tradition of the annual trek had become firmly established as part of the natural order of life.

"The caves are very large, and the natives don't just moon around in them during the four months that they are out of circulation. The time spent under cover is put to good use—they've established workshops, foodstores, provision for domestic animals, schools, and all manner of useful projects in the caverns. They're a fine race of people; all they need to adapt themselves to the vagaries of their sun's spectrum is a means of acquiring a protective tan, and that can be arranged with periodic injections of the right chemicals."

"Our medical people can take care of that," commented Conte, "I'll get it organised with them right away." He looked at the group quizzically, "What are you four going to do on

this leave ?"

Dave spoke for everyone. "We all like the sun, but you can have too much of anything, so we're off to Switzerland and acres of cool, white snow and some winter sports. That's something they can never have on Palladia II."

Russ Markham

Back Issues

For readers and collectors who are missing any of the previous issues we can still supply the following copies but stocks are very limited

Nos. 67; 71; 73; 75 to 81; 83 to 88 2/- each post free (35 Cents each)

Nos. 89 to 123 2/6 each post free (40 Cents each)

NOVA PUBLICATIONS LTD

Maclaren House, 131 Great Suffolk Street, London S.E.I

Many intriguing stories have been written about ants over the years—especially as a possible successor to Mankind should he ever disappear from Earth. This little vignette points up one fallacy in the theory.

THE WARRIORS

by ARCHIE POTTS

The bus was slow and seemed to stop at every village in the county. But at least its leisurely pace gave me plenty of time for reflection. My thoughts were inclined to wander over many things, but they kept coming back to how I would find Pop Wilson after eighteen months of retirement. For Pop, I knew, had looked forward to his retirement with about as much

enthusiasm as the condemned man faces execution.

I hoped that he had made some attempt to adjust himself to his new life of enforced idleness. But I very much doubted it. When you take away a man's sole interest in life, you also tend to take away the only thing that has given his life some sort of purpose. And Pop's interest in ants had amounted to much more than mere occupation with a particular job or hobby. To Pop the study of ants had been a life-long obsession. Apart from the war years, when his energies had been diverted by the authorities into studying potato pests, Pop's entire life had been devoted to entomology.

I first met Pop Wilson at the Banbury labs. I was just a young graduate at the time, fresh from university with a brand-new degree in chemistry. Pop had been there for many years and was near to retiring age when I joined the staff.

As often happens with newcomers—especially when they are young—I was given no particular job for the first few months I worked there. Although I had joined the agricultural research institute to do work on fertilisers, I performed a wide variety of jobs in those early months, from making the Director's tea to assisting Pop Wilson with his ants.

Dr. Daniel Wilson was one of the country's leading entomologists, but he was known to everyone on the staff as "Pop." I was only with him a few months, doing whatever odd jobs he asked me to do about the place, but in that short time I grew to like him very much. In his turn I believe he liked me.

A few months before he was due to retire, "in accordance with Ministry regulations," as the phrase goes, Pop applied for an extension of service. This request was not exceptional. Several extensions had been granted over the years, in order to enable particular pieces of research to be completed. Pop had based his application on these grounds. Nevertheless, the Ministry refused to approve an extension in his case, and Pop faced the retirement he did not want.

The staff did the usual thing. A subscription-list was circulated around the labs, and we bought Pop a handsome farewell present. The presentation took place in the staff-canteen, the day before Pop was due to leave. The Director said his usual piece, and we tried to give Pop as good a send-off as we could.

Pop left with his trunks the next day. He had moved his personal belongings from the domestic quarters before break-

fast, and few of the staff were around to see him go.

Everyone felt that Pop had been treated pretty shabbily by the authorities. Yet within a few days Pop Wilson's retirement had ceased to dominate the conversation in the labs. It is surprising how quickly people can forget, and the staff were all busy men with their own problems. I was no exception, I must admit. I still remembered Pop with affection, when I had the time to remember him at all.

Then one day I received a letter from him. It came from Rowston, a small village near Tadcaster in the West Riding of Yorkshire. Apparently he had bought himself a farmhouse and was living there on his own. He invited me up to see him anytime I was free.

I sent him a reply, giving him all the latest lab gossip and a

promise to visit him soon.

A few months later I attended a conference at Leeds, and felt it a pity to be in that part of the country without calling on Pop. So after the final session I had slipped away and caught the first bus to Rowston.

Even the slowest country bus eventually reaches its destination, and I alighted rather stiffly when the conductor called the name of my stop.

I sought directions to Pop's place from the village postmaster, and was soon glad to be stretching my legs again in a

brisk walk across the fields.

He was both surprised and pleased to see me. I was equally surprised, in a different way, to see him. He appeared cheerful enough in himself, but living alone in the country had accentuated the mildly eccentric traits he had shown at the Banbury labs. He had always been careless of his appearance, now he was hardly distinguishable from a tramp. His clothes were dirty and worn, and his hair was growing over his collar, the dandruff from it powdering his shoulders. Perhaps it was just my imagination, but I thought that his eyes showed traces of a wildness they had not had before.

"Come in, Paul, come in," he greeted me.

"Good to see you again, Pop," I said, as we shook hands.

We entered the farmhouse. Its interior was as neglected as its owner. The furniture was mostly cheap second-hand stuff, which Pop must have picked up at some auction. Everything was smothered in dust. The table was littered with unwashed crockery, greasy cutlery, and half-opened tins of food.

"Let me make you a cup of tea," said Pop, disappearing into the kitchen, where I heard him light a gas-ring which made

a noise like a minor explosion.

I picked up a couple of the cracked cups from the table, and followed him into the kitchen, where I proceeded to wash them under the cold-water tap. The kettle soon boiled and we sat down to drink our tea.

Conversation did not come easily. I tried my best to keep off the "old days," out of respect for Pop's feelings. But after fencing around some general topics, I found myself blurting out: "Do you miss your ants very much, Pop?"

Pop did not look at all hurt or upset by my question. He merely smiled. "Why should I?" He got up from his chair

and motioned me to do the same. "Let me show you some-

thing," he proffered.

Pop led me into a large interior room, which looked as though it could have been used as a drawing-room in Victorian times. The contrast between this room and the other rooms I had seen in the house was very marked. Whereas the others had been totally neglected, this one was obviously well kept. It was Pop's private laboratory, where he kept his ants.

There were small glass-cases right round the room, and in the centre stood a glass-case about as large as a full-sized billiard-table. The panels of some electrical apparatus stood in one corner. The large glass-case took my eye immediately and Pop

led me over to it.

The case appeared to contain two distinct colonies of ants, occupying separate corners of the case. The swarming colonies were situated on the high ground which lay at either end of the case, while a sort of plain stretched out between the two.

"You wouldn't think looking at those civilised creatures in the case that they are two colonies of the dreaded *Dorylinae* or Army Ants, which ravage many tropical countries," said Pop. "Their legions march across the country in long columns, devouring everything that comes in their path. There was a case in South America of a horse being left tethered in their way, and when the swarm moved on only the unfortunate animal's bones were left. Apart from a brief halt to hatch their eggs they spend their entire lives on the march in search of food."

"But these ants will never have marched or lived that sort of

existence," I objected.

"Very true," admitted Pop. "Only the few survivors who formed the orginal colonies, which I imported from South America, have ever existed outside this case."

"But what's the point of it all? What do you hope to

achieve?" I asked Pop.

"Let me explain," said Pop. "Ants have fairly long lives compared to other insects. They do not die every season as many insects do. Some ants live as long as seven years. Of course, life in the insect world is very hard and many are killed or die before they reach that age. The average length of life of an ant is around three to four years. Still, a sufficient number of them live long enough to pass on their skills to the younger ants, so enabling a high degree of continuity to be established

in each colony." Pop began to grow excited at this point. "Now, Paul, this is my theory, and, indeed, it goes beyond being mere theory as you'll see. Ants are able to build up quite advanced societies, but they are unable to develop beyond this point, because they do not live long enough to enlarge their knowledge. They have to struggle to train the young ants in the old ways, and have little time to develop new ways."

"I see," I cut in. "You have been attempting to lengthen their life-span, so that they will have the extra time they need to

develop."

"Exactly," said Pop. "My oldest ants, who now form the ruling oligarchies in the two colonies, are nearly twelve years old."

"How have you managed it?" I asked.

"Mainly by regulating the temperature inside the case, so that it is maintained evenly throughout the day and night. The extremes of temperature found in South America, for example, are the cause of death of many ants. At regular intervals I also give them a few hours of regenerative heat under a sun-lamp. An ample and regular supply of good food has also helped them, I think."

" Are all the ants in the case living longer?"

"The vast majority are without doubt. The great increase in their numbers provides ample evidence of a fall in their death-rate."

"The first part of your theory, then, has been confirmed beyond much doubt, I would say. But what about the rest of it? Has a longer life enabled them to develop and to build a

more advanced society?"

"Left on their own this would take a long time, even under these ideal conditions," said Pop. "But I have helped them on their way. The oldest ants—which I brought from Banbury—have been with me long enough to have received a good training in certain skills and disciplines, and they have handed on this knowledge to the younger ants. The process is cumulative and the results have been quite remarkable."

"In what way?"

"Well I'll let you see for yourself in a minute, if you can stand another lecture from me first."

"Carry on."

"You are, no doubt, familiar with Pavlov's experiments with dogs?"

" Of course."

"Well, although ants have most of the senses that we possess, they cannot hear. Therefore it would be useless to attempt to train them to the sound of a bell or any other auditory command."

"Naturally."

"But ants have a highly developed nervous system. Like other insects they have a series of ganglia or nervous masses scattered in a chain throughout their bodies. These are joined together by a nervous cord which is centred on the brain. Hence I have concentrated upon stimulating their nervous systems by touch in order to get the responses I wanted."

"Now I begin to understand why you have that electrical

equipment connected to the table."

"Precisely. My orders take the form of varying charges of electric current. As ants are very sensitive to touch the shocks need not be great. Now watch."

Pop turned on the power and sent a carefully measured

electric shock through the metal-bottomed table.

The ants responded immediately. The two colonies began to turn their hills into armed camps. All non-combative ants, male and female, went below ground, into the interior of the ant-hill. The remainder hurried to what were obviously prearranged assembly points. At these points they collected a weapon, resembling a miniature spear, from the piles carefully stacked in various parts of the colony. The ants queued up in long files to receive their weapons, and then each one made his way, with determined purpose, to take up a defensive position around the perimeter of the ant-hill.

I had once seen a drill exhibition at Olympia, in which a sergeant had blown a whistle and his squad had responded by going through a long and complicated drill movement without the need for futher commands. Pop's ants brought this drill

exhibition to mind.

Pop then cut the power on the left-hand colony, and sent another carefully-measured current through the right-hand colony of ants. In response to this second shock the Rightist ants left their defensive position and began to muster in columns on the plain.

Six stag-beetles emerged from a tunnel in the side of one of the ant-hills. Each of the beetles wore a harness, controlled by an ant mounted on its back. Behind them trundled small scaling-towers of medieval design. A number of ants carrying, what were to them, long planks of wood followed in the rear of the stag-beetles.

"So far they have responded to my orders," said Pop.
"What they do from this point onwards is done on their own initiative. These battles are completely unrehearsed and each one always follows a different course. They are trials of strength between the two colonies, and serve to sharpen the

ants' own powers of action."

The stag-beetles and ant-sappers halted in the centre of the open square of ant-infantry. A small number of what I took to be ant-officers stood in a small group inside the assembled columns. I can only presume that they met to communicate on the strategy to be pursued. For after a brief huddle these officers dispersed to their regiments, and the army of ants was on the move.

The stag-beetles led the way, two abreast, across the plain, followed by long columns of the spear-carrying infantry. But before the Rightist army reached the defensive positions of the Leftists, two stag-beetles emerged from tunnels in the Leftist colony. They were each mounted by a pair of ants, who between them held a long lance-like weapon about the size of a needle. The Leftist lancers charged the leading stag-beetles of the Rightist army, and drove their weapons deep into the opposing beetles' bodies. The Rightist ants were quick to counter-attack and a mass of infantrymen soon swarmed over the two attacking stags, who were quickly turned over on their backs and savagely pricked to death.

The Rightist attack against the other colony's defences was then resumed. The scaling-towers were hauled within reach of the walls of the colony, and the planks were dropped across to form bridges. The Rightist ants swarmed across these planks and a fierce battle ensued along the length of the wall. It was a medieval siege brought to life before my eyes.

"We cannot afford to let this sort of thing go on for too long," said Pop. "We must stop the carnage before too many

are killed."

He gave the table another twitch of electric current, and the Rightist army slowly withdrew from the walls. They re-formed into columns and marched back to their own colony. In response to another shock of current the ant armies queued up to re-stock their weapons. They then resumed their normal duties about the colony.
"There," said Pop. "What did you think of that?"

"Incredible," I replied. "I've never seen anything like it." Pop smiled with satisfaction. "It took man many thousands of years to discover the uses of tools, weapons and the wheel, but my ants have been introduced to these things in twelve years, and this is only the beginning."

"Where will it end?"

Pop shrugged. "Sometimes I allow myself to indulge in a wild dream. Man appears to be heading for self-destruction. What will be the dominant form of life after he has gone?"

"Your ants?" I suggested.

"It is not impossible," said Pop. "After all ants are completely immune to radioactivity. They would certainly survive a nuclear war, and having survived might they not evolve into a higher form of life."

"You are breeding a species of long-living super-ant, then, capable of assuming leadership of the ant world?" I pressed

him.

"Maybe I am, although I have never thought of it in such terms," said Pop. "I began it as a scientific experiment and it has grown on me over the years."

I was very worried about Pop. It was obvious to me that disappointment and solitude had combined to give him a touch of megalomania. Whether he realised it or not, scientific research had become secondary to his desire to play God to his ants. What was even more disturbing was that he was obviously on to something important. He had made a major contribution to entomology. There was no denying it.

I cursed the short-sightedness of the Ministry in denying him

research facilities. Performed in a properly-conducted research centre, what Pop had achieved could have opened up many new lines of entomological enquiry. Carried out in a lonely farmhouse the whole business appeared a far less healthy development. It smacked too much of the old stories of demented scientists creating creatures which might prove a threat to mankind. In Pop's hands alone there was no guarantee that his work would be put to constructive human ends.

Pop invited me to stay the night, and I accepted without hesitation. For another night at the farmhouse would give me the time I needed to think out my best course of action. I wasn't in much doubt that the sooner Pop was transferred back to the Banbury labs the better it would be for everyone.

After a supper of baked beans on toast we went to bed. Pop had arranged for me to sleep in a camp-bed in one of the empty rooms. The blankets were none too clean and I tossed and turned for a couple of hours without getting any nearer to sleep. Pop's ants were uppermost in my thoughts. Finally, I got out of bed, slipped on my coat, and made my way down-

stairs to Pop's lab.

I switched on the light and went over to the case. I was amazed by what I saw going on there. Both colonies of ants were drilling together on the open plain. Up and down they marched under orders of their leaders. The stag-beetles were being paraded by their ant-masters. Other groups of ants were receiving instructions in the handling of the little spears which Pop had made for them. Far from fighting each other the two colonies were working together to improve their capacity for making war.

The ants were progressing far more rapidly than even Pop realised. How long had the midnight drilling been going on, I wondered. I went back to bed more disturbed than ever, determined that Pop must be told about what I had seen.

I slept rather later than I intended, and when I got up next morning I expected to find Pop already up and about. There was no sign of him in the kitchen, so I went into the lab.

Pop was there all right. He was lying on the floor covered in dead ants. It was not a pleasant sight. He had been pricked to death by the spears of a host of Army ants. No ancient Chinese torture could have been more painful than his manner of death.

It was not difficult for me to re-construct what had happened. In the lab Pop had forgotten to re-adjust the temperature of the glass-case before he went to bed, and he had got up in the middle of the night to do it. While near the case he had opened up the top for some reason—perhaps he had witnessed their nocturnal manoeuvres, as I had done earlier, and wished to examine things more closely.

Whatever the reason, he had opened the top of the case and the ants must have swarmed up Pop's arms and killed him in a particularly horrible way. Were they annoyed at being interrupted or were they attempting a planned escape? If they were trying to get out of the case, were they prompted by some deep instinct to be free to wander or were they following some sort of reasoned action? There is no means of knowing. What is certain is that the ants found the chill night air entirely different from the artificially-heated air that they were used to inside the case, and they had soon perished in the colder temperature outside.

So much for Pop's super-ants. When you come to think of it they were not really as clever as Pop thought they were after

all.

Archie Potts

SALES AND WANTS

3d. per word. Minimum 5/- Cash with order.

WANTED URGENT—"Famous Fantastic Mysteries" for December 1943, December 1944 and June 1945. Also a copy of Sydney Fowler's "The Secret Of The Screen." Write stating prices to: M. McWilliams, 30a, Talavera Terrace, Wellington, New Zealand.

COME AND BROWSE at the Fantasy Book Centre—always large stocks of books and magazines including collector's Items, 10 Sicilian Avenue, London, W.C.1.

RARE O.P. ISSUES—limited supply only. NEW WORLDS Nos. 7; 10; 17; 19; and SCIENCE FANTASY No. 7. Mint, 4/- (60 cents) each, post free. Box 329, Nova Publications Ltd., 131 Great Suffolk Street, London, S.E.1.

The British Science Fiction Association Annual Convention for 1963 will be held in Peterborough, Northants, April 12th to 14th. Registration Fee: 5/- (allowable against attendance fees). Full details from: B.S.F.A. ConCom 63, c/o K. F. Slater, 75 Norfolk Street, WISBECH, Cambs.

Guest Editorial continued

authoritative study of its history and development. Perhaps this is a project that UNESCO could sponsor, for it is obvious that no single scholar will have the necessary qualifications for the task. In one field in particular—that of astronautics—the influence of science-fiction has been enormous. The four greatest pioneers of spaceflight—Tsiolkovsky, Oberth, Goddard and von Braun all wrote science-fiction to propagate their ideas (though they did not always get it published!).

In spreading the ideas of spaceflight, science-fiction has undoubtedly helped to change the world. More generally, it helps us to face the strange realities of the universe in which we live. This is well put in an article recently sent to me by a science-fiction 'fan' who also happens to be a Nobel Prize winner-Dr. Hermann J. Muller, whose discovery of the genetics effects of radiation has inadvertently inspired much recent science-fiction and made 'mutant' a modern bogeyword. To quote Dr. Muller ("Science Fiction as an Escape," The Humanist, 1957, No. 6):—"The real world is increasingly seen to be, not the tidy little garden of our race's childhood, but the extra-ordinary, extravagant universe described by the eye of science . . . If our art . . . does not explore the relations and contingencies implicit in the greater world into which we are forcing our way, and does not reflect the hopes and fears based on these appraisals, then that art is a dead pretence . . . But man will not live without art. In a scientific age he will therefore have science-fiction."

In the same paper, Dr. Muller points out another valuable service that this type of literature has performed. "Recent science-fiction," he writes, "must be accorded high credit for being one of the most active forces in support of equal opportunities, goodwill and co-operation among all human beings, regardless of their racial and national origins. Its writers have been pratically unanimous in their adherence to the ideal of one free world."

That, I think, is inevitable. Anyone who reads this form of literature must quickly realise the absurdity of mankind's present tribal divisions. Science-fiction encourages the cosmic viewpoint; perhaps this is why it is not popular among those literary pundits who have never quite accepted the Copernican

revolution, nor grown used to the idea that Man may not be the highest form of life in the universe. The sooner such people complete their education, and re-orientate themselves to the astronomical realities, the better. And science-fiction is one of the most effective tools for this urgent job.

For it is, pre-eminently, the literature of change—and change is the only thing of which we can be certain today, thanks to the continuing and accelerating Scientific Revolution. What we science-fiction writers call "mainstream literature" usually paints a static picture of society, presenting, as it were, a snapshot of it, frozen at one moment in time. Science-fiction, on the other hand, assumes that the future will be profoundly different from the past—though it does not, as is often imagined, attempt to predict that future in detail. Such a feat is impossible, and the occasional direct hits of Wells and other writers are the result of luck as much as judgment.

But by mapping out possible futures, as well as a good many impossible ones, the science-fiction writer can do a great service to the community. He encourages in his readers flexibility of mind, readiness to accept and even welcome change—in one word, adaptability. Perhaps no attribute is more important in this age. The dinosaurs disappeared because they could not adapt to their changing environment. We shall disappear if we cannot adapt to an environment which now contains

spaceships and thermonuclear weapons.

Sir Charles Snow ends his famous essay Science and Government by stressing the vital importance of "the gift of foresight." He points out that men often have wisdom without possessing foresight. Perhaps we science-fiction writers sometimes show foresight without wisdom; but at least we undoubtedly do have foresight, and it may rub off on to the community at large.

Arthur C. Clarke





More on Guest Editorials

Dear John,

Are guest editorial writers permitted to answer back? In any case some observations I should like to make on John Baxter's letter also have relevance to other letters in Issue 116.

Mr. Baxter's Little Englander attitude to s-f does it, I feel, a disservice. Oh, I know it springs from loyalty. It's cosy to feel that we're members of a tight little in-group. And I know that a boom produces just those lurid manifestations which I deplored as creating a wrong image for s-f. But I think it has become too fashionable to blame the 'boom.'

1940 and 1950, the dates I gave for the two modern s-f revolutions were also what Mr. Baxter calls "the dread Boom Years." The first produced some really garish things—there was even a magazine called *Spicy Science Fiction*. But it also produced Heinlein, Van Vogt, Bradbury, Asimov and scores more. The second yielded Matheson, Sheckley, McIntosh, Blish, Bradley, Walter Miller, Nourse, among others. What names can we hold up from the past five years? Aldiss, Ballard, Davidson, certainly. Any more?

I admit I may seem to want it both ways, but there is a middle path. Just as the boom of the fifties was incomparably less lurid than that of the forties, so a new controlled boom, if we could achieve one, would be better still, if only for economic reasons. Sheer cost, like size with the dinosaur,

has rendered the pulp extinct.

When there is a booming s-f field, more writers turn to it from other fields; people who have enriched it, like Harry Harrison and Leslie Charteris. And I dispute the contention of Mr. Baxter that it takes five years in the field to produce really good s-f. Some, like Kornbluth, Kuttner, Bradbury, broke into s-f at a very early age. Others, like Heinlein and VanVogt, produced good stories from the start. S-f is studded

with memorable firsts-Ballard, Shiras, Matheson, Weinbaum, Temple. There will always be the dedicated who will write s-f anyway, and among them some who will write it well. But, as in any other field-from science to pro boxing-a

sunny climate produces a healthy growth.

It begins to sound horticultural if I now go on to discuss this matter of "roots." As Robert Louis Stevenson said, the chief problem of a writer is saving what he means. If I didn't make myself clear, I'm sorry. But if Mr. Baxter brings in the comparison of jazz, he is debating on ground of his own choosing on which I am handicapped, believing as I do that jazz is a very small band in the musical spectrum. I do not believe that s-f is comparably minor in the literary spectrum. Both express the situation of modern urban man, but s-f rationalises and extends experience while jazz, to my mind, is basically only an anodyne. No, that's unfair; I know jazz is more than that, and I recognise that its development is analagous to s-f's. Attempts to recapture the old Dixieland style must result in stultification; at the best, a bare technical virtuosity; at the worst, vulgarisation. It would seem that the significant work in modern jazz has been done by such people as Gillespie, the MJQ, Brubeck—who have done to jazz what I meant that s-f should do-re-examine its purpose, cut out the rank growth of vulgarisation, find—all right—new roots.

I, in brief, want s-f to step into its inheritance. I am of a proselytizing generation. We had a monstrous public image of s-f to combat; all our magazines had gaudy covers. When we talked about spaceships we were derided, like the early Christians. If we weren't actually stoned, we suffered the modern equivalent. The carrying of an s-f mag in certain circles of my adolescence was to invite ostracism. And we have let ourselves pass overnight from cranks to people living in the past. When Gagarin and Glenn go into orbit do the organs of mass-opinion invite the comments of s-f people? Do they? No, this is fact, not "the wild dreams of science fiction writers." Wild dreams, forsooth! John Rackham does well to mention Tsiolkovski, rocket pioneer and s-f writer. He was an honoured man in Russia in the thirties. On his birthday there were public processions to his home to pay him homage. This, while Goddard, and Esnault-Pelterie were people crying in a wilderness, and Aeroplane and Flight made infrequent references to rocket propulsion only to deride it.

I don't think s-f has exclusive vested rights in prophecy, but it does sum up acutely the aspirations of its age-and the dangers. Keith Otter says that we are in danger of being caught up by events. I don't think so; I think we will always keep ahead, but it is ironic that our image is of sensationalism when in fact, so many of s-f's predictions are conservative temporarily. I remember a story in a magazine—Amazing, I think it was—of the thirties. Set billions of years in the future it showed Man, master of all he surveyed and world-weary. Only one secret was left, and the challenge was all that kept him from dying of boredom—the secret of atomic energy! But an author expresses himself allegorically, often, I'm sure, unaware of just what messages he is receiving from other continua. One of the few failures in extrapolation, I thought, was the failure of s-f to predict the social impact of TV. Then I remembered a story from a pre-war Astounding by Neil R. Jones, of a city where everybody lay in cabinets, living by proxy a continual super-TV super-serial.

I could go on chatting for a long time, but let me just say that I welcome the new correspondence feature, as I welcome the guest editorials. There's always a danger of creative energy being used to discuss s-f rather than to write it, but I think that, at this stage of things, the closest investigation into s-f, its achievements, its faults, and its considerable potential, can be extremely fruitful. I even like reading Rackham's letters, though he seems bent on becoming the Robert Graves of s-f

criticism.

Arthur Sellings, Uckfield, Sussex.

Dear Mr. Carnell,

If Mr. Silverberg wants the general public to give the phrase "escape literature" a rest (New Worlds No. 121) he should set an example, not go on to denounce science fiction as "escape literature" himself; although he does point out that "mundane" literature is just as much escape literature as s-f. I do not agree with him, however, that science fiction as a whole is escapist in nature, unless one counts escaping from the frying-pan into the fire. Science fiction does include stories which are escapist, but among these there are stories which look objectively at present-day problems and conventions and ask "Is this the right solution?" or "Is this true?" For an example of a story which attacks the professed

ideas of the majority of people in Europe and America I would cite Arthur C. Clarke's story "The Star," in which an answer to one of Christianity's greatest mysteries becomes

an attack on the religion itself.

There are other stories which question creeds and morals considered by others to be beyond question. In the prologue to "Earthman, Come Home!" by James Blish, the superiority of Capitalism over Communism is refuted—he suggests that eventually there may be nothing to choose between the two ways of life. "Birthright" in New Worlds No. 119 packed a nasty punch for people who believe, as science fiction readers are presumed to, that mankind will one day reach the stars, simply because it could be true.

Mr. Silverberg may be thinking about space opera, which is something entirely different, the emphasis being on the action rather than ideas or "science", whereas science fiction stories often develop contemporary trends to their ultimate conclusion, with terrifying results. Compare Gernsback's Ralph 124C 41 + with two of J. G. Ballard's stories, published in New Worlds: "Chronopolis" in No. 95 and "Billenium"

in No. 112.

In reply to this point, Mr. Silverberg would probably ask whether people take notice of things read in fiction of any kind. To forestall this, I would remind him of those people who find themselves thinking about the clues in a detective story while going about their everyday business. To worry the reader into asking questions about present-day life, the ideas expressed need not be accepted, it is only necessary that they be considered. Many s-f stories will be found to contain an element of truth about present problems.

Keith Otter, London, N.W.10.

Dear Mr. Carnell,

I'm pleased to note that the Guest Editorials are provoking such controversy. This brainwave of yours is, to my way of thinking, the best idea that has hit science fiction for many a long day, and you can quote me on that if you wish. It underlines my contention that science fiction can never become popular in the accepted sense of the word, for where else would writers be given such scope to mould the mould they pour their clay into. I use clay figuratively, of course!

There is about science fiction magazines in general, and *New Worlds* in particular, a sense of belonging that never begins to exist with mainstream publications.

Donald Malcolm, Renfrewshire, Scotland.

On 'Faster-than-light'

Dear Mr. Carnell,

I was interested to read Colin Daly's letter in September's New Worlds concerning faster-than-light travel. He says "relative to what body may we not travel faster than light?" The answer is that the speed of light is not relative but absolute and as such, plays an important part in the structure of the four-dimensional universe.

Mr. Daly also makes the point that the Doppler shift effect noted in the observation of distant galaxies, suggests that two galaxies could be travelling (relative to each other) at more

than the speed of light.

A very good point, but is based on the supposition that the Doppler shift towards the red end of the spectrum means a receding movement from the Solar system. Sir Arthur Eddington, however, suggests that the Doppler shift is evidence of a "slowing-down" of natural phenomena at great distances from us, rather than a movement. This is in accord with the discovery that the concept of "Absolute" time is incorrect and that various regions of the Universe have their own particular time, rather than all running to one universal "clock."

This complex subject is covered very well in Bertrand Russell's ABC of Relativity and Eddington's Space Time and Gravitation. Also The Natural Philosophy of Time by Whitrow covers relativistic time and is an excellent book on time in

general.

Regarding Guest Editorials I find it disconcerting to find many well-known writers thinking that it would be advantageous to have s-f become an "accepted" literature. Surely this would be the worst fate that could overcome a form of writing which is exploring the possibilities of science and philosophy with imagination and skill. (I am thinking of J. G. Ballard particularly).

No, let s-f remain out of the death clutch of the escapist and shallow-minded people the majority tastes of which decide what is to be accepted. Certainly, more people should be introduced to s-f and probably ITV's "Out Of This World" series is doing excellent recruiting work.

Stories like Harry Harrison's "Streets of Ashkalon" should help to insure fandom of the "Don't knows."

M. Birch, Portsmouth, Hants.

Dear Sir.

May I try to give an answer to Mr. Daly's 'crucial question' in New Worlds No. 122, relative to which body may we not travel faster than light.

The speed of a body is not influenced by any comparison to any other body but is concerned with its own position at

any instant of time.

The definition of velocity is the rate of change of a position of a body with respect to time, and speed is simply the magnitude of this velocity. Thus an object which travels in a straight line at a constant rate and is 30 miles from the position it had one hour earlier is travelling at 30 miles an hour.

If two bodies are travelling in opposite directions at half the speed of light, then they are moving away from each other at the speed of light, but the distance travelled by each in a certain period of time is only half the distance travelled

by light in that time.

G. S. Jenkinson. Catterick Camp, Yorks.

More fiction in s-f

Dear Sir,

I'm a housewife, ordinary variety, with one strange quirk according to my friends. I actually like s-f! And, being a very ordinary person, I would like to put in a plug for Science

Fantasy from a sometimes-hot, sometimes-cool fan.

I take a great interest in the letter column of your publication and one fact has struck me quite forcibly lately. The writers in the letter column have all, in one way or another, insisted that s-f be credible, that it be possible, scientific, and form some sort of prediction concerning man. Why? Surely s-f authors do not think of themselves entirely as prophets who use parables to get their ideas over to the "mass of man?"

Please understand, I'm not saying that s-f should abandon credibility. Indeed, this is a ludicrous idea. All I want to know is why pure flights of the imagination, unexplained scientifically, but conjuring up a million mental images, are not more published and appreciated than they appear to be.

Being a woman (and it does make a tremendous difference), I thoroughly enjoy a well written fantasy story. Much more so than a clinical, scientific adventure yarn, the sciences of which I am incapable of comprehending. All I ask is that the writers of such stories consider the fact that I, and people like me, are more concerned with the characters and their reactions than with the situation and its technicalities, despite the fact that the latter are a very important part of the story. Consider, also, that I have the greatest difficulty in understanding how a car engine works, much less why!

If there is a major flaw in my thinking—and this is more than probable—would someone please enlighten me, preferably in language I can read. Basically my point is this: Why

not more fiction in s-f?

(Mrs.) Judith McLaughlin, Epping, N.S.W. Australia.



Saturday, November 10th



British-hardcover

Indicative of the emergence of science fiction into the mainstream of literature in this country is the publication, for the third time this year, of a science fiction novel written by a woman—and it would be difficult to name a woman novelist of greater literary eminence and with such a considerable scientific environment than Naomi Mitchison. Her Memoirs Of A Spacewoman (Gollancz, 15/-) is, therefore, highly readable, with an unmistakable professional polish and scientific expertise; beyond that it probably bears little resemblance to any s-f novel you have read before. The spacewoman is the communications expert on various exploratory expeditions throughout the galaxy—communications with alien life, that is—and this handful of reminiscences from her full and active lifetime are superbly original and alien, with a feminine slant on the moral problems involved and an attention to physical details often eyebrow-raising to a mere male (indeed at times positively distasteful). I firmly believe that Miss Mitchison had her tongue well and truly in her cheek when writing this book, but I don't really care.

Hot on the heels of their first joint proselytising venture Spectrum, Kingsley Amis and Robert Conquest now present Spectrum II (Gollancz, 18/-) and I can see no reason to suppose that this new collection of eight crisp and varied s-f stories will not garner as many if not more congratulatory epithets from prominent non-believers. One small criticism is the choice of Wyman Guinn's novella "Beyond Bedlam" as an opener; apart from an interesting idea of a future society based on the practicality of schizophrenia as a normal social condition, it is rather weak. But the others are extremely good, beginning with Jim Blish's "Bridge" (from which he developed his novel They Shall Have Stars) and Mark Clifton's "Sense From Thought Divide," a piece which Mr. Amis might have written and is therefore a joy to read. Van Vogt's

"Resurrection" (formerly "The Monster") is possibly his most powerful short story, whilst Philip Dick's "Second Variety" is a grim variant of the danger of using robotic war aids. From these pages is taken Brian Aldiss' "There Is a Tide," an ironic tale of retribution in the Africa of the future. Dr. Asimov's short "The Feeling of Power" is a sly comment on a future computer-ridden civilisation, and finally Henry Kuttner's "Vintage Season" is a stand-out even from this prolific author.

With his new novel The Star Dwellers (Faber and Faber, 13/6) James Blish has ostensibly written for the younger generation. However, like Heinlein in similar vein, Blish does not write down to his audience, puts his scientific lecturing at "A" Level grasp, introduces pace and action, whilst not neglecting ideas of considerable interest and originality, and turns in a competent "interstellar" yarn of the old school. In fact his only concession is to have a young man as his hero and by doing so achieves a prime objective of science fiction as escapist reading, self-identification with the hero's adventures and gratification at his inevitable triumph. The Star Dwellers is guaranteed to instil that sense of wonder in the hearts of all teen-agers. Adult addicts will naturally love it.

A companion volume in this series is Star Surgeon by Alan E. Nourse, also American (Faber and Faber, 13/6). Whilst not quite so polished as Blish, or, say Andre Norton in this genre, Mr. Nourse nevertheless succeeds in getting his characters slam-bang into action, and the concept of Earth fulfilling a proud position as Hospital Centre for the Galactic Confederation cannot fail to miss.

Charles Eric Maine in his new novel The Darkest Of Nights (Hodder and Stoughton, 15/-) is back on his world-catastrophe kick and the selfish survival plans of "them" at the top. The plot is a re-hash of his The Tide Went Out, substituting a virus plague for the heat menace, but retaining his cast of stock characters including the unscrupulous hero, various doctors, and survival-of-the-fittest types thrown up from the proletariat, with the inevitable marital infidelity and sexual realism creeping in. At its own level, of course, this is crackingly good suspense-action stuff, but I am desperately hoping that Mr. Maine will one day capitalize his undoubted and expert talents for a journalistic presentation of modern

science, and write the great English science fiction novel. His prolificacy and obviously huge readership would seem to repudiate my own lukewarm appraisal of his books, but I still say—the best is yet to come. A pity, because I confess I have a morbid taste for the current vogue of "catastrophe" stories, and the horrors of "when and if . . .", but it is essential for the writing to be good. (A recent New Authors Ltd. book The Crucified City by Peter Van Greenaway—not received for review—is an excellent example of creative literary style blended with a science-fictional element, but hardly classifiable as "science-fiction.")

However, a first novel by Paul MacTyre, Midge (Hodder and Stoughton, 12/6) is a skilful blend of this superior "mainstream" standard of writing, dramatic action worthy of John Buchan, a knowledgably described background set in the highlands of Scotland, and a fairly original science-fictional concept of midge swarms mutating into group intelligences likely to take over a war-thinned world of the future. Add some sugar-coated moralising, some debatable views of the dedicated scientist-equals-war syndrome, and the author's opinion that unless man is to go the way of the dinosaurs, a readjustment is needed to a different world, a different environment, aided, for example, by a symbiosis with the peacefully intelligent midges—and it becomes very convincing, as well as entertaining.

British—paperback

History has been made again—the Penguin edition of John Wyndham and Lucas Parkes' The Outward Urge (3/-) went into the top ten bestseller paperbacks for August in the UK, the first time a science fiction book has been in this category. Readers of New Worlds Science Fiction will readily remember the "Troon" series of stories which appeared in this magazine during 1958, although the copyright credit goes to Faber & Faber for the 1959 book edition. Even the final story in the series, "The Emptiness Of Space," which was specially commissioned and planned for this magazine is credited to the Science Fiction Book Club.

The World In Peril by Charles Chilton (Pan Books, 2/6) is a continuation of the celebrated BBC radio serial featuring Jet Morgan and the crew of the *Discovery* when they return to Mars.

Leslie Flood

NEW WORLDS

Arthur C. Clarke

continued

mathematics and physics, plus a great love for writing science fiction, a love which prompted him to make it the central theme of his Award speech. Some of his first stories were published in the early issues of this magazine and a more recent one, "Songs of Distant Earth," published in Science Fantasy, was dramatised last month as a B.B.C. radio play.

Through his books and his personal globe-trotting, he is undoubtedly the world's greatest ambassador for science fiction we have today, plus being an expert lecturer on astronautics. Our cover photograph shows him exchanging with Yuri Gagarin signed copies of their respective outstanding books on space flight—Gagarin himself is also a keen reader of Russian s-f.

Most of Clarke's non-fiction books have been written on the level of the 'man in the street' and it has been this popularisation which has earned him the coveted Kalinga Award—the fourth British writer to do so in the ten years since its inception by M. Bijoyanand Patnaik, an Indian Industrialist and first minister of the State of Orissa in India. Previous winners have been: Louis de Broglie (France), Julian Huxley (Great Britain), Waldemar Kaempffert (United States), Augusto Pi Suner (Venezuela), George Gamow (United States), Lord Bertrand Russell (Great Britain), Karl von Frisch (Germany), Jean Rostand (France) and Richie Calder (Great Britain).

The Kalinga Award, which carries an annual prize of £1,000, is administered by an international jury nominated by UNESCO, the present panel being Professor I. I. Artobolevski (USSR), Professor Giuseppe Montalenti (Italy) and M. M. S. Randhava (India).



2/6

Bi-Monthly

The Leading Specialised Fantasy Magazine

WEIRD

本立立立立立立立立立立立立立立立立立立立立立立

*

- STRANGE
- MACABRE
- FANTASY

- TIME TRAVEL
- OTHER WORLDS
 - LOST CITIES
 - FUTURE SATIRE

ORDER YOUR COPY NOW

Adventure Science Fiction in

ADVENTURES

2/6

Bi-Monthly

×

*

Action Packed S-F Novelettes

plus short stories
in the current issue

NOW ON SALE

NOVA PUBLICATIONS LTD

Maclaren House, 131 Great Suffolk Street, London, S.E.1.