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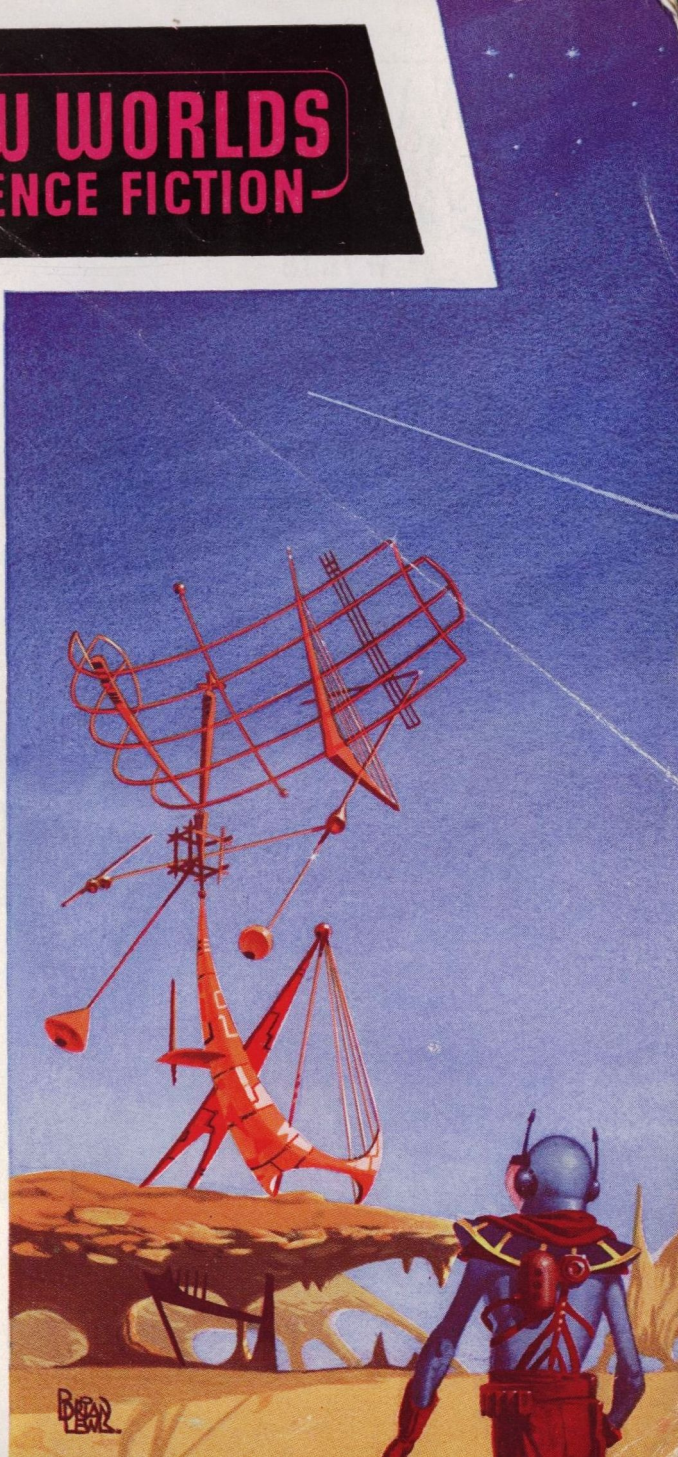

Wynne N. Whiteford

Melbourne, Australia

Born in Melbourne, Australia, Wynne Whiteford became interested in writing while in his teens, and had a few short stories and articles published. He then began to take writing seriously, produced some "literary" stories which failed to sell, then set the idea of a writing career aside to concentrate on engineering. For a few years he operated a display business.

He did not begin writing consistently until after his marriage in 1950, producing some suspense stories and short s-f which appeared in Australian magazines. At this time he was studying Commerce at the University of Melbourne, but he shelved it to concentrate more fully on writing. It's still on the shelf.

Through the mid nineteen-fifties he was Technical Editor of an Australian motoring magazine, specialising in road-testing of cars and covering motor-racing events.

He began writing novelette-length science fiction while living in Washington, D.C., in 1957. He arrived in New York the day Sputnik I was placed in orbit (pure coincidence!) and lived in Manhattan until the middle of the following year, writing sports-car articles and SF of various lengths which appeared in *Amazing, Fantastic Universe, If, Super Science Fiction,* **and other magazines.**

Since 1958 he has lived in London, using it as a base for exploring in various directions, but by the time this appears in print will be back in Australia again. He feels equally at home in Australia, America, and England, in Paris or in Honolulu.

His interests are travel, people, fast cars, chess, science fiction (!). He has been accused of reading anything from *War and Peace* **to the labels on jam jars.**

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CONTENTS

Editor : JOHN CARNELL

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Final Summary . . .

Having started the " Soul Searching " debate with the March Editorial (which has developed into one of the most interesting discussions this magazine has ever had) I must report that Earl Kemp of Chicago has now finalized the replies to his questionnaire in a magnificently duplicated 101 page booklet. Space does not allow me to do justice to this monumental work but as a substitute I am publishing my own reply herewith. Many professionals agree with my own feelings—but bear in mind these questions primarily applied to the American market.

1. *Do you feel that magazine science fiction is dead?* No. Basically, the science fiction short story will *always* be the backbone of the genre. At the moment, however, it is going through one of its transitional periods—the curve being forced lower than usual by the vast strides astronautics has made during the past few years.

2. *Do you feel that any single person, action, incident, is responsible for the present situation? If not, what is responsible?* It would be unfair for me to say what I think is wrong with *American* s-f as this is purely a domestic problem. Obviously editors are looking for some new trend which will give an indication that the waning interest of their regular readers is being revived.

As a British editor with an international readership I probably have a better insight into what is happening to s-f in the three main centres of interest—Europe, America, Australasia. None are exactly the same but all follow in each other's footsteps ; the cycle seems a closed one but there are deviations on each continent.

Basically, however, I agree with John Campbell's feelings that one of the main contributions to the present low in s-f is the mess Hollywood movies have made of labelling weird and horror films as science fiction. Potential new readers, appetites whetted by both American and Russian space probe successes, must receive a severe jolt when viewing a movie labelled " science fiction " which, apart from the appalling poor dialogue and mediocre acting, is based mainly upon some monstrosity from outer space or the depths of the ocean. The sight of the words " science fiction " on a magazine cover must be sufficient for these people to shy a long way away from it.

Unfortunately, while fat profits can be made in the movie industry for a modest outlay of about $10,000 per picture, there

will be little change of heart. The fat profits coming from the vicarious thrill teenagers get from this type of junk. And the teenager who goes to see a horror movie is *not* the type who will eventually become a regular s-f reader.

Another contributing factor, I believe, is the vast upswing in paperback exploitation and sales. We know that there is a constant transition of s-f readership—old readers drop out (temporarily in many cases, permanently in others) through some changing pattern in their lives. In the past, when there was a surfeit of magazines (and no horror movies) it seems to me that there was always a progression of new readers coming in at the lower levels and graduating upwards to the adult magazines. At the moment, new readers (apparently) are not coming in.

In America, I believe that a greater part of the loss of sales of the magazines to the paperback is due largely to the chaotic system of distribution—in fact, the s-f depression stems mainly from the collapse of the American News Company . This was the straw that broke the camel's back and had repercussions throughout the American trade. However, *any* commodity that works on 25% - 50% wastage to effect a profit cannot be operating at maximum efficiency. To be allowed to operate in the land of Time and Motion study seems fantastic to me !

3. *What can we do to correct it* ? If any of us (professionals) could answer this one accurately we would be assured a place in the Hall of Fame. I guess that every editor, past and present has done his damndest to improve the lot of s-f, in sales and storywise. Making s-f ' respectable ' has been a major ambition of both professional and amateur, assuming that respectability also carried increased sales. By book reviews, radio, TV, even the few better quality films, plenty of people have tried to improve s-f's lot. But that doesn't answer what can be done about it *now*.

4. *Should we look to the original paperback as a point of salvation* ? No, except for salvation of the novel. Outside the States the anthology and short story collection is practically dead (there are exceptions, of course). To project the s-f short story into paper back form does not appear to be the answer, mainly because there appears to be increased sales resistance to reading collections in book form by the *general reading public.*

5. *What additional remarks pertinent to the study would you like to contribute* ? It does seem to me that magazines *in general* are in a period of moral regression, especially those

Continued on Page 89

Meet Honest John Flayer and Julian Justin from the Pool and Ed the manipulator, all low-born ; and the Skardon family, high-born balancers of the Solar System's finances ; and a host of other characters each with a special talent in this opening instalment of one of the finest novels of the far future we have yet published.

THE FATAL FIRE

by KENNETH BULMER

Part One of Three Parts

one

They began flaying Bella Rose exactly two and a quarter minutes after she died. The time interval was accounted for by the gentle removal from the tenement room of the sorrowing and semi-hysterical mother and sisters and the quiet, capable entrance of Honest John Flayer.

Honest John opened his plastic case on the walnut dressing stand, revealing, laid out ready to hand, his chrome steel instruments. Because he could not always be sure that an electricity supply would be available most of his instruments were manually operated.

Bella Rose's father stayed. He knew Honest John Flayer as well as any man knew another in the Pool ; but as the dim fluorescent lighting caught and ran along the edges of Flayer's

instruments, Bella Rose's father wanted to see that these, and only these, instruments were used.

Bella Rose was seventeen when she died. Her skin possessed that translucent, ivory white, ethereal quality that so often transfigures young girls, making of them insubstantial, gossamer creatures from another and brighter world. Her illness had rendered her skin a miracle of beauty. Her father's hands were not quite steady as he obeyed Flayer's curt commands.

" Hold steady, Talbot !" and " Take this, Talbot !" and " The little knife at the end, no, not that one—yes, that one," and, eventually, " The plastic sheath, Talbot."

A small pneume-fan was running, droning to itself, making some effort at expelling the room-air. Honest John straightened his back, knuckling his spine. He crossed to the sink. Water splashed.

" My assistant, young Edward, is himself ill today, Talbot. Having obtained the merchandise, I'm at my wits' end to get it delivered." He reached for the paper towels. " You know as well as I deterioration—" He wiped his face, stifling the rest of the sentence.

Talbot said. " Julian can go."

Honest John lowered the towel. " Your adopted son ? Is it fitting, Talbot ? His own sister . . ."

" Julian is eighteen. He has his own way to make in the Pool." Talbot would not look at the plastic wrapped bundle lying quietly on the table. " And, anyway, he doesn't know."

Flayer nodded, wadding the towels and tossing them into the disposal chute. " He's a bright lad. He could be trusted outside the Pool." He paused, considering. " Maybe I could take him as apprentice. And, again, maybe not."

Talbot's thin, bony face, ridged and harrowed by life in the Pool, was relaxing some of the stiffness it had acquired when Flayer was about his task. " Julian does not know his sister—has died. I sent him yesterday on an errand across Pool. He is due back any minute. He will go. He will not know what he carries or why he is being sent—but he will go." Talbot spoke in short, breathy gushes, closing his mouth firmly after each phrase.

" If you agree. It would be a kindness not to tell him."

" Yes. I agree. If you take him as apprentice . . ."

Honest John began to pack away his instruments, spraying them all carefully with the antiseptic aerosol that had already been used to sterilise the plastic bag and its contents. He wrapped his gauze mask and folded the tapes meticulously. His white operating smock went into a separate container and was zipped up, stowed away with the rest in the case.

" Apprentice to a Flayer means, if he is quick and smart and successful, an assured non-occupation within the Pool. He need never be forced to work for the rest of his life."

" The Talbots never work !" Talbot said fiercely, proudly. " The family has not worked for five hundred years. No-one could force Julian to work."

Honest John did not often trouble himself about genealogy. But now he was led to say, quietly : " But Julian is only half a Talbot—he might be your sister's child ; but his name is Justin—Julian Justin. That's no Pool name."

The reaction from the man who had just lost a daughter and helped in her flaying was deadened, repressed. Normally, such talk might have led to a formal challenge. As it was, Talbot hunched his shoulders, and said : " I know all that, John. The boy is not truthfully one of us. Who his father was, of course, we don't know. Mary never told us. I took her in, willingly, she told us that the shild was to be called Julia or Julian, depending on the sex, and nothing more."

" And when she died in childbirth," Flayer finished, " she talked of a man called Justin. So you called the boy Julian Justin."

" Yes. I have never worried about his origins. He is one of the Talbot family. If you take him as apprentice I would esteem it a favour, John. I'm sure we can arrange—"

" We can discuss that later," Flayer said. " At the moment my main preoccupation is in getting this delivered."

This was the nearest either man had so far reached in touching upon money. Money, in the Pool, operated on two levels. There was Aristo money ; real money, the solid, heavy soldar and crisp, crackling notes printed on Company presses, good anywhere in the Solar System and the Solar Technocratic Empire. The paper and print were electrically inert but dust-repellent. Aristo money never circulated dirty or crumpled.

There was also Pool money. This might be a filthy, tattered, almost indecipherable note, or a well-clipped coin dating from

a thousand years before. Pool money was good only so long as the vendor was willing to accept it.

Mostly, in the Pool, labour and services were paid for in kind.

No-one, of course, ever worked. ' Work ' was something the Aristos and the Company men did. Whilst not exactly in the class of a swear word, it had, on occasion, been known to strike a shudder into the more nervous of the inhabitants of the Pool. Neither Honest John Flayer nor Talbot were nervous men. Yet both, shamedly, startled at the tread on the stair and their gazes flew to the plastic wrapped bundle.

" Here's Julian, now," Talbot said, " Give him his instructions and remember, please, not to tell him—"

" I'm not a fool, Talbot." Honest John picked up his case and nodded towards the bundle. " And I'd suggest we talked to Julian in the outer room."

Talbot snatched the bundle. Both men left the room.

On the bed, the flayed corpse of Bella Rose lay, quietly, waiting for the next buyers.

Julian Justin leaped acrobatically and not very elegantly from the crevice in the ironwork of the monorail supporting pillar where he had crouched momentarily whilst seeking to discover if the hounds were still on his trail. The limp chicken clenched by its legs in his left hand swung gaily. His right hand and arm flailed the air in balance as he leaped ; when he landed on the cracked concrete under the monorail arches that hand and arm swung forward, his body flowed in rhythmic action and, at once, he was running fleetly away into the shadows.

Stray chickens, in the Pool, were the property of the quickest eye and readiest hand.

And for Julian Justin, even though he was eighteen and therefore eligible to join the ranks of the non-employed, old habits died hard. A week ago, before his eighteenth birthday, the chicken-procurement would have been followed, had he been caught, by a sound thrashing, and a reprimand delivered to his father. Today, the chicken swinging in his square left hand represented a greater threat to his safety and security—if he was caught.

The Pool had its own rough and ready treatment of criminals. He ran swiftly down under the monorail, sure-footed over the rotten concrete. Thinking of the overturned market stall and the oranges and apples and cabbages and

potatoes rolling every which way in confusion, of the strings of sausages caught and snared around the donkey's ears, of the uproar and the hullabaloo, Julian Justin laughed aloud. And then, as though heaven-sent, the chicken had squawked and run all feather-bristling, right under his feet.

The challenge, of course, had proved irresistible.

Thinking back to that moment, Justin couldn't have explained just why he had found it necessary to stoop, snatch, and scamper. Worry about being caught hadn't even occurred to him. Instead there had been some hazy notion of a bubbling-hot invigorating chicken broth for Bella Rose. The more he thought about his sister, Bella Rose, as he ran hard and silently down there under the monorail, the more he knew that to have ignored the chicken would have been a crime.

Above his head the grumbling, shushing whoosh of a train pounded up, overtook him in a wail and diminuendoed ahead. He ran on without pause. Ten more supporting pillars to go, and then he would cut off from the monorail shadows, angle under the platform supports, and, after negotiating half-a-dozen twisting alleys, cramped between tall tenements, arrive home. He was looking forward to that. He didn't like spending the night away from home, even when it was in the enjoyable company of Aunt Jane, who had never been known to frown.

He was counting without thinking—seven, eight, nine—and at the tenth his rapid footsteps took him automatically away under the overhand of the platform.

A long arm reached out, caught his biceps, hauled him to a stop.

Justin swung. Just in time he recognised Raphe Bartram and checked his fist.

" You're getting careless, Julian," Bartram said. He laughed. " Chicken careless."

" You nitwit, Raphe !" Justin paused, breathing evenly and deeply. " I might have laid you out."

" Not this laddie, Julian. Chicken booked for Bella Rose, I suppose ?"

" Yes."

Bartram sighed mockingly. " Oh, well. Brothers-in-arms must expect a fair face to part them—"

" She's my sister, idiot. And, anyway, you're the one who's—"

" Save it, Julian, save it. I was waiting for you." Bartram reached into the ragged nylon trousers that swathed his legs and which were turned up a good six inches at the ends. The thick leather belt that supported them was his only article of clothing that hadn't been filched from a dustbin. Justin himself was no better dressed. Between them they might just have provided rags enough to dust off an Aristo flier.

" Here," Bartram said, proffering a single large and golden orange. " This is for Bella Rose."

" Why don't you bring it to her yourself ? Scared ?"

" Scared ! Me ! Scared of a girl—" Then Bartram chuckled, softly. Both boys began to walk quickly along between the tall buildings. " I suppose I am. I suppose I am. But then, you see, Bella Rose is—is special."

" I know. Come on, lowthrust, let's run."

They both ran, felinely, along the concrete paving.

A fork in the road showed up ahead. Abruptly, leaving Raphe Bartram still running, Justin stopped. He stood, poised, expectant, calculating.

Bartram slowed down, turning to face his friend. " What is it, Julian ?"

Justin moistened his lips. " Take the left fork, Raphe."

" But that's the long way around—" Bartram began. Then he smiled, shook his head, and finished : " Okay. Seeing colours again, Julian ?"

" The colour of the right fork is all wrong. Well, it's not colour, exactly. You know. Am I ever wrong ?"

" No. No, you're never wrong, Julian. Come on, let's go." Bartram began to run swiftly along the left hand fork. Justin followed, equally swiftly, equally silently.

They had gone about twenty yards up the fork between tall sweating walls when the rightness of Justin's prophecy was proved. From the right hand fork a patrol flier hummed gently, vanes barely turning, idling along a half dozen feet above the pavement. Clearly through the windows the two Pool urchins could see the hard, contemptuous profiles of the flics ; Aristo police who would patrol casually until the mood took them to create some fun—and then no Pool resident was safe. Neither Justin nor Bartram bothered to waste time and energy shaking fists at the fliers, much as they might have wanted to do. They simply took a long, careful look and then turned and ran on.

No one of the Pool's non-employables ever bothered to worry about the flics' motives ; flics meant trouble and the immediate response to that was automatic avoidance. Around them now were familiar landmarks. They scampered along between the towering walls. People were re-appearing again after that quick ducking out of sight that preceded like an invisible wave the progress of the police flier. Justin and Bartram nodded to other lads they knew, hurling back abuse, exchanging insults and retaining possession of the chicken. One or two folk asked after Bella Rose ; but neither lad could give a straight answer. Justin felt anxious, a little afraid, feeling the urgency of returning home as fast as he could. Nagging away at his mind, on top of everything else, there was the problem of what he was going to do in life to be considered.

Like every other youngster he had discussed the possibility of leaving the Pool and joining a Company, eventually, if luck and success were with him, to grow into a fully fledged Aristo. The number of jobs available were strictly regulated and almost all went to members of the families of Aristo employees and Company men. That, after all, was logical.

And the non-employed were fanatically proud of their status of unemployed.

The pool squatted in the centre of the City with a straggling pseudopod of tumble-down dwellings extending to the hills to the north and festered like a busy ants' nest in an immaculate lawn. The vast majority of non-employed never left the Pool from the day they were born to the day they died and were sold. Somehow, illogically, Justin did not relish that prospect.

Then, thinking along these lines, he realised that Bella Rose might be . . . He hastened his steps and Raphe Bartram, who had no doubts as to his own future career, lengthened his own stride in silent understanding.

The booming blast of the mid-day rocket struck down from the sky and, as always, chips of mortar dust sifted from walls. Neither lad looked up. They turned sharply in under a crumbling plasti-glass archway, triggered the photo-electric cell and raced for the door. They just beat it inside. The door was a second out of phase and any unwary entrant would get smartly nipped if he didn't bustle.

Riding the pneumo-lift up, Justin said : " Sending me to Aunt Jane's to get me out of the way because Bella Rose is ill annoyed me. I'm not a kid any longer."

" Nor me." Justin and Bartram had been born on the same day, in adjoining tenement rooms and, like other Pool children, had been followed into the world by a steady stream of younger brothers and sisters—on Justin's part cousins—of whom twenty-five per cent lived to the ripe old age of eleven. The Pool was hard on youth.

" I wish you'd indenture yourself along with me," Bartram added. He leaned, darkly smiling, against the rickety pneumo-lift wall.

" What, and be an Assassin ?" demanded Justin. He made a small moue with his mouth. " Doesn't appeal—at least, not yet. I haven't made up my mind—might just laze around like everyone else . . ."

" Not you, Julian. You're like me. Why should the Companies be the only people to say who can live luxuriously and who cannot ? We're young enough to see all that change—"

" We're young enough not to bother," Justin said, quickly. The pneumo-lift stopped with a shudder and they both jumped out—there was a six inch difference between lift and landing—and ran the last two flights up bare wooden stairs. The exertion did not quicken their breathing by a millisecond.

The harsh, unshaded electric glare struck back from plastered walls. The door of the Talbot family tenement apartment was half open and Justin thrust it back all the way, still on the run, and burst into the room beyond.

His father and Honest John Flayer were just entering the room from the door opposite. No one else was in the room.

" How's Bella—?" began Justin. Bartram, behind him, remained quiet, his eyes searching the older man's face.

" Julian, just in time," Talbot said heavily. " I've a little errand for you . . ."

two

Justin looked at the plastic wrapped bundle held outstretched in his father's hand. His eyes went enormous ; his mouth opened and then closed, firmly, rat-trap tight.

Raphe Bartram gave a choked little sigh.

" I've—brought a chicken—" Justin said.

Talbot repeated, stonily : " I want you to run a little errand, Julian. John, here, will give you the address."

Honest John Flayer had remained silent, his face calm, his eyes half-closed, distant, remote. Now he took a small black

book from his pocket, tore out a leaf and silently handed the scrap of paper to Justin.

Talbot shook his head. " Julian can't read or write, John, you know that." He swallowed. " What kid in the Pool can, come to that ?"

" I'm learning," Bartram said unexpectedly.

They were all acting as though under an outside compulsion, here in the glare of the tawdry tenement room with the scraps of furniture about and the shreds of curtain at the single window and the dust sifting into the corners.

Talbot looked past his son at Bartram for the first time. " Yes," he said. " You're the one who wants to be an Assassin."

Bartram did not reply. His gaze went back, fascinated, to the bundle still held in Talbot's hand.

Justin laid the chicken down on the table. The legs swung down, rasping drily. He turned, reluctantly, looked again at the bundle.

" The address," Honest John said, " is Mister Cope, Gorgon Industries. You ask at the twentieth street gate."

" All right."

" Julian," said Talbot brusquely, as though washing his hands together in speech. " Honest John Flayer is thinking of taking you into apprenticeship. It would be a great chance for you. Give you some standing in the Pool and a proper career . . ." His voice trailed.

None of them framed in words what they were all thinking. It was not necessary. The stark facts of the episode were there, like raw bones, sticking through the dreamworld of reality. Talk would merely exacerbate the resulting wounds. Justin stepped forward, took the bundle from his father, turned to the door.

" May I go with him, Mister Talbot ?" asked Bartram.

" Yes. You would, anyway, whether I said yes or no."

Bartram nodded to the men and followed his friend out and so to the pneumo-lift and down once again into the street.

They began walking, quite slowly, towards the Pool perimeter.

In the stuffy, claustrophobic tenement room, Talbot turned back to the room where his dead daughter lay. He moved in the blundering way of a blinded crab.

" So much," he said, " for not telling Julian."

Honest John Flayer had the sense not to reply.

In the street, busy now with people coming and going, with the central strip of sunlight about to creep past the second storey windows, with washing hanging from pole-propped lines to catch that sun, urchins scrabbling in the gutters, the mono-rails grumbling their whooshing sighs as they traversed the Pool on their superior stilts, the colour, sights, sounds, scents, the whole wash of a culture designed around and flowering from a concentration of unemployed, the entire normal everyday scene passed Justin as though in a dream.

His mind seemed numb.

He held the bundle out, away from his body and although his arm grew stiff and tired very quickly he locked his brain against the pain and refused to lower the bundle into contact with himself. He refused, also, to dwell on what was in the bundle.

Apprenticeship to Honest John Flayer !

Working with and studying under a man who made his living buying and selling human pelts. Somehow, that didn't sound quite the sort of prospect Justin had had in mind for himself, no matter how hazy his ideas on the future might have been. Many times Raphe Bartram had said to him : " Why don't you indenture with the Guilds, Julian ? An Assassin has a respected profession—a real profession, not just a scraping half-job here and there, living on the edge of penury for the rest of your life. Why not be an Assassin ?"

And, to that, there had been no logical answer. Not all aspirants for indentureship in the Assassins' Guild were accepted. Training and discipline were tough and onerous. That the result was worth it seemed proved by daily life—but, still and all, that, too, didn't seem the life for Julian Justin.

Bartram stopped and hitched up his belt. He eyed Justin.

" Civilisation ahead," he said. " Shall I carry the—"

" No."

They went forward.

Oil and water don't mix—unless super-science plays itself a little fun and games. Cliffs drop down into the sea and the distinction erects a barrier. Six hundred or so miles straight up the last ionised atom that belongs to Earth sets a period to the atmosphere—and space begins.

None of these dividing lines, these membranes, is as sharp, as distinct, as humanly unbreakable as the invisible, intangible but starkly self-evident line drawn between the Pool and the outside world.

A low, crumbling, red tufa and brick wall surrounds some portions of the Pool area. In others the cracked concrete and the overhead electric lights simply give way to the strips and the all-enveloping daylight illumination. No one stops anyone from walking into or out of the Pool. Perhaps no contrast in the entire human-inhabited part of the Galaxy can affect a man or woman so much.

Justin and Bartram walked off the Pool concrete onto a strip and went whisking away, hopping strips until they could stand comfortably in the lucite-protected area on the two-hundred mile an hour strip. They took a delight in everything about them ; even on this day, even on this day of black gloom and sorrow. The distance dial read off their position and, almost at once, they were hopping strips again, slowing down until the ten mile an hour strip took them up the twentieth street intersection.

" Gorgon Industries," Justin said. " Mister Cope."

" Don't hate him too much, Julian. He's probably only a glunkey."

" I haven't the will to hate anyone now, Raphe. I feel—I feel lousy."

" Yeh. Me too. Come on, there's the gate."

The plastic-wrapped bundle between them they stepped off the strip and approached the gate. It was tall and wide and constructed of stainless steel and transparent plastic and veined marble. It was loud and pretentious and vulgar. It was probably worth, broken down and carried away as trash materials, about fifty thousand soldars.

The guard stopped them with a pressor ray as their feet hit an orange painted area six yards square. They stood, leaning forward, invisibly supported.

A voice boomed at them, mechanically, from the guard post alongside the gate.

" Well ? What's your business ?"

They were held in a circle of harsh and merciless light, pouring down in an unbearable flood from the wall.

Before Justin could say anything, Bartram shouted.

" Turn your flaming light off and let go your damned pressors ! We've got business, bub."

Surprisingly, ominously, the lights and the pressor vanished. They lurched forward, the bundle swinging, blinking. Then

Justin straightened up, stuck his chin in the air, and strode forward.

After all, it wasn't often that a Pool arab had business with an Aristo.

The mechanical voice crackled again.

" State your name, rank, Company and reason for visit."

Again, before Justin had time to speak, Bartram shouted.

" Your mechanical monster's out of gear, bub. We're not Company men—do we look it ? And our business we tell you when we see you, bub."

Justin flicked a quick look at Bartram. The keen, incisive face was partially flushed, and there was an odd drunken, devilish raffishness about it that disturbed him. Bartram had been more deeply shaken by the death of Bella Rose than Justin had thought—and then, in that microsecond as they waited for the guard to step down from his box, Justin acknowledged to himself that Bella Rose was dead.

And he allowed into his conscious mind knowledge of what he was carrying.

Before that had power to harm him further, a robo attendant scurried from the wicket gate let into the larger door, a web of hair-fine rays enveloped both him and Bartram and they were both bundled, supported three inches above the ground, through the gateway. He caught his breath. Wrenching about did no good. He was held in the ray-web immovably, like a fly.

" Let—me—out !" Bartram was cursing, his muscles cording uselessly against the confinement.

" Hold still !" The mechanical voice was so close it stung the eardrums.

Around them was a yard, plastic sheathed, lighted by ranked fluorescents and with half-a-dozen wide doorways opening off the far side. On the right a single sheet of transparent plastic polarised suddenly and they could look up into the face of the gate guard. He scrutinised them dispassionately. The face was full-fleshed, heavy of eyebrow and thick of lip. Just an Aristo lackey; one who wore a Company badge, took Company money and jumped through a Company hoop.

To the arabs of the Pool he was the lowest of the low.

Justin felt the indignity of his position and decided to end it. He took a grip on himself and shouted loudly.

" I have to see Mr. Cope. Get him right away."

The only answer was a laugh ; a deep, scornful, mocking laugh.

Then the guard spoke with his own voice. " You two young rips come strutting in here, shouting arrogant abuse—why, you could be strung up for that !"

Bartram was not cowed. " We have business with this Cope fellow ! And let us out of this confounded web."

Again the laugh. But the ray-webs slackened and Justin and Bartram sprawled on the ground. They stood up, red-faced, angry, and a little, just a little, apprehensive.

The window polarised blank. There was a wait. Then a door swung open soundlessly on the far side of the yard and they could see into a white painted corridor. A man stood there. He beckoned.

The room to which he led them was bare of all ornament save for the ornate and ostentatious replica of the Company Badge let high into the wall facing the door. There was a wide mahogany table. There was a single foam-upholstered wooden armchair—quite an antique here in the world of factory and warehouse and thriving industry but a common enough object in the Pool. The man sat. He looked at the two Pool arabs.

" Well ? I am Mister Cope."

Silently, Justin handed across the leaf torn from Honest John's black notebook.

Cope studied it for a moment. His manner changed. He glanced up at the plastic-wrapped bundle eagerly. He reached out for it. Justin pushed it away along the shining table.

Cope's face suffused with blood and, for an instant, anger showed. Then that expression was smoothed away and the man's normal passivity returned. Just another flunkey, Justin realised ; just another Aristo lackey.

" The asking price is high," Cope said.

" I am here just to deliver." Justin said.

" Let me see."

At this both Justin and Bartram paled ; then Justin pushed the bundle towards the waiting hands and turned away, went with his friend to stand over by the door. They did not look whilst Cope satisfied himself that he was buying a bargain.

At last they heard him sigh. " You knew her ?"

" My sister," Justin said.

Bartram's fists clenched and he turned sharply. Justin could feel his shoulder digging hard into his own. He heard the short, stifled oath ; heard the heavy, uneven breathing. Then Bartram said : " Bella Rose—Bella Rose . . ."

Justin turned on his heel, driving the tip into the thick plastic carpeting, feeling destructive. The bundle was closed again, the seals tight.

Bartram was standing with eyes tightly closed. Justin said : " Is everything in order, Mister Cope ? Are you satisfied ? Have you assured yourself that what you are paying for has been properly consigned ; signed, sealed and delivered ?" He was breathing rapidly and unevenly. " Or do you require your ounce of blood along with your pound of flesh ?"

Cope's voice was remote, detached. " I am buying a skin, youngster. Not what you mention. I regret that it appears to have upset you—both of you, it seems." He sighed. " But this is just business. We need good skins for our libraries ; you people of the Pool can supply them. When a person is dead, they are dead ; they feel nothing, you refuse to work, festering there in your Pool of unemployed—"

" We don't refuse," Bartram said. " We never have the chance."

" Never ?"

" Well, only when an emergency occurs. You know as well as I do that the Aristos perpetuate the idea of the economy of an unemployed pool on which to draw—"

" No longer is that so, young man." Cope was thin-faced, lank-haired, immaculate ; now he looked like an indignant church deacon. " When you refuse to co-operate with us—but why go on ? This argument has been raging for centuries now. I'll authorise payment through the Bank, and then you may go."

" Thank you," said Justin.

" Aristo," said Bartram ; but under his breath.

Cope dialled with his wrist radio which Justin guessed was connected through to an internal switchboard. Cope spoke into the tiny mouthpiece, giving orders that the selling price was to be paid to Honest John Flayer at the Bank. Then he rose from his chair and without another word, or so much as another glance at the two Pool arabs, he walked to the door and went out. He left the door open.

Justin and Bartram followed him. In the yard all the doors were closed except one and through this rolled a ten-wheeled delivery truck, shuttered and featureless. They ignored it. The economy of big business in its working manifestations did not interest them one jot. They walked towards the gate.

The guard's window polarised transparent and he waved to them. His voice was thick : " Get out of the way, urchins ! We've a man's work to do."

The truck rolled past, its tyres bellying. Justin watched it go. A man walked quietly into the yard, glanced quickly and keenly at the two boys and his face went limp and relaxed and doughy. Bartram saw him.

" Look out, Julian ! I think—"

What Bartram thought Justin didn't know. He glanced towards the newcomer, trim in dark brown uniform, and then his face froze up, his mind went blank and he fell into the man's luminous eyes that spun brighter and brighter, devouring him, engulfiing every particle of his being.

His last coherent thought was that he had fallen into a hypnotic well that had no bottom.

three

Harold Vladimir Skardon prided himself on his democratic attitude to his staff in an age of technocracy and business autocracy. He liked to think of himself as the all-wise father of his company. It made his various business activities and strenuous relaxations that much more enjoyable. And, he had to admit, it gave him a kick.

His father, of course, grim old Eli Skardon, didn't know that such a word as democracy existed. Grim Old Eli Skardon. That was how everyone thought of him. And to Harry Skardon, sitting beside his pilot in his private jet just taking off from Trincomalee and watching the exotic landscape fade beneath misting clouds, thinking about his father had become a disease.

He tried to throw off the bad humour and glanced cursorily at the flight instruments ; Cobb was a first-rate pilot—Skardon wouldn't have employed him otherwise—and he thought like a good Company man should think. They were just about to break Mach One and Skardon, chuckling contentedly for the first time since leaving the clerkly paradise of Ceylon, luxuriated in the sensation that for a few hours, at least, he could cut himself off from cares and worries.

Not that he would, of course. Not with Skardon Sales to run, operate, force along and generally horsewhip into the upper brackets of the Aristo hierarchy. He reached into a hip

pocket, dragged upwards under the form-fitting contours of the co-pilot's seat, and brought out his personal silver flask. His mind ran on as he slowly unscrewed the cap. There seemed every chance that his father would go on for years yet, with geriatric care being bought on a ' cost-immaterial ' basis. Old Eli had many years of life left yet, and that meant, being old Eli and being a Skardon, many years of devilry to enjoy with that gummy, bubbling, humourless chuckle that so grated on the spine.

And yet—and yet, there was that little extra something about Eli Skardon that meant, quite quietly and yet with complete finality, that he would never lay down the burden of Gorgon Industries until the day he died. And Harry Skardon wanted to lay his hands on Gorgon. He'd been tossed Skardon Sales as a tasty titbit, to cut his teeth on ready for the day he and his brother Louis jointly took over. But he wanted with an aching intensity to take over now. So—certain wheels might have to be set rolling.

Cobb locked the auto-pilot and leaned back.

" Nice day for a run, Mister Skardon. And the plane's handling sweetly."

" She is, Cobb. She is. Here." He passed across his personal silver flask. Cobb, surprised and gratified at the little gesture, took it and drank a measure from the plastic dispenser. The little arm came out and automatically wiped the lip clean, sterilising and polishing as it did so.

" Good stuff, Mister Skardon."

" Only the best—" Skardon said when the radio cut him off.

" Calling Private Flight Six Eight. Come in please."

Cobb bent to answer.

" Flight Six Eight here. Who is that ?"

" Just checking that Harold Vladimir Skardon is aboard."

" He is—" Cobb said and Skardon's hand closed over the radio switch and cut everything dead.

" Nobody needs to know whether I'm aboard or not. No one, that is, with any legitimate interest. Check your radar, Cobb. They must be somewhere around."

A churning feeling of excitement and panic began in Skardon. Both unpleasant and stimulating, he recognised it for what it was and tried to swallow it down, to forget his joy in battle and sudden death, and resume his everyday existence as a businessman.

He screwed the flask cap back on without drinking and pushed the flask away quickly. Cobb's radar was sweeping around without, so far, bringing in a response. Everything in the cabin of the jet was in order, nothing unusual in sound or sight or smell, all instruments jiggling gently and reading correctly ; everything correct, and yet Skardon had that uneasy twitchy feeling that he knew well enough meant trouble.

Cobb tried to stand up, fighting against the retaining straps of his g-seat. He shouted something unintelligible. He flailed backwards, one hand striking Skardon on the forehead. He buckled in the middle with awful suddenness, like a twig struck on a fence, vomited—and died.

Skardon's first reaction, motivated by forces he failed to comprehend, was to snatch the silver flask from his pocket and hurl it into the rear of the cabin.

Then, regaining command of himself, he pushed Cobb's body back into its seat, tightened up the straps and wedged the head under the helmet ; hard.

Breathing deeply, he unstrapped, went back, picked up the silver flask and stowed it carefully away in a locker.

He had seen sudden death before ; to an Aristo high in the hierarchy, sudden death was not the complete stranger any labouring mechanic at a machine might, from his own preoccupation with earning his daily bread among toiling dangers, expect it to be. Skardon wiped his sweaty face and hands on a tissue. He flipped open the medicine chest and swallowed down a couple of pills and reached automatically for his flask to wash them down.

His flask ! Someone had got to it. Someone had loaded the liquor with sudden death.

He shook, suddenly. He gripped the edge of the seat and hung on.

His mind cleared as his cunning thoughts began the inevitable tracing and detective work. He had to find out who was trying to kill him, and fast, before they struck again. That reminded him of the strange challenge that had come over the radio in the instant before Cobb had died. He wiped his forehead where Cobb's wildly flailing hand had struck. The skin was not broken ; probably the only result would be a slight bruise. He bent to the radar, pushing everything else out of his mind, determined that he, Harold Vladimir Skardon, wouldn't be killed, not on this trip, by God !

Still nothing on the screen. That might mean, of course, that whoever had called up was nowhere near ; but Skardon didn't for one moment think that. Another jet shared the sky with him, of that he was sure.

Although his speed was only Mach one point five five, even at that crawl he could be up on and past another aircraft in seconds. He felt convinced that the other plane was tailing him and would, when good and ready, pounce. He unlocked the autopilot and settled back with the control wheel held lightly between sensitive finger tips. Through the pulse of blood in his head he could be aware of the other symptoms and relish them, however perversely.

The dares he had taken as a youth flashed briefly on his inner mind. Surprisingly, with the still warm body of Cobb strapped lifelessly there in the seat beside him, the vomit automatically cleared away but a sour smell lingering, he chuckled. He was an Aristo. Those men out there in that other plane might be Aristos, too, men belonging to one of the great System-wide Assassin Associations, but they weren't Aristo overlords, they weren't men who were used to handling the resources and destinies of thousands of people and billions of soldars ; above all, they weren't Skardons.

He weighed his chances.

As always, personal danger was difficult to analyse. Where he could clearly sense and balance the destiny of a business company, guide various deals through to his own desires, the assessment of personal hazard was difficult.

He was quietly commuting from Trinco to New York, minding his own business—and that was a laugh—when the hidden hand of the assassin had struck his pilot and was now reaching out again for him in the shape of a fighter jet swooping from the cloudless upper atmosphere. Well. That meant, his mind ticked on, that there were two different people after him. One had known him well enough and known his habits and been able to get close enough to him to poison his own personal silver flask. The other—the other had had to hire guns in an aircraft.

One had failed—by chance.

The other—the other was suddenly here.

On the screen which had remained so obstinately dead appeared the tiny fleck of light denoting a guided missile.

He had no fears that it possessed an atomic warhead.

The General Council did not permit nuclear weapons on the face of the Earth or in her skies and no Assassin would dream of using such clumsy methods.

Skardon rolled his jet, released an anti-missile and watched with satisfaction the resultant flare of mutual destruction.

" Try again, assassins !" he said aloud.

They did, and again he destroyed their missile.

His personal jet carried enough weaponry to tackle any other Aristo fighting aircraft and in that was merely typical of the class of business executive transports. They'd be sliding up within range of their projectile weapons soon. At the thought Skardon's lips drew back, quite without his own volition. If the conference in New York later today wasn't so important he'd be enjoying this. As it was, he felt, with reluctance, that he'd better call out for assistance.

He flicked the radio switch. At once the incoming call signal went on. He answered in his private code sign.

" Father ? Is that you, father ?"

" Estelle ! What are you calling for ? And, anyway, where are you ?"

" I've been calling and calling—where am I ? Why, in Rome, of course, as you very well know."

Another guided missile vectored in and was neatly vapourised by one of Skardon's anti-missiles.

" Rome ? Oh, yes, I remember. Digging about in the ruins with a gaggle of students, aren't you ?" Skardon chuckled, imagining his daughter just about to enter on the year he described as ' sweet sixteen and never had a take-over bid ' and picked out the fresh radar cheep that indicated the diving assassin aircraft. " Found any of the beauty secrets that cosmeticised the Face that Launched a Thousand Ships ?"

" Oh, Daddy ! That was Troy !"

" Troy ? Really—" Skardon rolled the ship and then punched for boost power and soared cleanly upwards, leaving the Assassins still diving on the spot of air he had occupied a moment before. For the moment, he decided, he wouldn't open fire. He'd let the others disclose their armaments first. " Well, all this nationalistic nonsense is over now. We're all Earthmen today, thank God."

Skardon with his strong individualistic streak had always thought himself able to manipulate aircraft, submarines, cars,

women and the stock exchange far better than the multifarious robots designed for those tasks. Now he half-rolled and his radar told him that the following ship was positioning for another run-in. Having given up the use of guided missiles it was evident that the pilot had determined to finish the job with short-range projectiles. Skardon chuckled sardonically. He had always fancied himself as an aerial fighter ; no, once again, he was to be put in the position of having to prove that.

" Anyway, Estelle, what did you call me for ?"

" Paul Hurwitz is in Rome."

On the radio there was silence. Skardon kept his aircraft boring full speed ahead, gradually building up to Mach two point three. The killer plane followed. He watched his radar screen and, thoughtfully, thumbed open a second radio circuit.

" Does Hurwitz know where I am, Estelle ?"

" I told him, father. It was quite accidental—I know you dislike him. And he makes me squirm—"

" You did hear what happened to him when he asked if he might marry you ?"

" Yes." Estelle's clear voice bubbled with laughter. " Everyone was giggling about it for weeks."

The tracking plane grew closer ; evidently it had the advantage of speed. That, to a pilot of Skardon's calibre, meant little. He tripped the safeties on the ship's weapons and aligned the sights.

Into the second mike he said calmly : " Calling Shield Bearers. This is H. V. Skardon. I have an assignment."

Moments later a heavy, slightly accented voice said : " Shield Bearers Inc. Go ahead, Mister Skardon."

" Hold it a minute, dear," Skardon told his daughter. He checked the following plane. Then he spoke to the Shield Bearer bodyguard. He sketched his position and the circumstances.

The bodyguard said : " Right, Mister Skardon. A ship is taking off from Cape Town right away. We'll send your office the bill in the usual way."

" Thank you." Skardon closed the circuit out, slanted his ship upwards, losing speed fast. Then he dived. As he went down, losing speed all the time, the assassin ship flashed past above, jets spouting. Skardon let her go.

He turned one hundred eighty degrees, began to retrace his

course. His radar told him that the killer ship had reversed and was dogging him still. So far, neither ship had fired a shot. The guided weapons and the anti-missiles had been all the teeth they had shown.

" Are you still there, father ?"

" Yes, Estelle. Thank you for telling me about Hurwitz. I have an important meeting today. If you wish to leave Rome, do so, my dear. Don't worry about the rest of what ever it is you're helping to dig up—"

" But we're right into the Palatine Hill—"

" I don't want to have Hurwitz taken out. That wouldn't in the circumstances, be gentlemanly, or necessary. Just don't take chances."

" I can balance as well as you can, and you know it !"

Skardon laughed. " Well, maybe. But personal danger detection was never a strong point with our family." He checked the assassin plane again, and thought : " You can say that again."

The pilot of the assassins' plane was of a high calibre, too. Whoever had hired him to kill Skardon had planned carefully and gone to a reputable organisation. The timing of the attack after that first cautious check showed that the plan had been to sink Skardon for ever in the Indian Ocean. Now the position, after Skardon's reversal of course, was that he was flying almost due south, the attacker on his tail, and the Shield Bearer's craft was hurtling northwards. Almost—but not quite—Skardon hoped that he would have to finish the job alone.

When his daughter spoke to him again, he answered casually, and he realised that he owed far too much responsibility in the System to allow himself to play about fighting aerial combats above the clouds. He was a staid businessman, an Aristo. Let the hired thugs do the dirty work.

But it was fun—and fun was a thing that no Aristo could have enough of.

" Are you all right, father," Estelle said suddenly. " What are you doing ? Is anything the matter ?"

At that moment the assassins opened fire. Skardon avoided easily and then, aligning his sights briefly and then breaking off, he fired a return volley. Not with surprise he saw that he, too, had missed.

" Everything's under control, Estelle," he said easily.

The attacker reversed, came in again. Skardon took evasive action. The call sign on his second radio circuit came alive and he answered at once.

It was not, as he had expected, the Shield Bearer agent.

The voice was sharp, precise, neat. It had no emotion whatsoever. There was a curious prolongation of some glottal stops that intrigued Skardon. The unknown said " Mister Skardon. We are being interfered with in this battle. Is this your will—?"

" Sure," Skardon said with quiet amusement. " I've no more time for this pleasant exercise, much as I might enjoy blasting you out of the sky."

His radar told him that the Shield Bearer plane was now approaching at something like Mach four plus. They'd be using retro-rockets at that speed, he thought in a mental aside.

" I was informed that you fancied yourself as an aerial fighter, Mister Skardon." The precise voice was polite, immaculate, spine-itching. " It seems that you prefer to hire your fighters—"

" Naturally. I have work to do. I do not intend that you —or anyone else—shall interfere with that. Goodbye."

" Goodbye, Mister Skardon. No doubt we will meet again."

Skardon didn't bother to say : " Watch it, then." He was listening to his daughter. The Shield Bearer fighting craft slid up, braking, turning, starting on a chase that, in all probability, on balance, would prove fruitless.

And the Assassin had had the gall to appeal to his sense of fair play in a fight ! Nerve !

The Shield Bearer bodyguard reported in prosaically and then checked out. The two planes, assassin and bodyguard, disappeared off his screens.

" Are you sure everything is all right ?" Estelle was saying.

" Perfectly, my dear. I've just had a quarter of an hour's pleasant exercise."

His second radio circuit call came on. He answered.

" Pallavicino here, Mister Skardon. Reports just coming into the office." Skardon smiled. Pallavicino was a good office manager ; but tended to fuss like an old broody hen. " Reports that heavy selling of Skardon Sales going on. Price dropping sharply. What move do you suggest, sir ?"

" Find out who's behind it. Who's buying. Then let me know at once." He chuckled, looking forward to that.

" I'll be interested to know who's—getting—at me."

four

The interior of the closed truck was stifling. The ten men sat on benches around the sides, their heads lolling and jerking with the motion of heavy tyres over un-madeup roads. It was hot. The noise of the diesel engine, groaning and whining to itself, penetrated as a nerve-fibrillating annoyance to all the men, save one.

Julian Justin had a frightful headache ; but that was not caused by the closeness, the heat or the noise. He scarcely noticed any of these discomforts. He sat, feeling ill, hearing strange sounds rotating in his head.

There was the incisive voice of the sergeant-major saying stonily : " You signed the enrollment papers, Justin. You are now a member of the Construction Crews. As a CC man you come under military jurisdiction. If you continue in your attempts to escape, to desert, then you will meet with the full rigours of Army Law."

And the compelling voice which had said, over and over : " Sign Julian. Sign your name. Just sign up. That's right. Sign up, Julian. Sign . . . Sign . . . Sign . . ."

And the long, bare, chill room where he and a dozen others had waited, stark naked, until the robot had examined them in turn, dispassionately, its lenses and probing fingers and meters taking everything in and disgorging a strip of magnetised tape which contained all there was of value to know about Julian Justin—ex Pool arab, now a CC man.

He felt awful.

The robot, had, rather naturally, pronounced him perfectly fit and A1 in every respect. He wondered sourly if robots ever had headaches.

At least, they didn't acquire headaches the way he'd achieved this stupendous hangover. This was a post-hypnotic hangover, a direct result of the mental take-over he'd experienced in the eyes of that man clad in brown who'd accosted him just as he was leaving Gorgon Industries.

Whether or not it was a put up job with the connivance of Cope he had no way of knowing. He took meagre comfort from the fact that Raphe Bartram was not with him, had not been with him since that catastrophic instant after waiting for the ten-wheeled truck to pass. Immediately his mood changed and he felt a maudlin desire for the comforting and reassuring presence of Bartram—why should Raphe escape and not himself ?

The truck jounced and turned off the dirt road on to a made-up surface and picked up speed. Perhaps, the thought jumped into his mind like a monorail train plunging into a station—perhaps Bartram had been killed.

The truck stopped. The tarpaulin at the rear was jerked back and the men began scrambling awkwardly down onto the concrete. They lined up, blinking in the sunshine. Each man wore a brown shirt, trousers and flat cap, and was getting his toes into comfortable positions inside brand new calf-high boots of some incredibly tough plastic new to Justin. He wore better clothes now than he'd ever had in his whole life. That just made him more angry and bitter.

There were other men gathering, urged on by sergeants and officers, so that soon the concrete area, surrounded by low single-storey fibre huts, was filled with silent ranks of brown-clad CC men. An expectant hush pervaded the scene. What lay beyond the huts, Justin did not know. He swallowed a few times, relished the fresh air, and waited.

Waiting to be told what to do was an occupational disease in the CC.

When at last an officer spoke to the men through a loud-speaker hook-up he might, for all they knew, have been speaking from Timbuctoo, the headquarters of the Construction Crews. In brief, staccato sentences he told them that they were assigned the task of building a spaceport on some planet or other out on the frontier of the Solar Technocratic Empire and three cheers for Earth, boys ! Justin spat.

Fortunately for him, he was not observed.

As the men were fed, kitted out, shown bunks, set to work cleaning up, Justin wondered how many of them were volunteers and how many had been tricked into joining. He had heard of the CC before, and had often pitied the men who found it necessary to enlist. The pay was meagre. That, where the CC normally worked, was unimportant. They were fed, housed, clothed and disciplined. They were expected to think only about the machinery or robots they were working with at any given time. As a life, Justin supposed savagely, it would suit a mechanically-minded cabbage beautifully.

That the work carried out by the CC in the human-dominated portion of the Galaxy was valuable he did not doubt ; he just wished that he hadn't been caught up in its wheel-grinding process—the spewed-out pieces were apt to be

small. He tried not to think of Bella Rose. With the continuous barrage of new sensations—for the moment—that was easy.

Justin was walking away from the Mess Hall after supper, still wiping out his mess kit, when he heard the uproar. Intrigued, he followed the sound around the corner of the block. He lifted himself on tiptoe and chucked his chin over a window sill, looking in, and saw bedlam.

A circle of tightly-packed brown uniform shirts was concentratingly pressing upon a single individual, who stood, tall, sallow-faced, highly indignant, upon a bed and clutched to him a deck of cards and a doe-skin bag that clinked and chingled, suggestively.

Angry cries splintered the air.

" Chiseller !" " Twister !" " Sharp !" and other choicely fruity epithets, suitably garnished with earthy adjectives, were hurled at the head of the man on the bed. Through it all he remained standing, head thrown back, chin drawn in so that his neck ridged, a conspicuous frown on his face giving him a ludicrous look of a huffy turkey. Presently he raised his hand. The others fell silent, reluctantly.

" Friends," began the tall man in a low, incredibly rapid speech, " Friends—you sent one of your number to buy the deck of cards at the stores here, you slit the seals, you opened the pack, you cut the deck and—"

" But you dealt !" went up a howl of indignation.

" Of course I dealt—but what I'm saying is that if anyone is to blame it's you or the stores. Maybe every deck is the same. Maybe this firm's robots went haywire and all over the Galaxy there are millions of these decks of cards all containing six aces . . ." His eyes glazed. " What a thought," he said to himself, awed. " What a thought !"

" Well, Ed, we want our money back. That's certain."

" Now have a heart, men ! I won the cash in fair play—"

" With six aces !"

Ed, the tall, thin, white-faced individual, went on talking, pouring out a confusing flood of words, contradicting himself, ploughing on regardless, mesmerising his audience. Justin chuckled. He recognised the smart-alec type well enough ; he'd seen plenty working in the Pool. This man, though, had a spark of some elusive quality that, right now, Justin couldn't put a finger on. Certainly his audience was under his thumb and Justin surmised that the man preferred to hear himself talk

and sway an audience more, even, than he liked playing cards for money—other peoples' money, from the sound of it.

The circle of brown shirts pressed closer to the bed and Justin, laughing, went on to his own barrack hut.

The incident, petty, unimportant, epitomising the sort of life into which he had been dragged, had, nonetheless for that, put him into a better humour. Life wasn't all black. And, anyway, he could always try to escape.

The following morning after a night's sound sleep and a solid breakfast, he didn't feel the escape idea was at all clever. From the hutted camp the brown-clad ranks marched direct across open moorland to a small spaceport where they embarked at once aboard a space transport, bulking huge and silvery in the early morning freshness. Justin swallowed.

Like every other newly-enlisted member of the CC, he'd never been aboard a spaceship before. He had never really ever envisaged himself travelling in space to another star. Throughout the Pool were the usual recruiting posters for the Space Forces and plenty of lads joined up. After twenty-five years service they could come out and then, if they wished, could join a Company and wear a Company badge. Becoming a fully-fledged Aristo after that beginning was another story altogether. There was almost a better chance by simply trying to join a Company as a lackey.

Whichever way a man from the Pool joined a Company, if he could, his erstwhile friends wrote him off with a shrug and a curse.

Around him the men were joking and talking to cover their nervousness. The air of tension was out of proportion to what they were doing, and Justin guessed this stemmed from their very greenness. People were travelling about between the stars every day ; it was commonplace—but the first time must always bring that old stomach tickle of anticipation. And the air of nervous jollity told him, too, that most of these men were volunteers. Those, like himself, who had been tricked into signing up remained silently aloof.

He saw the tall thin Ed busy talking and turned away. Suddenly, he was impatient for the spaceship to start, to snatch him from the Earth and perhaps to open to him a new life among the stars.

Space travel did something to Julian Justin. It put firmly and frighteningly into focus his previous life in the Pool. Meeting with other men brought squarely home to him that there were other Pools on the surface of the Earth. Where any ancient city had mushroomed in size, bloating outwards with new urban and industrial development then old city centres had wallowed in antique misery—remained much as they had been and formed a festering hive for the unemployed. He had known only his own Pool—there were many more, there were many other planets spinning around their own suns ; the vastness of it all crushed him down as the ship fled through space towards her far destination.

He knew the name of the planet on which the ship landed only as Erinore. It was a world strangely Earthlike and yet with an indefinable quality that made a man's hackles rise ; it was alien in a subtle, disturbing way. He gazed about as he waited his turn to descend the ramp from the ship.

Distant hills, a hint of green and brown, a silver thread far off where a river wended towards the invisible sea. A fresh, crisp breeze, which was welcome after the shipboard canned air, rippled the tufty grass of the great plain, scouring the vast open area which they had come to terraform into a spaceport and a town. Well. They'd do it, all right. With the men and machines at their disposal, they could terraform the whole planet.

Perhaps, Justin thought, stepping down onto an alien world, perhaps they would.

five

Terraforming an entire planet took time, even for the robots and machines and men of the Terran Construction Crews. Time, measured in hours and days, ceased to exist. Time was measured in minutes and years.

Minutes to mark the slow approach of knocking off time at shift's end.

Years to measure a man's life on an alien world.

Time passed as in some garishly illuminated dream sequence with grotesque shadows pirouetting against the forefront of a man's mind, with the petty distracting details of daily life absorbing every ounce of a man's attention and softly cushioning his reason against the dripping away of the years. To

Julian Justin time passed like fish struggling up against the sharp thorns of a basket trap, angry, impatient, furiously impotent with the frightening, soul shaking rage that rends a man—or a trapped fish—when the knowledge of complete captivity bites into the mind.

The spaceport was built. The town was built. Before the eager settlers, each one wearing his Company badge, crowded in with their family life and their factory canteens and service centres the Construction Crews moved out, trailing away to the other quadrant of the planet's continent where they began, all over again, to build a spaceport and a town. Time passed.

The first occasion at the new site when the placid existence of work and short, bored recreation followed by more work was broken found Justin directing his team of excavating robots and trucks between two craggy mountain ranges. The dust was being sucked up, processed, compacted and laid down as a firm smooth surface by a team under the direction of Ed Rayburn some half a mile back along the valley. Justin was at his switchboard, controlling his team as it swathed a broad cut through the valley floor, packing the foundations for the road and railtracks that the team following Ed was laying.

Justin was hot and tired and bored. Ahead a narrow crevice in the mountain wall debouched into the valley and he directed the necessary robots to dam it, redirect the water stream that would in the rainy season pour down in a torrent and then to pass on to the next task. As he did this he saw Ed's tractor with the transparent plastic dome atop it shining in the sun—the alien sun—begin a dusty race towards him. He watched, mildly interested.

Looking back like that, with the remainder of his team labouring away to his rear, the speeding tractor with Ed at the controls racing towards him, Justin began to feel uncomfortable. He sighed. He flicked his radio on.

" Ed ? Julian here. I don't like the colour scheme around your way right now. Why don't you hold on for a bit ?"

Ed's voice was sharp, torrential. " More colours, Julian ? Why don't you take a quick peep at them with a colour movie three-D camera, might have a saleable commodity there. Right here, you say ? Okay, I'll hold on—"

The rest of his words from the loudspeaker were smothered in the rumbling crescendo of sheer noise as the five hundred foot high mountain wall began a majestic slide outwards and

downwards. Robots dodged frantically for cover. Ed backed up. Julian turned his tractor into the side and speeded up, away from the downpouring rock.

The noise battered everything with corrugated-iron cadenzas. Two robots were trapped. Their shining bodies vanished in the smothering dust and smoking rubble that overwhelmed them, crunching and smashing down indifferently on rock and valley and robot alike.

" Strewth !" Ed said at last from the loudspeaker. " What a mess." For him, he was speechless.

" And here comes the sergeant," Justin said drily.

Both he and Ed were bawled out. They received a punishment task and were deprived of a week's permission to visit the canteen in off duty hours. Justin didn't bother to protest that the avalanche hadn't been his fault. You didn't argue with the sergeants of the CC. He carried out the rest of the drudgery of his shift with savagery and embittered anger, the terrible choking rage that comes with the knowledge that you are completely helpless to redress the wrongs you suffer.

Later that day under the declining alien sun he and Ed sat in the shade of a rock outside the compound area and cussed out the sergeant, the CC, the Companies, the Aristos and everyone and everything in general. Then their talk got around to Justin's colour awareness.

" Of course, it isn't colour really, Ed. Just that I seem to feel that a danger is ahead. Not the sort of danger and no very definite picture ; just a general feeling of unease. But the colour variations can tell me things, too."

" Yeah," said Ed, throwing pebbles at the scuttling little green insects that laboured over scattered orange peel. " Sure. I understand you perfectly." He went on talking. Justin just lay back and listened with half an ear, content for the moment to dispense with the need to think. He was fast becoming a mechanical cabbage—and that didn't appear to worry him in the least.

". . . over the wall and into a flier in ten seconds flat," Ed was saying, his hollow eyes fixed on Justin's face. He had forgotten his target practice. " Just let's milk these guys one good time, take them for all they've got, and then get the hell outta it on that flier."

" If you're talking about escaping—" Justin began.

" Haven't you been listening to me ? There's a flier, private job, landed at the field this morning. Saw 'em from the

bathhouse. Nice chick inside, too. But let's not worry about her—right now we have these guys for their underpants, over the wall, grab the ship and away—"

" Hold on," interrupted Justin. If you didn't interrupt Ed you remained silent. " So there's a ship. So we grab her. And then what do we do ? Fly her through space back home?"

" Don't you ever listen when I'm talking ?"

Justin laughed hollowly.

" Now take this in. If we can make it back to that town we put up first, coupla years or so back, then we can roll in, flash our money about, put on the big act, and book passage home. This can be done." The passionate sincerity in Ed's voice revealed the depths of emotion in the man, belied by his offhand, supercilious, smart-alec exterior.

" We-ell," Justin said doubtfully. He stopped Ed's automatic response to a challenge, the pouring out of floods of words, by standing up and walking away. He pondered. Then recognising the need in Ed to talk, to express the madcap notions that continually flittered through that odd mind, he swung on his heel and, with a little smile, said : " Suppose you just go over your scheme in detail, Ed. And by that, I mean detail me every stage of what you propose. And no casual : ' We can easily deal with that when it arises ' nonsense."

Ed chuckled. " You know me too darn well, Julian. At least, you think you do—I wouldn't bet on it too strongly. Now—"

" I never bet with you, Ed."

" Wise man. Right. This is the plan." As Ed detailed it, Justin was forced to admit that it had hope. It was not the usual feather-brained idea that Ed was unendingly propounding. The major problem would be clothing. This time, perhaps, they might do it.

The friendship that had sprung up between these two was an odd plant, a growth of recognition of qualities in each other that might be useful in any mutual programme. Ed, with his continual talk, his wild plans, his thin, fanatical face and restlessly moving hands, and Justin, with his half formed ideas on the Solar System, his uncertainties, his awareness that he needed to know what he was doing before he chanced his arm, strengthened by his ' colour ' awareness of potential danger. Ed had latched on to that—fast.

The first phase of Ed's scheme was put into effect almost right away. Casually operating in various undercover hidey holes were card schools, crap games, a variety of mechanical games of chance and skill that had one object in view ; the enrichment of the owner. On Erinore the CC men's pay could be spent in the canteen or gambled away. The gamblers were always in funds. Justin and Ed found a game wherein the object was to place your money on one of a bank of Geiger counters. The banker triggered the central radioactive source which was screened by a rotating leaden shield. When the shield stopped moving the stream of radioactivity would activate one of the Geigers. If your money was on that counter —you collected. There were variations of the rules designed to make it easier for the banker and tougher for the suckers. Ed squatted down behind Justin and they pooled their cash.

" Remember, Julian. You stake your money when the lead shield is already moving. If you go to put the money on the wrong Geiger counter I'm going to stick this needle into your seat. Hard. So if you want to avoid a nasty needle wound where it won't do you any good, you'd better see the right colour scheme."

The game began. The lead shield revolved. Justin reached out, saw no colours, and plumped for the Geiger nearest him. When the lead shield stopped another Geiger counter clicked mockingly. He was just thinking with resignation that that always happened to him when he leaped into the air, squawking, his hand rubbing his posterior.

" Hey !" he yelled, outraged.

" Sit down, bub !" called other players. " Keep it quiet."

" I warned you, Julian," Ed said, satisfaction oozing in his voice. " You make the mistakes, you get the needle."

" I didn't think you'd—"

" You bet you didn't ! That's why we lost my money." Ed gripped his needle tighter. " Get with it, boy."

Uncomfortably aware of the threatening needle hovering around his pants, Justin reached out again, aiming to put the cash on the nearest Geiger. The colour smelled all wrong. He moved his hand around the Geiger banks. The colour smelled badly—and then cleared. He laid the money down and sat back. He could hear Ed's breathing and feel the warm breath on the back of his neck.

The lead shield rotated, slowed, stopped. The right Geiger clicked. Ed exerted all his will-power and refrained from helping Justin gather in the shekels. He chuckled and brandished the needle under cover of Justin's shirt.

" Just remember, Julian. You loose—you get the needle."

Justin saw his colours clearly—and didn't lose.

When that banker grew shirty—grew obnoxious—with them, they moved on. Ed chingled the cash in his doeskin bag and chuckled. Justin rubbed his seat and decided he was suffering in a good cause.

" But you needn't have stuck me so hard—nor have damned well enjoyed doing it so much !" he burst out.

Ed laughed. " Where money is concerned, all tender feelings must be ignored."

" My tender feelings are the ones being suffered," he said, and then in turn, had to laugh. He had felt confident, despite that first set back, that this scheme would work ; but it had taken a man with the tortuous mind of Ed to plan it out, simple as it was when thought of. And he knew, too, that the fears that had obsessed him just after he had forcibly been signed on in the CC that his powers of colour prophecy had failed were groundless. He had been so overwraught with grief for Bella Rose and so choked up with anger at the sale of her skin that he had been in no condition to see his colours when the CC recruiting sergeant had hypnotised him. Well—that was the way the Galaxy went, he supposed, sitting down to a new game.

The sharp needle was not called into action again. Justin and Ed moved from game to game, steadily piling up their winnings until Ed's doeskin bag and Justin's pockets fairly bulged with broad soldars and crisp Aristo notes.

" Money is always circulating in the CC camps," Ed said. " Lots of it. You'd be surprised."

" We can't expect to win all of it," Justin protested. "Someone's bound to catch on, and then—"

" And then we'll be away in that flier. Come on. One last game. I owe this guy a bad turn, he milked me last pay day." Justin saw to it that Ed in return milked the banker, and they walked off, laughing softly until they were out of earshot and then bursting into great guffaws of hilarity.

Ed just couldn't stop talking about it. They walked in the darkness of the alien night over to the wall of the camp and Justin stood on Ed's shoulders and stared across the landing area at the lights of the fliers and control tower.

" It's that one with the three red lights in a triangle over the fin. Spotted it yet ?"

" I see it," Justin said. " Ready ?"

" We're taking that flier to town, and we're booking passages off Erinore, back to Earth," said Ed with quiet passion. His very tone was strange. " I've had enough of working for a living. Back to the Pool—and an easy life making a fortune gambling with my little needle. Check ?" Ed was talking of a different Pool from the one which had reared Justin ; but the thoughts of the two were identical.

" Check," Justin said sombrely. He heaved himself up onto the wall. " Come on, Ed. We're on our way back to Earth."

six

The years that had seen Justin taken into the Construction Crews and working with robots and machines on Erinore terra-forming that alien planet had seen Harold Vladimir Skardon no nearer his heart's desire. He was still president of Skardon Sales ; that, and nothing more. Grim old Eli Skardon still reigned over Gorgon Industries, letting the huge industrial complex run along a well-worn groove, and all Skardon's and his brother Louis' pleadings could not move the old man a single millimetre.

" We're making money," Old Eli said. " I'm running this Company. What I say goes. We don't go into these hair-brained schemes of yours, so forget them, understand ?"

" Look at the Caron Company," Skardon protested. " They've plunged heavily into spacecraft production—"

" And well they may, son. We've traditionally never touched spacecraft. There is no good reason why we should now."

At the time of this one-sided conversation the Skardon family—the whole sixty seven of them, counting grannies, cousins and aunts—were indulging in their annual holiday junket. This year they had chosen one of the Titan hotels from which a superb view of Saturn and his rings was visible and, although this was acknowledged to be the second most beautiful sight in the entire Solar System, by the third day no-one cast a second glance through the glassite roof. They were all too busy calculating out balances and weighing chances and having a dinosaur of a time slanging one another and struggling for power.

Old Eli emitted his gummily wheezing laugh. " When I'm dead and spaced out you can start your pranks with the Company. And mess it up altogether, most likely. But as of now, what I say goes. Don't forget it."

" But we have to modernise, father," Louis protested. Louis was a slighter and slimmer version of Skardon—and he did not possess the same implacable toughness his brother spilled out in every gesture. " If we stand still we're marching backwards. You know that."

" Don't start preaching at me, you young whipper-snapper! Old Eli glowered at his two sons. " My balancing tells me all I want to know, and I chart my path accordingly. I've weighed it all up. We go it all my way. Now scat ! I've work to do."

As the two brothers left, Harold Skardon said to Louis : " If I didn't like the old man so much I'd—well, I'd put in a call to Shostache."

" Skardons' have always used Granger—" Louis said automatically. Then he stopped. He turned his head and stared at his brother, astonished, dismayed. " You mean you've actually considered calling an Assassin Agency ? Harry —you must be mad ! We don't do things like that within our family."

" I know, I know. And of course I wouldn't. But his stubbornness makes me so—so annoyed."

Louis hesitated, then said softly : " Talking of assassins remind me that I think one was put onto me. At least, I had to cancel a trip unexpectedly at the last minute this week and my personal spaceship blew up off Luna. Could be accidental I suppose, but—"

" But nothing !" Skardon felt anger. " I was supposed to have been poisoned and shot down some time ago. Poor Cobb drank the poison and I managed to fight off the assassin ship. But if they've started again—this time on you—we may have a fight on our hands. I never did find out who was responsible for the two separate attempts on my life."

The two men walked down the crystal corridor beneath the hanging lamps and entered the private bar where robots poured them drinks. The aftermath of this latest brush with their father made them both a little reckless in their talk and actions, as though by grandiloquent gestures they could redeem their manhood in each other's eyes.

They both knew who and what they were ; they could both balance as well any other Aristo of the upper crust. As fully-fledged members of the Aristo overlords, handling with casual care and brilliant expertise the destinies of many men and much money in the Solar Technocratic Empire, they were Homo Sapiens and above mere men, and this they knew. The chafing restrictions of anyone upon their wills would not have been tolerated for a second—only one man could control them ; their father. And he rode them as though with a goad.

For any man not only to struggle through to the front rank in the hierarchy of wealth and power in the solar system but to remain in that privileged position year after year demanded certain powers and accomplishments that the ordinary man just didn't realise existed. Even if he did, he'd turn away with a yawn, back to his hi-fi set, his football gambling, his local club, and the telly. Company men wearing Company badges worked for the Company on Company time—outside that they were strictly for number one.

The two Skardon brothers talked. Gradually they began to exert their own personalities again which, as usual, had been crimped somewhat around the edges by the impact of their father's dominance. The bar door opened and a robot, after a single dazzling inspection, began to pour a drink.

Louis, looking at the drink, said, without turning his head to the door ; " Come on in, son. Your uncle and I are discussing the ills of the system and finding universal remedies in the bottoms of glasses."

" An empty liquour glass," Young Eli Skardon said, draining the drink poured by the robot. " In that you find the solution to any problem."

Quite abruptly, breaking the mood of heavy-handed facetiousness, he threw the glass from him with savage violence. It flew towards the wall and only the robot's quick and automatic beam spearing it and returning it to the bar saved a shattering of Sirian crystal. Young Eli glared at his father and at Harold Skardon. He was too handsome for his own good, and with his heavy shock of black hair, regular profile and curved, almost womanly lips, he often reminded Skardon of Louis' wife and of the double fatality that had killed both her and his own wife, Estelle's mother.

Skardon did not like those memories. He drank again, and the three began to talk of ' change ' and the way things weren't

the same as they used to be and, inevitably, the talk veered around to the improvements they wanted to introduce into Gorgon Industries and its subsidiaries and the way in which old Eli was cheerfully frustrating every attempt.

Young Eli was vehement, his face flushed, his heavy hair almost slipping free of his magnedust dressing.

" It's all right for you two—you still see things in the same way that grandfather does and even though you want change your idea of changing the Company is entirely piffling in comparison with mine and the other go-ahead folk like me." Young Eli had always, since he had grasped just who he was and in what company he was to move, talked to his father and uncle as an equal. They didn't mind. They felt, reasonably, that they couldn't deprecate old Eli's high-handed curmudgeon-like way of carrying on and proceed to carry on in the same way to their juniors.

At this outburst from young Eli they remained calm.

" We'll change things in due course," Louis said. " We'll make alterations. And then it'll be your turn to complain that we don't give you enough responsibility—"

" We people of the new generation intend to operate things in a different way." Young Eli looked very intense, very fierce. " If you run into an obstruction—well, it has to be cleared away."

" Sure," Skardon said, only half smiling. " Surely you have to clear it away. But there are ways and ways of doing that."

Young Eli started to say something, changed his mind, finished his drink and, negativing the robot's immediate attempt to refill the glass, slid off his stool and walked away.

As he went out the door he said : " There'll be changes. There are going to be changes. And pretty quick, too."

The two Skardon brothers exchanged glances.

" He may be a first-rate balancing Aristo," Louis said at last, a lop-sided smile dragging down his mouth, " but he's just like his mother. Headstrong."

" True enough. But what did he mean, d'you think ?"

Louis took a new drink. " Just big-time youngster talk."

An unease that Skardon couldn't pinpoint was needling his mind, making his balancing power vague and uncertain so that he felt an unbrotherly reluctance to open his thoughts to his brother. Maybe it was just frustration stemming from his father's intransigence ; maybe it was something else. What-

ever it was, he didn't like it. He determined, then and there, to take particular precautions in the future.

Oddly, he felt they would be justified.

In the jungle that was modern system-wide business, only those men and women specially adapted to the new life could hope to succeed—could hope to survive at all—and so it was with no surprise that the Skardons, soon after the events of their family reunion on Titan, discovered that their various Companies were being pressured. Harry Skardon checked with his friend, George Caron ; but drew a blank. Louis Skardon made discreet enquiries and came up with nothing.

Old Eli simply sat tight, like a grey old spider with stiffening legs, and clutched his empire tighter about him.

" We fight 'em back," he said, chuckling his gummy wheeze. " No one can take away from us what we've built up—no one."

The two Skardon brothers felt uncomfortably that the old man was as lief likely to tilt at them as at this hidden assailant on their business empire.

They sat up in business discussions with their various office managers for periods that exceeded three days, and from there went straight aboard spaceships, catching perhaps six hours sleep before plunging immediately into four and five-way radio and television conferences, with steady streams of messengers and advisers pouring in and out of their spaceborne offices. This was the work they thrived on.

Eventually, goaded almost beyond endurance by the stony unforthcomingness of his father, Skardon summoned his brother Louis and together they made their final plans.

The room in which they sat was thick with tobacco fumes. Dozens of telephones and radio and TV sets kept them in instant communication with their outlying offices. Between their private discussions they dealt with problems, balanced, weighed, issued orders and decided the fate of many men and much money.

" The whole situation is preposterous," Skardon said with quiet vehemence. " Father just doesn't realise what is happening."

" He must," Louis pointed out sadly, " at least see the way in which the family is being let down. The value of our holdings is shrinking faster than—well, faster than a private individual's fortune on the system stock exchange when he invests without balancing."

" You're not suggesting that father's lost his powers?"

Louis shook his head. " I don't think so. Someone—and it doesn't really matter who—is out to sink Gorgon Industries. We're fighting back. It would help if we knew the identity of those responsible ; but as they act through agents to the nth power all the time, we'd have to wait a long time before we had need to call in the Assassins. No—father's fighting as best he can. But this situation needs new methods."

" All right." Skardon had made up his mind and, although he felt uneasy that the balancing picture wasn't clear and therefore he couldn't foresee a hundred per cent certainty, he determined to press ahead. " We must work on father, oust him from the chair. You can take that, if you wish, Louis. That isn't important. What is important is that we stop the rot in Gorgon, and expand in a modern way."

" Stop the rot." Louis sighed. " I'll be the figurehead if you wish, Harry. But you're the power, you know that."

" Just so long as Gorgon Industries is saved . . ." Skardon said. " I know a man, young Paul Hurwitz—"

" Feller always after Estelle ?"

" That's the one. He's tough and unscrupulous and balances pretty well, even if he's useless in affairs of the heart. We'll work through him." Skardon chuckled. " He proposes to Estelle on some sort of schedule. She considers him quaint, a sort of permanently disoriented mascot, there when she needs an escort. I feel sorry for him, in a way."

" If we can swing what we want ?" Louis sounded doubtful.

" We will." The ugly tone of Skardon's voice crept into his orders and correspondence which he had, like his brother, been carrying on throughout their conversation. A secretary looked up in surprise.

" Carry on, Miss T'sung," Skardon said. " Slight overspill from another thought stream. Sorry."

Miss T'Sung's almond eyes softened. The great men had too much to occupy their brains with, she decided, and went back to their team of robot clerks.

The great men went on planning the affairs of the Solar Technocratic Empire. The only fault with that at the moment was that the Skardon family, of Gorgon Industries, was fighting with its back to the wall, and failing fast.

Harry Skardon meant to alter all that—and he didn't care how he did it, either.

To be continued

While it is not possible to fool all the people all the time, it might be a good idea—in an advanced technology where human beings lead a prescribed and sheltered life—to at least try. Whether the ultimate worth is an advantage or not is described by new author Richard Graham.

THE REALISTS

by RICHARD GRAHAM

He went through the arched doorway to the building, past the ever-present sign which said ' No Techs Allowed ' in large flashing letters, and down the corridor to the express lifts. Not much time to think between the pressure of acceleration and the lightness of deceleration, but time to feel a slight sense of depression and a slight reluctance to go on, to leave the lift and enter his home and proceed to another predictable evening with his wife. The feeling was brief, however, almost as brief as the surge of power which brought the lift to a halt at the entrance to his flat, and in any case it was not a depression to whose existence he cared to admit.

The steel door slid back as he pressed a finger to the lock. He stepped from the lift and felt the swish of air as the door slid to again behind him. His wife appeared from the lounge and as he walked towards her to kiss her he noticed that she was upset. Worry descended on him like a cloud and his pace almost noticeably slowed, for this, this departure from the normal placid run of existence, was an event he always dreaded.

" Henry, I've been so worried," she said.

" I can see you're upset, dear. What is it ?" He would rather not have known.

" It's Jimmy. He's been picking up the most ridiculous ideas at school. I think we'll have to complain to the authorities about that : planting wild notions in boys too young to understand what they really are."

" What ideas ?" said Henry patiently.

" That's the trouble ; I couldn't find out what they'd actually told him and so I didn't get far in trying to show him how foolish he was being. You'll have to have a word with him yourself, dear, and see if you can make any impression. He's being quite stubborn about it at the moment." They were both inside the lounge by this time and Henry Bennett settled his wife in a chair and then sat down himself.

" Yes of course, dear, I'll talk to him. But what did he actually say ?" He was accustomed to dealing with his wife when she was flustered.

Mrs. Bennett replied in a stage whisper that could have been heard in the next room. " He said he wanted to become a tech." She paused dramatically.

" Come now, dear, that's no cause to get upset ; boys of his age get lots of wild ideas which they—" The automatic process of calming his wife dried up as he took in the magnitude of what she had said.

" Oh, don't be so silly, Henry ; this is serious. Think of the disgrace. What would happen if the neighbours found out that Jimmy even wanted to be a tech ? We'd never live it down. You will talk to him won't you ? And be firm with him."

" I will certainly have a word with him," said Mr. Bennett, pretending determination, " but I think you exaggerate the seriousness of it. He's young yet, he'll grow out of it soon ; probably forget all about it. And anyway the whole idea is quite impossible ; you have to *be* a tech, you can't become one."

" But that's the whole point," replied Mrs. Bennett in agitation, " that's what they've been telling him at school, than you *can* become one. One of his teachers has hinted as much ; I wish I knew which, I'd have a thing or two to tell him. Filling innocent minds with such things ! But Jimmy believes him and—oh, I'm sorry to be so upset about it, dear, but I really am worried about the whole business."

" That's all right, Martha, I quite understand," said Mr. Bennett.

Having thus stated what it was that was worrying her, Mrs. Bennett immediately ceased to worry about it, and her mind, grasshopper fashion, switched to other things. She got up lightly from the soft chair on which she had been sitting, said " I've got a real home-cooked meal for you tonight, darling," and vanished into the kitchen.

Mr. Bennett sighed, genuinely distressed by the news about his son, and further dismayed by the thought of one of his wife's self-prepared meals. Unlike her, he did not find it easy to put his worry aside and set his mind moving on fresh topics ; the prospect of the evening in front of him was a gloomy one.

He wandered into the dining room, idly watching the section of the wall slide noiselessly open and shut as he passed through. He wasn't looking forward to the interview with his son ; he had a strong affection for him, and this often led him to yield to him more than he should ; in fact he was surprised that Mrs. Bennett had asked for his assistance since it was usually she who had the greater disciplinary effect. He agreed, however, that something should be said. It was troubling to know that Jimmy could be receiving these damaging ideas in the process of his education, to know that the techs had their sources of propaganda even in the schools. Nevertheless he didn't relish saying it, or at least he didn't envisage himself saying it with much effect.

Jimmy didn't appear until the meal time was actually announced, and then he arrived in the dining room looking sulky. Mr. Bennett guessed that forceful words had already passed between Mrs. Bennett and her son. He greeted the boy as cheerfully as he could but did not get much response.

The meal was a subdued one. Mr. Bennett felt bound to compliment his wife on her ' home-cooking,' though he could never understand why she was not content to use the excellent machines. " This is very nice, dear," he said, and was tempted to add the time-worn comment : " What is it ?"; but he resisted the urge. This would not have been a tactful thing to say under the circumstances. And Mr. Bennett never said tactless things to his wife.

Towards the end of the meal Jimmy started to brighten up, then spoke. " Dad, it's nearly time for the Serial, isn't it ?"

" I suppose it is, son. Let's move into the next room."

Mrs. Bennett said : " I can't think why you want to watch that morbid programme. I have half a mind to forbid you, Jimmy, after the way you've been behaving."

But she didn't forbid him and indeed she watched it herself, because almost everybody watched the Serial, even those who, like Mrs. Bennett, didn't think they were really interested.

In the next room, Mr. Bennett adjusted the switches, and the wall at the far end, the ' screen ' wall, began to glow, and they settled themselves in chairs and watched it ; watched as the glow brightened into swirling colours, watched as the swirling colours coalesced into sharp images. They saw the tail-end of a programme, heard the usual station announcement, then the familiar title, ' The State of the War ' flashed on the screen and the Serial had begun. " Once again," said a realistic-toned announcer, " we take you beyond the atmosphere, beyond the planets, out into the reaches of intergalactic space, to see and hear for yourself the latest bulletins from the—' War in Space ' !"

The titles faded and the scene shifted to the control bridge of the flagship of the space fleet. The camera moved in to a close-up on the Commander of the ship, impressively dressed in the red and gold uniform of a tech-first class. The Commander spoke, outlining the progress of the war to date and preparing the way for the latest episode.

" Is that a real tech, Daddy ?" asked Jimmy quietly, awe in his voice.

" No, no, son ; not real."

" Who is it then ?"

" Nobody at all," replied his father, sorry to be disillusioning his son, but glad that it was being made so easy. " That is, it's a model, not a real person."

" A model." Jimmy sounded disappointed. " Are they all models then, Daddy ?"

" I'm afraid so, son. If you could see that control room the way it really was, you'd discover that the commander was about the size of your little finger."

Jimmy was silent, listening to the words of the little model commander who looked so real and convincing.

" . . . and so the position is serious. The alien ship has now only to penetrate our rear lines of defence to be in a position to do considerable damage. Our latest reports

indicate that it will probably make its attack on these lines somewhere in the M59 sector and preparations are being made to withstand this attack. For the latest information on these manoeuvres we take you over to Captain Howarth aboard the *Firefly IV*."

The scene blurred and shifted, then refocused on a smaller control cabin. The figure of a man, again arrayed in the tech-first-class uniform, was seated at the control panel with his back to the camera. He was staring intently at his instruments, in particular that labelled *video information*, which appeared to consist of an assembly of projector plates enclosing a black cube of space. In a corner of the cube gleamed the tiny replica of a spaceship. The man, Captain Howarth, swung round and his face was harassed.

Jimmy said : " If they're all models, Daddy, why are they dressed up as techs ?"

Mr. Bennett paused. It was not easy to explain the rather complicated position the techs held in society, especially to a thirteen year old child. Besides which, it was not a subject people thought or talked much about. He answered as best he could.

" The fact is Jimmy, that although we employ the techs to provide us with an entertainment service, we don't trouble to supervise them very much and we let them have a pretty free hand. Thus it's natural enough that they should make their models up complete with their own tech uniforms. After all it doesn't really matter what they wear."

" The man at school said we couldn't change the programmes even if we didn't like them," said Jimmy boldly.

There was a shocked exclamation from Mrs. Bennett. " There you are, Henry, it's that dreadful school. What are we to do ? Jimmy, you must not accept things like that when they tell you them. The techs are—well, they're a different *kind* of people to us, and sensible folk have as little to do with them as possible. They're a step *down*, dear, a step down ; you mustn't believe any nonsense they tell you about them at school. Henry—" It was an appeal.

Mr. Bennett felt a slight confusion, a strange confliction of ideas which he couldn't analyse and which he couldn't understand. But through the confusion he knew that he must support his wife. " Your mother's right, son," he said,

" they've been giving you incorrect facts about the techs. If we didn't like the programmes they gave us we'd have them change them."

Jimmy looked a little sullen for a moment or two, almost it was as if he didn't quite accept what his parents had told him. Then his attention gravitated back to the screen again.

The picture had changed to a close-up of the black cube of space with its little gleaming space-ship and the voice of the Captain was saying : " . . . is a device for showing visually in three dimensions exactly what is going on out in space. The ship you can see in this corner "—a finger pointed —" is our own ; according to our long-distance trackers the alien ship should just about be coming within range of this instrument now." A hand appeared at the bottom of the screen and started adjusting one of the knobs. " By altering the scale we can effectively increase the range."

The tiny space-ship started to diminish in size and to move further in towards the centre of the cube. Another hand appeared and started adjusting one of the other knobs. The ship moved out to the edge of the cube again and continued to diminish in size until it was a dot of light. Other dots of light began to appear around it. They all decreased still further in size, then they were barely visible pinpricks. There was a sudden exclamation from someone out of range of the camera. On the other side of the cube, another, isolated, pinprick of light had appeared.

The Captain's voice was tense as he indicated the new spot of light with his forefinger and said, " There is the vessel we are seeking to destroy. The automatics will already have discharged their missiles, for their range is the same as that of this video apparatus here." He glanced at an instrument out of range of the camera. " As yet there is no report of any similar offensive from the enemy." After that he was silent, not wasting his energy on a commentary of the events which were plainly visible on the screen.

The motion of the alien ship was just appreciable to a steady eye. Occasionally the Captain would readjust the scale so that the opposing forces were occupying the maximum volume of the cube ; and as the apparent sizes of the ships grew larger, so the missiles which had been discharged by the earth ships became visible as a cluster of the tiniest of dots. They had travelled about a third of the distance to the enemy ship.

At last Captain Howarth spoke again : " At present our operations seem to have been a complete success ; as you can see our missiles are well on their way to their target. From our information about the size of the alien ship it is very unlikely that they will have equipment to destroy the number of missiles we have sent out, in which case they have no alternative but to turn and run. There have been rumours of a new weapon but we are not unduly worried at the moment; if they did have one, we feel they would have used it by now."

This speech was unfortunately timed, for it was right after he had finished it that the aliens made their move. The dot of light which represented their ship suddenly changed its course and then its movement ceased to be visible ; at the same time it discharged something, something which in the minute scale of the video cube was merely distinguishable as another tiny dot. But this second dot was travelling fast, much faster than the original ship had been, and it was headed straight for the cluster of missiles.

There were sounds of movement in the control room, exclamations from various unseen personnel, and a general indication of confusion. The Captain didn't attempt to right his mistake and was silent, concentrating his attention on the steadily advancing dot. Gradually the noise subsided and was replaced by a tense silence. They realised that the affair was out of their hands, that whatever happened to the missiles they had fired was out of their control and that all they could do was watch and wait.

As seen in the video apparatus, the meeting between the alien dot and the missiles wasn't particularly violent ; it was as if a piece of steel had briefly touched a spinning grinding wheel without making a noise ; there was a small shower of tiny brilliant sparks, then blackness again ; the missiles had disappeared and the alien dot continued inexorably along its path, having changed its course slightly to take it directly towards the scattered group of dots in the corner of the cube. The original ship had also changed its course again and accelerated, so that it was following its destructive weapon from a safe distance and on a parallel path.

Noise broke out again in the control cabin and the Captain could be heard issuing orders ; more missiles were discharged, safety bulkheads were closed, the whole ship went on Emergency Stand-by, and every available defensive weapon was

brought into play. Then, as before, the noise subsided and the crew resigned itself to a silent wait.

Captain Howarth continued to adjust the video cube as the enigmatic dot drew closer to the new cluster of missiles and the group of ships, and with each alteration of the scale the speed of the dot appeared to increase. Presently there was another flash of sparks and the missiles were no more. A tremor ran through the cabin, a tangible despair. The Captain's voice, rapid and nervous, was heard ordering the close range weapons to be fired, then summoning every weapon available to be brought into use ; ship after ship spewing out weapon after weapon, bomb after bomb, in a desperate and almost pathetic effort to destroy the Undestroyable.

Towards the last, long after it was clear that defeat was inevitable, the Captain ordered the retreat, then changed the order to evasive tactics ; but it was too late by that time, much too late. The alien dot had assumed a definite spherical shape in the video cube and the ships opposing it on the other side of the cube would need time to align their axes and activate their engines, time which they didn't have. As the camera moved out of close-up to show a fuller picture of the cabin the genesis of the destruction could be seen ; instruments shattering, bulkheads twisting, the whole ship yielding to an unopposable force. Then the screen went blank.

The picture came up again with a long range shot of ships exploding, disintegrating and vapourising ; an announcer explained that an electronic telescope was being used to follow the events.

It was the pictorial equivalent of a shower of sparks.

Sitting in the darkened room, watching the wall-picture intently, Jimmy said : " Daddy, were all those men killed ?"

" Well, I suppose so, son, but don't worry about it. I expect we'll do something equally vicious to them in the next episode."

" Why were they killed then ?" His young face was earnest.

Mr. Bennett smiled, thinking how tenacious a boy's mind could be.

" Jimmy," he said, " you take the whole thing too seriously. You must remember that things like that can't actually happen, people don't fight one another or even monsters from space, so one can't always explain everything that happens in the Serial. Bear in mind that the ships and the men are carefully

engineered models—miniature robots if you like—and that the programme is all recorded right here on Earth, and you won't find it so confusing."

"Don't people ever have to fight for things?"

"Not when they've grown up," said Mr. Bennett carefully. "Occasionally you find people who have never grown up, and who will fight other people, and that is why we have laws to protect these other people; but generally speaking men do not resort to violence to settle their differences. And the idea of whole groups of people fighting is—well, more than one can credit. Certainly such a thing has never happened before."

Jimmy started, "At school—" then thought better of it.

Mrs. Bennett exchanged a look with her husband.

Mr. Bennett said nervously: "Jimmy, I think we ought to discuss this a little further. Let's go into another room."

The Serial had finished, concluded by one or two announcements, and Mr. Bennett switched off the screen and turned up the lights. Then he led his son through a sliding wall into the lounge. They sat down.

Mr. Bennett plunged in. "Jimmy, your mother's very worried about some of the ideas you've been picking up at school which apparently the teachers themselves have given you, and I'm rather concerned about it myself." Nervousness made him pompous, and he tried to be more natural. "Now this business about the techs. It's all very well at your age to say that you want to become a tech, I suppose there is some glamour attached to them, with their uniforms and so on, but you'll find as you get older that there's nothing enviable about them at all. I know it's not always easy to say why they're frowned upon, but they seem to have the less pleasant jobs—mending things, working in factories and so on. It isn't that we have anything against them, of course, it's just that, well, we'd hoped for something better for you. I'd always rather assumed that you'd go into my profession, jewellery design, but—"

"I don't want to do *jewellery* design," interrupted Jimmy, a wealth of distaste in his voice.

"Well, ahem, yes," said Mr. Bennett, embarrassed. "Of course, you don't have to do jewellery design, only—"

"I still want to be a tech."

Mr. Bennett sighed, wishing again that his wife hadn't entrusted the boy to him; she was so much better at dealing

with him when he was obstinate. He felt lost trying to argue against his son's unreasonable conviction.

" The fact is, Jimmy, that that is quite impossible, whatever they may have told you at school. You have to be born into a tech family before there's any hope of becoming one. A gulf separates us from them. They have their own schools, their own districts. Do you understand that ?"

Jimmy pressed his lips together and shook his head vigorously.

" Oh." Mr. Bennett felt more lost than ever.

He said almost desperately : " What *have* they told you about the techs ?"

" Well, this man at school says they're very powerful, lots more powerful than people think, and that they know all about science which we don't, and that you *can* become one because they need more of them and—" He stopped abruptly.

" Why do they need more of them ?" asked his father, trying to follow what his son had said; he found it difficult not to denounce him.

" I don't know," replied Jimmy, his eyes on the floor.

" And what do you have to do to become one ?"

" They didn't tell us that."

There was a silence.

Then : " Look here, Jimmy," said Mr. Bennett in exasperation, " we can't get anywhere unless you're willing to be honest with me. Did they tell you how you could become a tech ?"

Jimmy shook his head, but remained silent.

Mr. Bennett sighed again. He had no idea where to proceed from there, so he too was silent.

Eventually Jimmy spoke uncertainly : " Daddy, if they did tell us—how to become techs, would you and Mummy forbid me ?"

His father hesitated for a reply. He knew that Mrs. Bennett would certainly forbid him, but of himself he was not quite so sure. Could he bring himself to destroy the boy's hopes, fantastic as they were ? He hated the thought of doing so. But to yield completely to his ideas would be to let his wife down and invite trouble in the future.

So quite predictably he said : " If they do tell you that, son, then we'll go into the whole thing very carefully. But until then try and forget all about it, will you ?"

" All right."

" And now I think it's time you were getting to bed. Say goodnight to your mother."

Jimmy went to say his goodnight without another word, and he left Mr. Bennett feeling sad, feeling that in some way he had been unkind to the boy, whereas in fact he had only been weak ; but Mr. Bennett would rather have believed himself unkind, for somehow unkindness in a father is a more pardonable sin than weakness.

Mrs. Bennett entered the room a couple of minutes later and started re-arranging some flowers on a side table.

She said : " I never have liked the work of that flower arranger you get, Henry ; we must try and get hold of someone else, the trouble is good ones are so *rare*. There, isn't that better ?"

" Yes, dear, it's—"

" Well, how did you get on with Jimmy ?" She stepped back and gave the arrangement a last look.

" I—"

" You were *firm* with him, weren't you ?" she said, looking directly at him for the first time.

" It wasn't easy, Martha, he was very unreasonable. I'm afraid I may not have made much of an impression."

" Does he still want to be a tech ?"

" I'm afraid so."

" Well, there you are then, you didn't make an impression. You give in to the boy far too much, Henry. He needs discipline. I see I shall have to speak to him myself."

" I think he may forget all about it Martha, if they don't bring it up at school again."

" Nonsense, Henry, there's no chance of that at all. You don't understand anything about young people's minds. If Jimmy isn't told once and for all that the whole idea is quite impossible then it will become an obsession with him and we shall never get it out of his head ; no, he will have to be dealt with firmly and I see that I shall have to do it myself as usual."

Mr. Bennett said nothing ; he was very dispirited. The unpleasantness he had foreseen had materialised. First with a recalcitrant son, then with an ill-tempered wife.

Mrs. Bennett, having uttered one or two more admonitory phrases and having made a mental note to put right any harm her husband might have done, forgot about the problem and turned to other things. She started designing a dress, and occasionally questioned her husband about such and such, and asked him whether she'd look nice in so and so ; while he listlessly turned to the mechanical patience device and played a few half-hearted games.

After a time a series of regular pips started to sound throughout the flat.

" Bulletin time, dear," said Mr. Bennett. " Shall we watch?"

His wife assented and they went into the next room and he turned on the screen.

The life-size figure of an announcer materialised. He was dressed in the light green tunic of a tech-third-class.

" Good evening. Here are the latest news reports from our Associated Technologists information service.

" As those of you who saw our complete report earlier will know, an alien vessel has penetrated—"

" Oh, turn it off again, dear," said Mrs. Bennett in exasperation, " they insist upon plugging that wretched Serial night and day, and it really is more than I can stand sometimes. They're carrying realism too far. Why can't they leave it alone ?"

Mr. Bennett did as he was commanded and switched off the screen, though he felt an unexplained guilt at doing so, a nagging feeling that they ought, really, to have listened.

They returned to the lounge, Mrs. Bennett complaining of wasted time.

Mr. Bennett found that the trip had left him more disconsolate than before, and he was unable to concentrate on his patience game. He debated dialling for a movie on the screen but decided that he didn't even have the energy for that. He felt tired, washed out, felt suddenly the lack of purpose and direction in his life.

His mind wandered, he fidgeted, and time passed.

The evening was getting late when they were disturbed again. It was the Alarm, a low insistent buzzing, demanding attention. Mr. Bennett stirred from his reverie.

Mrs. Bennett said, with the air of one who has been tried beyond her limits : " Ignore it, Henry, I'm much too tired for that sort of nonsense. Bulletins and alarms . . . "

" But Martha, the law—"

" Yes, the law, but what a ridiculous law it is. Once already this month we've been down that lift for absolutely no reason at all."

" It does seem a bit pointless."

" Quite pointless. And they never bother to enforce the law anyway. So let's go to bed and put the silly alarm out of our minds. It's late."

Mr. Bennett shook his head a little worriedly but he followed his wife towards the sliding wall. Before they reached it, it parted and Jimmy appeared in his dressing-gown, flushed and excited.

" Mummy ! Daddy ! The Alarm !"

" Yes, I know dear," said Mrs. Bennett, " we heard it, but we're much too tired to play at this hour of the night, and it's long past the time when you should be up and about anyway, so run along back to bed now ; we'll play another time."

" But, Mum—"

" No arguments, dear ; back to bed."

Jimmy stood still for a moment, the enthusiasm on his face dying, then he started back for his room.

Something stirred in Mr. Bennett, a touch of pity, of self-accusation, a feeling of inadequacy, but also something unidentifiable which summoned him to do what he had never done before : to directly oppose his wife.

He spoke to Jimmy : " Since you're already up, son, I think it would do no harm if you went down by yourself ; don't be too long though."

Jimmy brightened a little but there was uncertainty in his eyes. " What, without you and Mummy ?"

" Yes, it'll be all right. You have only to press the button in the lift."

" Henry, what is this ! The child must go to bed, this is no time to be running around playing games."

Mr. Bennett weakened but held on. " Martha, unless somebody goes down that buzzing will continue for ages and we shall never get any sleep. Run along now, son," he added before his wife could raise further objections.

Jimmy went, uncertainly, after a last glance from one parent to the other. The heavy steel door of the lift slid to behind him and the insistent buzzing ceased abruptly.

" Henry, this really is the limit !" said Mrs. Bennett in an annoyed tone of voice, but she was not really very annoyed with her husband, for it is every woman's secret wish to be dominated.

As for Mr. Bennett, he realised that he could not hope to maintain the stand of leadership which he had taken, but he nevertheless felt freer in his mind, more satisfied with himself, happy in the knowledge that he had won a battle, however small.

Once again they started for their bedroom.

They never got there.

The explosion which destroyed them and their flat and the building which contained their flat and square mile after square mile round about was shocking in its power and unexpectedness ; but perhaps in that instant of destruction (if, indeed, there was time for any process of thought) Mr. Bennett realised where his subconscious had been guiding him and saw what he had come so near to seeing ; that the Serial was reality, that the models were men, and that the men were fighting and dying just as he.

And a mile beneath the ground where Jimmy was unknowingly playing the game of Emergency Drill the explosion also was felt, but its lethal energy was spent. The lifts stopped working and shielded doors slid to, and he was frightened. But three or four hours later a tech-second-class found him huddled against the ground, scared, uncomprehending, and led him gently away ; so that in the years to come he might learn and understand, might know the reason why the Heresy was taught in schools, why more techs were needed in the War, and why, after all, men and races *did* fight, when their struggles for survival happened to conflict.

Richard Graham

We have published many stories concerning our first (human) meeting with aliens in space, usually to the detriment of the aliens. Let us now take a look, through the eyes of a new author, at the same problem from an alien's viewpoint and how he might be able to become the victor.

THE WINGYS AND THE ZUZZERS

by ROBERT J. TILLEY

Ah, young ones. It does an old firg's ancient and rapidly failing heart much good at this time to see his great, twelve times removed, great-grandchildren gathered around him, fresh green features bright with curiosity and youthfully impetuous minds seething with inquiry.

Ah, yes, I remember it all so clearly. It seems absurdly little time since I was one of you, gathered with my dear brothers and sisters around the withered figure that was my own great, great-grandfather, as we listened with awe to the wondrous tale of our ancestor, Nij the Firstborn, a firg of humble beginnings, yet one who was to rise to unprecedented heights of glory, repel the invasion of the dreadful four-limbs from across the galaxy, and found the dynasty of Nij which has so long and wisely ruled our people.

Patience, patience. This is not a lengthy tale, nor one that will bore you. When it has been told, you will, I fancy, have questions to ask, certain points that you will wish clarified. Bear with me for a brief while, and you have my promise that they will be attended to.

This, then, is the story of Nij the Firstborn, and how he travelled to glory on the good ship *Royalty*. The *Royalty* was the royal cruiser of her time, a clumsy vessel by today's standards, but the very best that could be made in those far-off times. Aboard her travelled the kings of Grunj, the ruling dynasty, proud firgs and good ones, but lacking that spark of genius which has always been such a notable feature of our own family. Aboard her, too, travelled Nij, but merely in his lowly capacity of ninth steward, tending to his many small and irksome tasks with devoted humility, proud to be of service, however humble, to his royal masters.

And, it must be added, mistresses. For among the many royal personages that used the ship was the Princess Nagabaj, whose noble beauty our revered ancestor worshipped from afar. And this same regal lady, in the company of her father and mother, the king and queen, and her many brothers and sisters, was aboard the *Royalty* on an unpublicised tour of the outlying colonial planets, when the four-limbs appeared from space and crippled the regal vessel with a fearsome blast of destruction from the weapons of their own ship. Powerless, and with many on board killed by this wanton unleashing of fury, the *Royalty* hung mutilated in the starry vault, while the four-limbs forced an entry and mercilessly destroyed all who stood in their path. Soon, all on board had perished. All, that is, save Nij and the Princess Nagabaj.

By a merciful freak of fate, all senior stewards had been employed elsewhere when the princess had summoned refreshment from the galley. Nij, tremblingly ecstatic at this heaven-sent opportunity to personally minister the requirements of his heart's desire, had hurried at once to her cabin, bearing delicacies, just prior to the commencement of the outrage. Being unaware of the true nature of the calamity, and assuming that the royal vessel was under bombardment by a carelessly undetected shower of meteorites, our noble ancestor remained in attendence to his beloved, vainly attempting to placate her understandable hysterics and content to leave such repairs as would be necessary to the qualified members of the ship's company.

The princess's emotional turmoil was of sufficient intensity to completely submerge the death-cries of their fellow firgs, and their first indication of the true nature of the calamity was when the cabin door burst violently open, and they were confronted by a towering being, grotesquely balanced on a mere two limbs, and brandishing a shining weapon in another. Almost at once the monster was joined by two others of its kind, equally fearsome and similarly armed. They lumbered clumsily into the royal chamber, their two revolting minute eyes aflame with the lust to destroy.

It was not mere bravery, but love which activated the tentacles of Nij. Swiftly, he manoeuvred himself between these vile creatures and his dear one, unarmed, yet ready to sell his life dearly for her sake. He adopted, he told later, the fourth duelling position, upper tentacles clustered to protect his eyes and vulnerable wind-sac, and lower front propellants weaving a menacing pattern of jabs, counter-jabs, and skillful thrusts.

Yet before he had time to suicidally engage with his fearsome adversaries, interruption came. Another four-limb appeared in the doorway, gesturing its upper limbs triumphantly, and uttering obscenely grating tones from a flexible aperture at the base of its spherical topmost member. Its fellows paused, and it was during this brief respite that Nij became aware, to his utter astonishment, that these creatures were totally unshielded, their every thought ringing clearly in his mind.

Swiftly, he deduced the true nature of affairs. These people were non-casters, and the harsh gibberish was their primitive means of communication. As he poised protectively in front of the shrinking princess, his receptors gathered in every ghastly item of news that passed between these loathsome fiends.

Their cause for rejoicing, he learned to his horror, was that every firg on the ship save themselves had been mercilessly destroyed. Sickened, yet resolute, he probed still deeper into their consciousnesses, and what he learned appalled him further. These were beings from another star system, far out in the deeps of the galaxy, who were systematically ploughing their murderous way through the heavens, forcing their bestial attentions and abysmally crude mode of government on all people that they encountered. These four were the crew of a

scout-ship, despatched from a mother-vessel to investigate our own and neighbouring systems for signs of intelligent life. It seemed that recent encounters with the warlike people of another race had led to their premature display of butchery, but this in no way mitigated their crime. They were an excitable, barbaric horde, dangerous and undesirable in the extreme, and now, Nij learned with a rapidly sinking heart, his own people were to be sought out, investigated, and eventually subjugated beneath their evil yoke.

It was with distinct relief that he felt the lust for further killing fade from their minds. As he assumed a cowering posture, cunningly feigned to allay any further incitement to violence, Nij cast despairingly through his thoughts for a means of warning our people of the impending disaster. He had little doubt that this would come to pass. The colony planets of Gur and Fibj were within easy range of their position, and our mother planet was a mere fifty-eight million kregs behind them. All too soon the four-limbs would discover the riches that awaited their ravaging, and with that knowledge in their grasp they would return to their mother-vessel. And all would be lost.

The four-limbs turned their eyes and thoughts to Nij and the princess. Nij cowered further, probing their thoughts with fearful anticipation. There was grating discussion between the monsters. Two were of the opinion that there was little point in permitting them to remain alive, possible sources of warning to our people. They had assumed, correctly, that sub-wave transmitters were included among the ship's equipment. There was no room for captives on their own vessel, and if Nij and his beloved were spared, it was feasible that they would meet with fore-warned opposition when they finally discovered the whereabouts of our worlds.

Blessed relief flooded through Nij's mind as this abominable viewpoint was over-ruled. The commander of the group firmly stipulated that they were to remain alive, captives aboard the crippled vessel, until their investigation of the surrounding planets had been completed. The transmitters and any weapons on board would be found and destroyed, after which they would proceed on their way, returning for Nij and his loved one when they had unearthed and thoroughly surveyed what they sought. It was more than possible, the commander reasoned, that they would provide a useful source of information once communication had been established.

Their own experts on the mother-vessel, he was confident, would soon remove this trifling obstacle.

There was further discussion, but the commander was firm. It was with faintly rising hopes that Nij watched them leave the cabin, heard the eventual destroying of the transmitters, and finally the distant clang of the main air-lock.

He turned his attention to his beloved. She was still on her regal couch, limp and exhausted, and with the light of terror slowly dimming from her magnificent eyes. Brokenly, she thanked him for his willingness to perish in her defence, assuring him that his bravery would not go unrewarded when the time came for their rescue, but Nij brushed aside her gratitude with new-found authority.

Rescue, he brusquely told her, would not come. They were marooned in the vastness of space, many million kregs from the nearest possibility of aid. Due to the unofficial nature of their voyage, no specific point had been notified of their arrival, and no qualms regarding their whereabouts would arise in the foreseeable future.

The regal lady received this news with a dignity befitting one of her station. Askance as she became as the full hopelessness of their position was made clear, she nobly refrained from further indulgence in superfluous hysteria. It touched the heart of our revered ancestor to witness her courageous acceptance of the situation, and it was with ill-disguised admiration that he left her to procure a mild sedative from the galley, following her gracious acquiesance to his suggestion that this might assist her to retain her composure when viewing the terror-fraught loneliness that they would have to endure.

He busied himself about his task with as calm a detachment as he could muster, meanwhile desperately attempting to arrive at a solution to their appalling predicament. But none could he find. At last he surrendered himself to despair, but it was not of himself that he was thinking. His princess, the sole surviving member of the ruling dynasty, was a helpless captive, their very race was in deadly peril, and he was powerless to act. While it was true that the bitter compensation of being the one chosen to survive and attempt to comfort his beloved was a greater favour from the Gods than he would have ever dared pray for, when viewed as dispassionately as

his position would allow, it merely added further fuel to the flames of hopeless love that burned so brightly in his bosom.

Wretchedly, he permitted himself to daydream. If only other members of the crew had been spared, perhaps to repair the ship, or, should that have proved impossible, formulate some plan of attack to overpower the four-limbs on their return, seize their vessel, and in it flee to warn their people. What could he alone—or at least, alone insofar as possible physical combat was concerned—achieve? No. There was nothing to be done. The future of firgkind was in his tremulous grasp. And firgkind was doomed.

He later confessed that the initial glimmerings of the stroke of genius that was to halt the dark tide of events in their merciless flow and sweep them back in triumph were born of somewhat sentimentally improbable maunderings which occupied his dulled mind as he prepared to return to the royal chamber. He paused, excitement nibbling suddenly at the fringes of his consciousness. Slowly, inexorably, his first absurdly bold premise expanded until, in a rushing torrent, it flooded to rapid and magnificent completion.

His first act, he also recorded, was to imbibe the sedative that he was in the process of delivering to his lady, but he felt, perhaps with just cause, that his solution rendered his own need greater than hers at that awesome moment. As an afterthought, he returned to the galley and hastily prepared a replacement—when all circumstances were taken into consideration, it seemed possible that after all, she too would require something of a like nature.

It was on trembling tentacles that he at last arrived back at her boudoir, witnessed the thankful downing of the draught, and then stumblingly commenced to outline his plan.

It took him some little time to complete his suggestions. The princess displayed eagerness during its early stages, puzzlement as they were expanded, incredulity towards the latter part, and finally shrill and vociferous rage which terminated his closing remarks before their actual completion.

Nij persevered. He stressed the complete absence of alternatives, the dire necessity for action of any kind, however drastic, the dreadful fate that would assuredly befall her people should she fail them now. As for himself, he hastened to assure her, he would, of course, surrender to the proper authorities when the time came, humbly content to be either

imprisoned in the deepest of dungeons for the remainder of his days, or, should such a course be considered desirable, judiciously exterminated.

It took him many long, wearying hours, but at last his dear one capitulated, doing so with extreme maidenly modesty, but bravely recognising where her duty lay. Events of such magnitude ruled the day that personal considerations, even though they related to one of royal blood, must be cast aside.

And that, young ones, is how your dear great, twenty-six times removed, great-grandmama came to sacrifice herself for us, her people.

Mercifully, sufficient time passed before the four-limbs returned, and by that time all was prepared. Hastily assuming their long-planned and meticulously rehearsed positions they waited, as the four-limbs vessel drifted to a halt beside their own, followed by the sounds of their entry.

The monsters proceeded through the ship cautiously, their thoughts betraying jubilation at the success of their search, but still tempered by recognition of the fact that unforeseen happenings now could cost them dear. They arrived at the open door of the royal chamber, and warily viewed the interior. They relaxed at once. Nij and his beloved, seated in full view, were once more simulating extreme fear, shrinking tremblingly away from their captors. Emanating triumphant cheerfulness, the four-limbs entered.

The two smallest sons, concealed on either side of the doorway, immediately raised the cord that lay cleverly buried in the rich carpeting that covered the floor. As the leading four-limbs stumbled, the four largest boys launched themselves fearlessly from their perches above the entrance, striking the still-standing members of the party, causing them to trip violently over their already prostrate fellows. Then, as they collapsed in a writhing gibbering heap, the six girls leaped from their nearby places of concealment, swiftly wresting the monsters' weapons from their stunned grasp.

It was over in seconds. Dazed and incredulous, the four-limbs were bound. The three crew members were left on board the *Royalty*, while the triumphant family collectively propelled the commander back to his own vessel and curtly indicated the direction that they wished to take. Cowed, and seemingly singularly dazed by the complete reversal of the

situation, the craven monster complied, activating the ship in the direction of our beloved mother planet.

They were greeted with astonishment, which rapidly turned to grief-stricken rage at their news. A fleet of warships was immediately despatched to scour this region of the galaxy for the four-limbs' mother-ship, with orders to destroy it when found. Meanwhile, an incredulous government hastily gathered in emergency session to discuss the highly unorthodox position regarding Nij, his royal lady, and their twelve courageous and already much-publicised offspring.

Such obstructionist elements as existed were imperiously squashed by the princess herself, who stated with the utmost firmness that only one sensible solution existed to the quandary It was unthinkable that her children should be deprived of their father and all claims to legitimacy. She and our illustrious ancestor would be wed immediately, and a grateful people would pay fitting homage to the firg who had risen from his lowly place in society to become their saviour. The populace, as soon as her decision became known, immediately voiced its loud and whole-hearted approval in no uncertain terms, leaving the government little choice but to bow to her chosen course.

And thus, my children, was born the house of Nij and all the glory that it has brought to our people.

I near the finish of my tale, and, I gather from numerous poorly repressed wrigglings and wisps of impatient inquiry, none too soon. However, this noble piece of history would remain incomplete without the addition of several brief footnotes which you may find of interest.

The four-limbs' mother-vessel was eventually found, but no doubt terror-stricken at the sight of the mighty approaching fleet, made good her escape. They have never returned. The three captives were removed from the *Royalty* and brought to join their commander where he languished in custody. Much of interest has been learned from them since their period of captivity commenced.

Oh, yes, indeed. Incredible though it may seem, they are still with us, remarkably ancient now, of course, but still very much alive. Much is now known of their race and civilisation, and many seemingly impossible facts have emerged which have been of great interest to our scholars. For example, a

subtly relevant point to my story is the normal incubation period as far as their female members are concerned. No less, we are informed by eminent biologists, than two thousand blims, and at the conclusion of this appallingly lengthy period of inconvenience, their newly-born, in the vast majority of cases, are born singly, a far cry indeed from the well-ordered and evenly distributed groups of twelve which are normal among our own people. The length of time required to reach puberty, too, is incredibly long. Quite absurd of course, but—

Yes, my child? You have a question? This matter of incubation? And where, exactly, did the royal children come from? Ah, yes, yes. The threshold of maturity, the at last opening doorway to adulthood and its problems and pleasures.

Well, now. Ahem. Let us begin, as tradition dictates, with the procedures adopted by the wingys and the zuzzers. Take, for example, the simple zuzzer, as he zuzzes happily from flower to flower . . .

Robert J. Tilley

THE LITERARY LINE-UP

About the only item predictably certain in next month's issue is the second instalment of Kenneth Bulmer's entertaining serial "The Fatal Fire," wherein Julian Justin find himself climbing the ladder of success in a world he hardly knew existed. It is the method of his climb that is so interesting, however.

Reason for the uncertainty about the rest of the contents is because this particular section of the book is going to press earlier than usual. It looks as though there will be another Jack Chandler story in the line-up; if so, his is likely to be the only short story by a regular writer. All the rest will probably be by new authors. Who said that we were afraid to experiment?

Story ratings for No. 92 were:

1. X for Exploitation, Part 1 - - - Brian W. Aldiss
2. Zone of Terror - - - - - J. G. Ballard
3. Badman - - - - - - - John Brunner
   The Pathfinders - - - - - Donald Malcolm
4. Bill Of Sale - - - - - Wynne N. Whiteford
5. The Third Word - - - - - - David Porter
6. Profession : Spaceman - - - Kenneth Bulmer

Author George Whitley likes playing with Time themes : there are so many fascinating variations to be worked on. In this story his characters are returning crewmen from the first star voyage—only, nobody on Earth seems to know them, or want to.

HOMING TANTALUS

by GEORGE WHITLEY

She was coming in too fast and her propellant tanks, holed by the swarm of micro-meteorites, were almost dry. There would not be enough reaction mass to establish her in a closed orbit around the planet ; there would not be enough for more than a mere gesture towards deceleration. Her Space-Time warping interstellar drive could not be used inside a planetary system ; she was the first of the interstellar ships but her crew had no reason to doubt the framework of mathematical theory around which she had been built. During her maiden voyage to Alpha Centauri practice had marched with theory in all the smaller things. There was a slim, a very slim chance that use of the Drive might save the ship ; there was a near certainty that use of the Drive would create a new Asteriod Belt between the orbits of Venus and Mars.

In the Control Room the Radio Officer looked up from his dials and switches, his face white and strained. He said flatly, " No reply."

" No reply . . ." echoed the Captain. Then, almost conversationally, " What's wrong with your gear, Sparks ?"

" Nothing. Nothing. I've checked and double checked. Reception is perfect. I can hear the Satellites nattering away to each other. Mars and Venus coming in loud and clear . . ."

" If they can't hear us," said the Captain grimly, " they'll *see* us. We shall make the biggest flare since the great Siberian meteorite. If it *was* a meteorite . . ."

" At least," suggested the Chief Officer, " they'll know that we aren't one . . ."

" Will they, Mister ? There's something very wrong here. They should have been expecting us—but they're not." He stared through the viewports at the great, rapidly expanding globe. " All right. Pass the word for all non-essential personnel to get into survival suits. We'll eject them as soon as we hit the atmosphere . . ."

" And if any of them survive," said the Chief Officer softly, " they can tell how we kept the ship under control for as long as possible, how we came in for a crash landing in the sea, well away from all inhabited areas . . ."

" Medals," said the Captain bluntly, " won't do any of us any good after we're dead—as we shall be, long before we hit. But the knowledge that the survivors carry down with them will do some good—to the world, if not to us. So skip the heroics and get on with the job, Mister. You can get the records packed into message capsules at the same time. Jump to it."

The Chief Officer jumped to it.

Carradine, together with Wells and Vernon, stood in one of the two forward airlocks. The compartment was not large but, even so, it would have held at least six men clad in conventional spacesuits. The survival suits were not conventional spacesuits. Walking in them was barely possible, to work in them would have been quite impossible. Spaceships on two legs, they had been called, but the phrase, although picturesque, was not quite accurate. True, wearing one a man could survive for months in airless space ; it was generally assumed that his mind would fail long before the machinery that looked after his bodily needs did so. Their main function, however, was to get a man down in one piece through the atmosphere of a planet. There were the little, built-in reactors, there were the ribbon parachutes, there were the whirling vanes by the use of which

the occupant of a suit could control the direction of his descent. There was the cooling system—which might or might not save a man from being cooked inside his cumbersome armour—and there was the heating system which, in the event of a slow, controlled fall, might well be required. There were the tanks of oxygen, the tanks of water, the tanks of compressed food pellets.

" Why the *forward* airlock ?" asked Wells, his voice distorted in the suit phones.

That, thought Carradine, was typical of Wells. Of the three journalists he was the one who seemed never to have acquired any space sense. He was the one who was always saying that he hated ships and that Earth was the only possible planet for a civilised man. He was the one who, after having walked on the fair Centaurian planets, would continue to sing the praises of a grimy, over-industrialised home world.

" We're coming in stern first," said Carradine. " The old Man will use what little propellant we have left to brake. At the same time we shall be ejected, our motion cancelling out the ship's motion . . ."

" We hope," said Vernon.

" We hope," agreed Carradine.

" But why is it so important ?" queried Wells.

" Have you ever seen a meteorite, a shooting star ?" countered Carradine. " Well, that's what we shall look like, what we shall *be*, if our speed through the atmosphere is too excessive."

" Oh."

Suddenly a giant hand slammed them against the inner door of the airlock. Dimly Carradine felt grateful for the deep, resilient padding inside the suits. He caught a deep breath as the weight, after a short time (too short a time ?) was lifted, saw the outer door swing open. Pressure inside the airlock had been built up to many atmospheres ; the three men were thrown out like bullets from a gun. As he whirled Carradine caught glimpses of the ship, saw that her hull was already cherry red, that her great vanes were already twisted and distorted. There were he thought, other cumbersome figures tumbling through the high, thin air, but of that he could not be sure. Not far from him Wells and Vernon, grotesque armoured monsters, matched the speed of his fall.

In spite of the cooling equipment heat built up inside the suit.

It's gone wrong, thought Carradine. It's gone wrong. It's not working. I shall fall, and it's a long way down, and I shall be vapourised before I ever hit . . .

From somewhere inside the survival suit's machinery there was a sharp, decisive click—a click, and an intense screaming noise, and an abrupt cessation of the uncomfortable whirling motion. Carradine was falling feet downwards now, the speed of his descent checked by the built-in rockets. He could see the smoke whipping past the face plate of his helmet, could see, by turning his head slightly inside the transparent dome, his two companions balanced on long stilts of fire.

There was, as yet, no sign of the earth—the friendly Earth (or, if one should fall to it at a speed measureable in miles per second, the unfriendly Earth). There was no sign of the earth ; below the men stretched the vast whiteness of unbroken clouds, solid seeming, so much like a great snow field that Carradine thought at first, thought until he was about to plunge into and through the expanse of frozen water vapour, that he had baled out over the Antarctic.

Then he was falling past the first of the snowy pinnacles, tensed himself in foolish anticipation as it seemed that his feet would strike the apparent solidity of the cloud surface. Abruptly the clear sky and the blazing sun were blotted out by the formless mist, the grey luminosity. He wished that he had thought to note the time of his entering the cloud layer ; the period of penetration would enable him to make some kind of estimate of the speed of his descent. *If* he knew the thickness of the stratum, which he did not.

The mist thinned, cleared, became an unbroken ceiling of vapour overhead. Wells and Vernon were still with him, still matching the speed of his descent. He saw that their reaction units were still firing—then saw the flaring jets flicker and die, realised that the high scream of his own rockets was no longer punishing his ears. He saw the annulus of the first of the ribbon parachutes break out suddenly above the head of one of his companions, saw, a split second later, the same happen with the other. He felt the beginnings of panic, turned his head inside the transparent dome and looked up, saw that the first of his own 'chutes was already in operation. He had expected to feel a shock, but had not done so. He reasoned that the opening of the parachutes was timed to coincide with the cutting out of the rockets.

After that it was routine.

They fell, more and more slowly, parachute after parachute taking their weight, the whirling vanes on their backs opening at last like strange metallic flowers. Carradine found himself taking charge. He said, " We mustn't land in the middle of the town. These suits are heavy and we shall fall hard. Try for the open land to the north . . ."

" Which way *is* north ?" asked Wells.

" Follow me," snapped Carradine, his hands busy on the simple controls inside the chest panel of his suit.

" How do you know which way is north ?" asked Vernon.

" I know the town," said Carradine. " I was born there, brought up there . . ."

" Then we're sure of a welcome," said Wells cheerfully. " Local boy makes good, and all the rest of it . . ."

" That aspect of the matter hadn't occurred to me," admitted Carradine.

But it has now, he thought. He was both amused and pleased by the fantastic coincidence, by the sure and certain knowledge that he, one of the first men back from the stars, would soon be walking through familiar streets, through the streets that he had once walked as a nonentity, that he would now walk as a celebrity. Clouding his pleasurable anticipation came the memory of the ship, the knowledge that she, with the majority of his shipmates, must by now have died, must have flared across the sky like a meteorite, exploding before she hit the surface of the planet.

But he was alive, and he was coming home.

The three men fell hard rather than gently, but the survival suits were so well sprung and padded that they could have taken a far more violent impact with no more than minor discomfort. They fell on to coarse grass, on to uneven ground, the gaily coloured plastic of their parachutes collapsing around them so that they looked like grotesque metal idols draped with rich fabrics by savage worshippers.

Caradine looked around. This was the Common, the valueless ground, the poor excuse for a park to which, in the old days, he had often come. He remembered the girls with whom he had come, wondered briefly if they had remembered him. They would now. They would say that they did, whether they did or not. He sneered at himself. The first man back from the stars—and he was nostalgic over long forgotten (and best forgotten) amours.

He remembered the survival suit drill. There would be no need to use the built-in atmosphere sampling and testing equipment. This was Earth. This was Home. There was air, and soon there would be food and drink and company ; wine, women and song. He was back from the Big Jump.

His right hand searched the control panel inside the breast plate for the release button, for the stud set in its recess, covered with a film of tough, but not too tough plastic. His thumb broke the tissue, pressed the stud firmly. The suit fell away from him. He suddenly realised that he had been inhaling his own body odours for far too long a time ; the fresh air, although it was not free of industrial taint, was good in his nostrils and in his lungs.

Vernon, short and fat and with a fat man's gloominess, stepped from the chrysallis of his own suit. Wells, obviously, had put his arms back into his suit's cumbersome arms and with the claws at the end of them was fumbling at the outside of the breast plate.

Carradine sighed. He stepped back into his survival suit—it was almost like stepping into a telephone booth—and spoke slowly into the microphone of the helmet set. " Wells, can you hear me ? Good. Then get your arms back inside. Yes, *inside*. You should find the release button under your right hand. It's got a thin, plastic cover. Break it. Yes, *break it*. Now press."

Wells' suit came apart. Wells—tall, tow haired, gangling, with his usual air of amiable idiocy—stumbled out. Clowning, he fell on his face and kissed the grimy, brownish grass.

" There'll be better things to kiss," said Carradine.

" We hope," said Vernon sadly. He returned to his own suit, took a deep draught of lukewarm water through the drinking tube then opened the food tank for a handful of tablets, two of which he swallowed, putting the rest into his pocket.

" There'll be better things to eat and drink," said Carradine. " Champagne . . ."

" I'll settle for beer," said Wells.

" We hope," said Vernon.

" Oh, come off it, Vernon. I know that we should be feeling sorry for the others—sorry *and* grateful. But we're alive, and refusing to make the most of it won't bring *them* back to life."

" We're alive," said Wells, " and we're back on Earth. Let's carry on from there, shall we ?"

" All right." Vernon helped himself to another handful of the concentrated food tablets. " You know this dump, Carradine. You're in charge."

" It's only a short walk in from here," Carradine said, pointing to the tall towers of apartment houses, the equally tall towers and chimneys of factories. " It's only a short walk. We follow this path until we come to the main road. We should be able to thumb a ride."

" They should have the red carpet down already," said Wells.

" They would, if they knew that we had come," said Vernon. " But don't forget that poor little Sparks wasn't able to raise anybody, that nobody seemed to be expecting us . . ."

" Yes," agreed Carradine. " That was odd, very odd. But we shall soon know the reason."

" We hope," said Vernon.

They walked slowly along the rough path to the road, Carradine in the lead. He was thinking that so little had changed—but the town was not a town in which things did change. He visualised himself walking into the offices of the *Examiner*, confronting old Bryce, the Editor. " So you're back, young Carradine," old Bryce would growl. " Yes, Mr. Bryce," he would say. " I'm back. Back from Alpha Centauri." And Bryce, as like as not, would snap, " Rigil Kentaurus you mean, Mr. Carradine. Will you never learn accuracy ? Let the rewrite man have your story."

He grinned as he led the way up over the embankment, on to the road. It was busy as always ; there was the stream of trucks, some battery powered, some solar powered (although only the latest, most efficient models could operate on an overcast day like this) and some with the inertial drive, sweeping away from the city, the other stream sweeping towards it. Among the heavy commercial traffic there were a few private vehicles.

Carradine waited for a break in the traffic. He and his companions were on the wrong side of the road and would have to cross before they would be able to get a lift into town. It was a nuisance, but unavoidable. It was more than a nuisance ; it was positively dangerous. He said to Wells, " At least there was no traffic problem in Deep Space or on the Centaurian planets . . ."

" And there weren't any people either," pointed out Wells, making an accusation of the statement.

There was a brief lull in the traffic. Carradine ran, followed by the others, darted across the bows of a huge reefer van bearing down on him from his left, spurted to get clear of the big tanker on his right. He heard Vernon panting as he ran by his side. He heard Wells scream.

He could not stop. He pulled up when he gained the grass verge, swung round. Poor Wells, he thought. Poor Wells, always so homesick for Earth—and his first day back he's killed in a road accident. Wells had to be dead. Wells couldn't be anything else but dead. Wells must be as dead as a man would be who falls into the moving machinery of a huge factory ; and he had fallen into the moving machinery of the huge factory that was industrial Earth.

Wells—white, shaken and unmarked—staggered to the edge of the road, sat down hard and suddenly. Wells gasped, " It must have hit me. It was right on top of me . . ."

" The wind of its passage must have thrown you to one side," said Vernon.

" That must have been the way it was," agreed Wells, obviously not believing it.

Said Vernon, " The people in your part of the world don't believe in being helpful to strangers, do they ?"

Carradine was inclined to agree. They had stood by the side of the road for all of an hour, had been making, hopefully at first, then with increasing desperation, the age-old sign, the upraised hand with extended thumb of the hitch-hiker. Truck drivers had ignored them. The drivers of private cars had ignored them. They might well have been three invisible men.

" It usen't to be like this," said Carradine.

" It is now," said Vernon.

" After all," pointed out Wells, refusing to believe that anything could possibly be amiss with his beloved home planet, " we are pretty rough looking characters . . ."

" If we were glamorous blondes . . ." murmured Vernon. " But we aren't."

" Even the glamorous blondes don't stop for us," said Carradine. " We walk."

" Have a food tablet," suggested Vernon.

" No thanks. Not with a banquet waiting for us."

" We hope," said Vernon.

" I'll settle for a hamburger," said Wells. " Or bread and cheese. Anything will be better than that compressed, synthetic sawdust . . ."

They walked.

They trudged along the narrow footpath, casting surly, sidelong glances at the glittering torrent of wheeled traffic that sped by a few feet away, at the wheels that would cover in minutes what their aching feet would take hours to cover. They trudged on, and above them, like the lid of a box, the overcast slid away to the southward and revealed the westering sun, letting something of light and colour back into the world.

But there is no warmth in the sunlight, thought Carradine. There is no warmth in the sunlight, and, all the light and colour have gone out of the world. We are tired, of course, and we are suffering from shock. We have watched our friends die, and even though there is no proper realisation yet on the conscious level, the realisation is there in our subconscious, has been there ever since we were blown out and clear from the already incandescent ship. We have witnessed the end of a world, a little world, but *our* world . . .

" Much further ?" grunted Vernon.

" No," snapped Carradine, irritated at having been dragged away from his morbid thoughts. " You can see, can't you ?"

" Yes, I can see. But either something's wrong with my eyesight or there's a fog coming up . . ."

" Rubbish," said Carradine.

There's the *Examiner* tower, he thought, standing out like a sore thumb. But that building beside it . . . I can't recall it . . . It's where the Whitworth Hotel used to be . . . And it does look misty, somehow . . .

" I'm hungry," said Wells.

The three men paused outside the diner, the furthest flung outpost of the city's catering industry. They looked through the window at the hotplate upon which sizzled hamburgers and eggs, were dimly conscious of the customers at their tables, of the garishly illuminated jukebox in the background.

" I think we should wait," said Carradine. " From what I remember of this place it never served very good food . . ."

" It looks all right to me," said Wells.

" Have we got any money ?" asked Vernon practically.

" Why, no. But they'll be glad to stand us a feed after they've heard our story."

" If they believe it," said Vernon.

The door opened and a customer, a truck driver, came out. Looking back, Carradine was inclined to think that if the open door had released the rich, savoury scents of food and coffee, he and the others would have gone in, would have ordered a meal in the hopes of being able to talk themselves out of immediate payment. As it was, he stood there in indecision while Wells hurried after the driver, trying to attract his attention, asking for a lift into the town.

" The swine !" he swore when he rejoined Carradine and Vernon. " He just ignored me. If they're all like him in your home town, Carradine, we haven't much hope of a free meal in this greasy spoon !"

" Come one," said Carradine to the others. " Walk !"

They walked.

They walked through the gathering dusk until they came to the formal gardens that surrounded the towering apartment houses. They walked towards a policeman who was making leisurely rounds of the residential section of the town, called out to him when, for some reason, he quickened his pace and strode rapidly away from them. He ignored their shouts. They would have run after him, but they were tired and their feet were tender.

They rested then, sitting down on the grass, looking at the graceful towers in the windows of which lights shone ; the lights of the warm little boxes in which men and women, relaxing after the day's labours, chatted over their cocktails, were sitting down to meals, were making love, perhaps. And here, in the town in which he had been brought up, Carradine was lonely, more lonely than he ever had been aboard the ship during her long fall through absolute emptiness. There should have been flags and red carpets and brass bands to celebrate his return.

There was nothing.

" Have a food tablet," said Vernon. " If we run short there are plenty more in the tanks of my suit, and the tanks of your suits are full . . ."

" There must be some dreadful mistake," said Wells.

" Look at it all objectively," said Carradine decisively. " To begin with, it's obvious that we weren't expected. Which means that our signals weren't picked up and that we didn't show on the radar screens. If we were scientists we could begin guessing, but we aren't scientists. Even so, it seems to me that

the interstellar drive in some way altered the structure of our ship so that the hull was invisible to radar. There must have been some other effect which put our transmitters out of commission. That's all."

"But the ship must have been seen when she came in," objected Wells.

"Of course. But there have been meteors before now, meteorites that have devastated hundreds of square miles of country when they hit. We were observed, all right. The trouble is that nobody knew what he was observing."

"Then what do we do?" asked Vernon. "So far, we've been treated like lepers . . ."

"It's hardly surprising. We didn't have to enter that absurd beard growing competition, did we? And it was just bad luck that we were wearing our oldest clothes when we were ordered to bail out. We look like tramps, and we're being treated as such. That's all there is to it."

"Then what do we do? Report at the nearest police station?"

"I thought of that. But the *Examiner* office is nearer. There's bound to be somebody there who still knows me. Come on."

They got to their feet.

They walked slowly through the gardens towards the floodlit tower in which, years previously, Carradine had worked. Carradine quickened his step. He felt an overwhelming desire to hear again familiar voices, to see again familiar things and faces. Followed by his companions he strode into the brightly lit lobby, towards the elevator doors. Firmly he pressed a button set into the wall, watched the changing lights of the indicator as a cage descended—20, 15, 10, 5, 4, 3, 2, 1, 0.

The cage held a passenger.

"Mr. Bryce," said Carradine.

"Mr. Bryce," said Carradine again.

"Mr. Bryce!" shouted Carradine.

Before he could follow the Editor out of the building his arm was caught by Vernon. Carradine had always thought that Vernon could have posed for a portrait of Gloom—now he realised that such things are relative and that, until now, he had always seen the other in a happy mood. Vernon pulled him to the other side of the lobby, to where Wells was staring at a large plaque on the wall, a plaque that was a bas relief of

a spaceship. There were words etched into the metal surface of the plaque ; when Carradine had finished reading them they were etched into his brain.

To the memory of James Carradine, onetime resident of this town and onetime member of the staff of this newspaper . . . who perished aboard the starship Faraway *. . . in the disastrous explosion shortly subsequent to blast-off from Port Woomera . . .*

" We must be dead," said Vernon. " We must have died months ago . . . This must be some sort of purgatory . . ." He fumbled in his pocket, produced a food tablet, put it in his mouth.

" Dead men don't eat," said Carradine.

" If they did," said Vernon, " they'd eat things like this. . ."

If they were ghosts, it was strange that the earth was still solid—the earth and some of the buildings that had been erected upon it. Some of the buildings . . . Most of them had walls through which the three from the starship could not walk, had doors that they could open, had stairways that supported their weight. A few of them, although solid in appearance, had no substance, just as none of the people had substance, and none of the food on display in shops and restaurants, none of the liquor.

For company, the three men had each other. For food they had the dwindling supply of concentrates from the tanks of their suits. The survival suits still stood where they had left them. They might well have been invisible. They *were* invisible to all but their owners—invisible and intangible.

They had food—while it lasted—and air, and water. Was it imagination, or were they having to breathe deeper and faster than they normally did ? Was it imagination, or was the water from drinking fountains somehow thinner than water should have been, somehow lacking in substance ? And how was it that ghosts could breathe and drink ?

They had no place to go.

They found shelter in the *Examiner* building—it was open day and night and Carradine knew of rooms that were rarely used in which they could sleep on floors that were slightly resilient instead of rock-hard. There was, too, an illusion of home. They could see and hear, all the time, their kind of people, although their kind of people could neither see nor hear them. There was a rumour, however (which gave them wry amusement) to the effect that the *Examiner* offices were

haunted. There were doors that were open although they had been left shut, other doors that were shut although they should have been open, toilets flushing of themselves.

That was the most frustrative part of it all. There was so much that they could touch, so much that they could use—and so very much more that, to their hands, was altogether lacking in substance. They had thought at first that it would be easy to scrawl messages on sheets of paper, but the pens and pencils that they tried to pick up were immaterial, as was the paper on which they would have written. They would have written in soap upon the washroom mirrors ; some of the mirrors were " real " and some were not, none of the soap was real.

" It's like Tantalus," said Vernon, gloomily watching one of the sub-editors seated at his desk and wolfing a hot dog, gulping down coffee from a carton. " It's like Tantalus . . ."

" Who was he ?" asked Wells.

" A character in Greek mythology. He annoyed the gods—who seem to have been a very touchy lot in those days—and was condemned to be able to see everything he liked without being able to touch any of it . . ."

" Don't some religious sects use the same idea for Hell ?" asked Wells.

" They might do," admitted Vernon. " But we aren't in Hell . . ." He glared at the sub-editor, consoled himself by nibbling a food tablet.

" How do you know we aren't dead ?" asked Wells.

" Ghosts don't eat."

" We shall soon be qualifying as ghosts, then," said Carradine. " The supply of these food tablets isn't unlimited . . ."

" Can ghosts die of starvation ?" asked Wells.

" We shall find out," replied Vernon gloomily. " Meanwhile, the tablets are, at least, real. More real than the banquets you were promising us. More real than the snack that your late colleague at the desk is chomping."

" No colleague of mine," said Carradine. " He's after my time. There's nobody here I know, except old Bryce."

" A pity he doesn't know you," said Vernon.

" But what do we *do* ?" asked Wells.

Carradine was becoming tired of that question. He walked across to the sub-editor, who had just lit a cigarette. He tried to enjoy a smoke at second hand. Sometimes it worked,

sometimes it didn't. Sometimes there was a faint, faint fragrance of burning tobacco ; most times there was . . . nothing. This time there was nothing.

The door of the office opened and a girl came in.

" Hi, Bill."

" Hi, Sally," replied the sub-editor. " How was Venus ?"

" Hot and clammy as usual, and the Freedom Festival the usual drunken brawl. Don't you read my copy ?"

" Not when I can avoid it. But it's good to see you back."

" Who was with you, Bill ?"

" Nobody. Why ?"

" I had an odd sort of impression that you had company. I must be going psychic . . ."

Carradine's face—as much of it as could be seen under dirt and beard—was white and tense. Vernon had to repeat the question : " Who is she ?"

" Sally Kemp. She was here in my time. I used to . . . know her."

" Well ?"

" Very well . . ."

" Anything fresh in my absence, Bill ?" the girl was saying.

" Just the Great Meteorite about a week ago. Odd affair. Some people saw it and some didn't. Some people heard it and some didn't. It didn't register on any of the radar screens . . ."

" I heard the newscast aboard the ship . . . Have you a recorder switched on, Bill ? I have the oddest feeling that somebody's listening . . ."

" Must be the office ghost."

" The office ghost ?"

" Yes. Not a very newsworthy haunt, I'm afraid, just a very half-hearted poltergeist. All that it ever seems to do is to shut doors that should be open and to open doors that should be shut. So they say . . ."

" The framework of the building must be warping. 'Bye. See you."

" Not so fast, young woman. Now you're back you can resume editorship of the Nut Department. Take this pile of bumf with my blessings." He handed a thick bundle of letters to the girl. " 'Bye, Sally."

" Where are you off to ?" asked Vernon.

" Never mind," snapped Carradine. " Just keep out of this, that's all."

He followed the girl along the corridor, followed the well remembered, gleaming helmet of her bronze hair, the achingly familiar swing of her slim hips. He fought down the impulse to run ahead of her, to open her office door for her. Luckily the door was fitted with an automatic closer and he was able to slip through the narrowing opening before it swung shut.

Sally went to her desk, sat down. On the desk was a photograph. Carradine looked at it. It was of himself, with the gleaming tower that had been the starship *Faraway* in the background. Sally's hand went out to the picture—and Carradine's hand went out to grasp and hold hers. He might as well have tried to clutch a wreath of cigarette smoke.

And yet . . .

She feels, he thought. She feels, somehow . . .

He turned, saw the door opening, saw Wells and Vernon standing beyond it. " Keep out !" he snarled.

" But, Carradine . . ."

" Keep out !"

The door slowly closed and the latch snapped sharply. Startled, Sally looked up and then, scornfully, muttered, " Ghosts . . ." She put the photograph back in its place, started to open the letters that the sub-editor had given her.

" Sally," said Carradine. Then, more loudly, " Sally !"

She shivered and an expression of slightly scared perplexity flickered over her face. She shivered—then shrugged and went on glancing through the correspondence.

" Sally," said Carradine again—then it was his turn to shrug.

How can I get through to her ? he asked himself. How ?

And while he was wondering he looked, over her shoulder, at what she was reading. It was all familiar enough, the letters from nonentities, from unbalanced nonentities hoping for a brief notoriety, hoping that the *Examiner* would accord them the pleasure of seeing their names in print.

The first of the letters was typical. It was from a woman who claimed to be in telepathic communication with a being living on one of the Magellanic planets. Carradine remembered having been told that in the old days such cranks held mystic communication with the natives of Mars and Venus, Jupiter and Saturn ; now that the Solar System was Man's backyard they had to go further afield.

The second of the letters was from the inventor of a perpetual motion machine who was very annoyed because neither government nor private industry would listen to his claims.

The third letter . . .

To begin with, it was typed, and neatly typed.

Secondly, it lacked that peculiar quality, that almost tangible aura of nuttiness.

Thirdly, it might be the answer to Carradine's problems.

" I am among those who actually saw this so-called Great Meteorite," he read. " The phenomenon was witnessed by far too many independent observers for it to be explained away by the term ' mass hallucination.' Even so, it is indeed strange that it was seen by people of a reliable character and, simultaneously, *not seen* by other people, equally reliable.

" At the time that the meteorite was sighted I was working on an astronomical telescope of my own invention. I will spare you the technicalities ; suffice it to say that the instrument is so designed as to be capable of making sustained observations of meteorites, locking on to them, as it were, during their swift passage across the sky, analysing the spectrum of the light emitted or, should the operator so desire, permitting a visual watch to be maintained.

" On the day in question I had completed work upon the telescope assembly and was hoping for the passage of a stratoliner or homing interplanetary rocketship so that I could test the instrument. Although the sky was overcast observation would have been possible by means of infra-red and other radiation.

" My attention was caught by a low murmur of sound coming from the sky. Through binoculars I could see a flickering light showing through the high layer of cirro-stratus. I at once jumped into the swivelling chair, took a rough sight on the source of illumination and switched on the machinery.

" I was not surprised to see a spaceship—although I was both surprised and horrified to see that the spaceship was obviously out of control. Her hull was already incandescent. She was coming in stern first, and I saw her main venturi suddenly vomit fire, a blast of too short a duration appreciably to check her speed of descent. I saw too (although in this I may have been mistaken, may have been misled by an explosion at the other end of the ship that blew relatively small pieces of wreckage clear of the hull) a half dozen or so manlike figures falling away from the ship.

" I tracked her down."

" My vision was clearer when she was below the overcast. I could see that she was not an interplanetary ship ; she was too large and there were odd projections on her shell serving no

apparently useful purpose. She was still being navigated ; I could see the control surfaces on her vanes moving, could see that her Captain was fighting for altitude, was striving to prevent her from plunging in an almost vertical dive. Had it not been for his efforts she would have dived and the explosion would have devastated not only the city in which I live (but would it have done ? could it have done ?) but half a dozen neighbouring towns and villages as well.

" Then she blew up, and the automatic screens in my telescope snapped into place in time to save my eyesight. She blew up, and I tracked a piece of wreckage as it fell ; one of the stern vanes I think it was. I tracked it, and just before it dipped below my horizon I was able to read the name that was on it. The name was—*Faraway*.

" I realise that my story is utterly fantastic. I know that *Faraway* was lost when blasting off on her maiden voyage of interstellar exploration, and, so far as I know, no other interstellar ship has yet been constructed. Nevertheless, I have a theory to account for what I saw.

" Fiction writers and mathematicians have both, from time to time, played with the idea of the alternative worlds, the worlds of IF, the infinitude of co-existing time tracks. On our time track *Faraway* was lost at the beginning of her voyage. On somebody else's time track *Faraway* was lost on her return from her voyage.

" But . . .

" But her voyage took her clear outside of our own frame of reference. Her voyage took her to worlds upon which Man had never before set foot, to planets absolutely uninfluenced by Man. It is possible that her crew met on these planets members of other expeditions from Earth—from an Earth upon which Atlantis never perished, upon which the Roman Empire never declined and fell, upon which the Third Reich succeeded in its bid for world domination.

" The above paragraph is mainly, I admit, playing with ideas. But I am reluctant to abandon one of the ideas—the idea that *Faraway*, on some other, not very divergent time track, was not destroyed almost at the moment of launching, the idea that this *Faraway* did make her voyage to the Centaurian worlds and then, somehow, returned to Earth, to what was, for her, a subtly wrong Earth . . ."

" *Rubbish*," whispered the girl intently.

" It's not rubbish," said Carradine aloud (to him). " It's not rubbish. It all fits in. Such buildings as belong to both time tracks are solid to us ; the buildings and things that belong to this time track only are not solid . . ."

" Rubbish," said the girl again. " But I wish it were true."

" Then why not make it true ?"

" But it wouldn't be any good, even then, would it ? What difference does it make if he was killed years ago, or only a few days ago ?"

" But suppose he wasn't," said Carradine. " Suppose I wasn't . . ."

" But you were, Jimmy," she said reasonably. " You were. You must have been.

" Damn it all, wench," he swore. " I wasn't."

" But you were. Years ago—not only a few days ago like this nut is trying to make out in his letter. Oh, to hell with it !"

She opened a drawer of her desk, pulled out a bottle and a glass, uncorked the bottle. Carradine could smell the good, smoky aroma of the Scotch. He watched greedily as the amber fluid splashed into the glass. He reached out, took the glass from Sally's hand, saying, " You are a pig, my dear. Don't I get a drink after all these years ?"

She turned to stare at him, screamed and fainted.

Philosophically Carradine gulped his whisky then walked swiftly, if a little unsteady to the door to lock it against Wells and Vernon or against any other intruders. It did not take him long to bring the girl round—but it was a long time before he was able to convince her that he was not a ghost.

He succeeded at last.

There are quite a few things that disembodied spirits cannot do, and drinking whisky is only one of them.

" And what about us ?" demanded Vernon when Carradine opened the door.

" Sally, darling," said Carradine, " meet Peter Vernon and Jack Wells . . ."

She said, " I'll take your word for it that they're there, Jimmie. But I can't see them . . ."

" You must have somebody," said Carradine to the others. " You must have somebody, somewhere, whom you could get through to . . ."

"There's my wife," said Vernon. "My ex-wife, rather . . ."

" Then we must get you to her. We must find a vehicle, if we can, that was in existence before the two time lines diverged. Something that is real to you, something in which you can ride . . ."

" But she hated me," said Vernon gloomily.

" I'm sorry," said Carradine inadequately, feeling guilty in his own new-found happiness.

" It will probably do just as well," said Wells, to whom Earth was, once again, the best of all possible worlds. " It will probably do just as well."

" You could be right," grinned Vernon.

" And what was all that about ?" demanded Sally.

" Nothing that concerns us," Carradine told her.

George Whitley

Artificial satellites are becoming more and more complex in the miniaturization of the gadgetry enclosed in them, but one of the greatest problems is the power source to make them continuously operable. There is, of course, the Sun. Let us therefore see how this natural power station is being put to work.

OUTWARD BOUND

8. Sophisticated Satellites

by KENNETH JOHNS

Artificial Earth Satellites are no longer a dream. They're no longer even a nine day's wonder. Already they have achieved the status of—or been relegated to—that of tools, expensive but everyday means of obtaining data from the volumes of space around Earth as yet unreached by human beings.

At first it was a major success to put a satellite into a semi-permanent orbit ; now a satellite barely calls forth comment from the press unless it carries an outstandingly original payload. Even the lurid and semi-gloating stories on satellite launching failures is—thankfully—absent.

Scientists aren't content with the present day satellites. Oh, they were good enough as a beginning ; but, they say, what is needed now are steerable, large, more massive, solar-

powered satellites with countless telemetering channels and a couple of TV hookups, to carry telescopes, cameras, mass spectrometers and relay stations into space.

And the scientists are quite right.

We do need more sophisticated artificial satellites, and even they will be out of date as soon as their data is analysed. Satellites are the precursors of space stations, and, one day, even space stations will be obsolete. The road to space is so clearly marked that it seems strange to look back upon the days when the word ' interplanetary ' dropped into a conversation elicited only a sneer, a laugh or just a blank bone-headed stare.

In May, 1959, scientists and engineers and their employers were sufficiently interested in space for five hundred of them to attend a two-day symposium on artificial satellites held at the Massachussetts Institute of Technology. Typical of the papers were those dealing with means for stabilising and guiding satellites whilst in orbit. The problem is not new ; but the need for stabilisation only takes on urgent importance with the more sophisticated satellites and their photocells, 500 lines per picture TV cameras and directional instruments.

The problem was emphasized with *Vanguard II*—the weather eye satellite whose data is almost useless due to the rapid tumbling in orbit.

One solution to the problem was incorporated in *Discoverer II*, the first mouse-manned satellite, which kept one side always facing the Earth during orbit, just as does the Earth's senior satellite, the Moon.

Discoverer II took aloft a scanner to watch the horizon ahead and a set of tiny jets using compressed gas to keep the horizon in the same position relative to the light cell scanner. Thus the satellite rotated once on its axis during every orbit of the Earth. The system worked extremely well, as was shown by the constant strength of the radio signals ; if the satellite had been spinning or tumbling the signals would have continuously varied as the aerial swept out large volumes of space.

But this method is no good for permanent or semi-permanent satellites ; the supply of compressed gas runs out in a couple of days and cannot be renewed. What is needed is some self-sustaining method of continuously orienting satellites.

At the symposium on satellites, John Wall, of Douglas Aircraft, suggested that satellites could be stabilised by using a rudder of aluminium foil on a frame. He calculated that even at three hundred miles up—just under halfway to the outermost fringes of the atmosphere—there is still sufficient atmosphere for a 20-lb rudder to exert sufficient leverage to maintain one side of 500-lb satellite always facing the Earth.

Even the drag of a twenty feet in diameter balloon would be enough eventually to settle a satellite into one revolution per orbit around the Earth.

Strange bedfellows, these, to the confirmed space travel enthusiast. Artificial satellites being controlled along the mundane paths of aerodynamics !

Light pressure from the Sun could be used above 400 miles high to stabilise a satellite. The long-time discussed idea of propelling spaceships by light pressure has recently received an unexpected and welcome fillip. The giant spouts of plasma that surge from the Sun and sweep like great brooms through the solar system, also, may be used to propel spaceships of the future. The Sun's light pressure is expressed as 9×10^{-5} dynes per square centimetre, which is extremely small.

But a satellite equipped with a large and light sail probably constructed from tissue-fine plastic or aluminium extended on fine ribs, rather like the wings of insects, could be controlled so that one face was permanently turned away from the Sun.

Later on, larger sails will very likely propel space ships out and away on long-term exploratory ventures to the outer planets. By tacking in the breath of the Sun and using the Sun's gravitational pull, the far-ranging spaceships will return, sails slanted to slow them up, to have their camera records processed and reveal the secrets of the distant planets.

Norman Sears and Philip Felleman of the M.I.T.'s instrumentation laboratory also gave a paper calculating how a ship could successfully rendezvous with a satellite in orbit.

The problem of keeping satellites supplied with sufficient power has been solved in theory by the use of solar batteries. These are simply silicon cells able to convert sunlight into electricity at an efficiency of about 11%. As long as they are in sunlight, they feed a trickle of electricity either to an accummulator or directly to a small transmitter. Mirror-concentrated sunlight can also be used to operate dynamos through tubular boilers.

These solar batteries have worked well in USSR and USA satellites ; but the planet probes soon to go out will need much more power than a satellite does to contact a ground station. Venus at its nearest is 25 million miles distant and it is going to take a pretty hefty wattage to be readable across that mileage. The American answer is fairly simple. They are experimenting with solar batteries covering the surface of paddle-like plates attached to a satellite or probe. When launched from the final stage, the folded paddles snap out at right angles to the main structure and they are so arranged that at least two are facing the Sun no matter what the position of the body.

Near Earth, four of these can feed up to 400 watts into nickel-calcium accumulators whilst about twice as much will be produced by the intenser sunlight near Venus. Information from instruments aboard a probe can be stored in standard miniature tape recorders and beamed back to Earth in a few seconds, using a very high wattage transmitter working on the stored energy from the accumulator, upon a radio command from a terrestrial station. The Jodrell Bank radio telescope will be very useful in picking up these signals.

For the next size up, where two killowatts or more of power are needed in space, the Tapco group of Thompson Ramo Wooldridge have a detailed design for a solar-powered mercury turbine to operate in space. Using a reflector to concentrate the Sun's radiation, the idea is not new ; but the complete design needs a lot of careful planning including details such as the effect of meteors on reflector, sun-tracking controls to keep the reflector oriented, a heat reservoir to continue the turbine's operation on the dark side of the Earth, and even using the mercury as the bearing lubricant.

The Raytheon Manufacturing Company have pointed out the possibility of using beamed power to supply electricity to isolated ships. It is not concerned so much with probes and satellites as with an air station ten miles up. It claims that 10 centimetre wavelength radar beams could be focussed on the base of a helicopter ten miles up and 35 to 50 per cent of the energy would be collected to drive the rotor to keep the unmanned structure in the air. It could be used as an aerial lighthouse, a platform for early warning radar systems and as a radio and TV repeater station. The firm points out that one of their tubes can broadcast 25 horsepower in radar

waves. Of course, the helicopter would have to become airborne and take up station using conventional engines and fuel.

Radio-active polonium has been used as the power source of a small electrical generator, *Snap III*. The isotope is sealed in a molybdenum capsule and the breakdown of the fifth of a gramme of polonium is sufficient to keep the capsule at almost 400°C for months. Twenty efficient thermocouples convert about ten per cent of the heat into electricity to generate 7 watts. This is small but enough to run a tiny transmitter. One snag, the polonium has a half life of only 140 days.

Fred Hoyle has said that, using present-day techniques and materials, we can even get data from a Sun probe from within one solar radius of the Sun. This would carry it near enough to give vital data on the solar magnetic fields and the high temperature zones in the corona. The GEC of America has published a design study of a Sun probe to venture within 4 million miles of the Sun.

What other new ideas are there—not in the air, exactly, but circulating—to further space travel and exploration ?

The University of Washington is trying to fit fresh fish into spacemen's diets. They are growing tilapia, a fresh water African fish, with algae in a closed ecological system.

The fish live on the algae and convert the algae's oxygen into carbon dioxide which is converted by the algae and light into oxygen. And the fish eat the algae and grow bigger and begger. Of course, nutrient must be added somewhere, nature doesn't give away something for nothing, even though this nutrient may be the biological byproducts of human metabolism.

Experiments by the US Air Force at the Wright-Patterson Air Force Base and at the University of Milan have shown that pilots can tolerate very large accelerations if they are completely immersed in water. Volunteers wore breathing masks whilst half-sitting, half-reclining in a water tank swung on the end of a centrifuge boom. They could take 14 gravities for about 18 seconds, and felt far less sick afterwards than they did when accelerated without the watery protection.

And the University of California's College of Agriculture has discovered that hens reared in a centrifuge giving 2 to 5-g were only about half the size of their normal sisters. What is more—they laid only flattish eggs. When removed from the centrifuge, they turned somersaults whilst trying to walk. Sixty days of 4-g gravity killed them.

Even grimmer than this, and pointing up the stupidity of some members of the human race, four US airmen have discovered another use for high altitude chambers than mere pilot training. With preset controls, they make fine lethal chambers.

In March, 1959, the fourth such suicide achieved the dubious distinction of being the first man to die by the boiling of his blood at 12 miles high—although he never left the ground at the Davis Montham Air Force Base in Arizona.

What with this sombre note, preventable though future would-suicides may be, scientists need to turn hopefully to the work being done to create better satellites, and give a good long look at work being done—or which should be done—on creating improved human beings.

Kenneth Johns

Editorial—continued

where the short story is dominant. 1959 saw mergers of some of the largest British magazine publishing houses. The same " take-over " system was also applied in the States. Out of the ruck of reorganization, many regular titles are merged with competing titles with, presumably, some boost in circulation. But the fall-off in advertising revenue continues. At least in Great Britain where the small land area is now adequately covered by commercial TV.

I follow the bi-yearly statistics of all British newspapers and periodicals fairly closely and the last two years have shown that, apart from the phenominal rise in the sales of womens' magazines, all other publications have been steadily dropping. Television cannot be entirely blamed for this although it must contribute something.

In view of this apparent regression—a general shrinking in numbers of all forms of magazines—the number of magazines now devoted to science fiction are still in proportion to the number in the general field. Being mainly (or solely) concerned with the s-f field we have been inclined to assume that the ' depression ' was only hitting us. If the regression is general, as I suspect, then science fiction has only been taking part in the present phase of redistributed leisure time.

Our " Postmortem " column will remain open for anyone who wishes to continue the discussion.

John Carnell

There has been some interesting discussion in our "Postmortem" section recently on computors and stories based on such machines. This month Australian writer Wynne Whiteford introduces a world completely run by a computor system and what happened to the technician who went to programme it.

MOMENT OF DECISION

by WYNNE N. WHITEFORD

It was only now that Rees Raywalt felt the tension seeping through his almost unshakeable confidence in himself. In this last minute before the final examination results flashed on the screen, an electric silence settled over the crowded hall.

Doubt leapt upon him with a shocking impact. Had the last twelve years of his life been completely wasted? The scholarships, the examinations, the intensive, specialised study—every day, every hour in these twelve years had been directed towards this one moment. He had the feeling of being pushed towards a precipice.

With the suddenness of an explosion, the glowing golden screen was filled with printed names. His own name stood third from the top—First Class Honours. This should have been his moment of supreme triumph—but it wasn't. It had in it a bleak emptiness.

"Congratulations, Rees!"

He started convulsively as Brand clapped him on the shoulder. He glanced again at the screen as he turned to seize his outstretched hand.

" I see you made it, too." He gestured to the open door leading to the quadrangle. " Let's get a drink."

" I didn't make the honours list," said Brand as they pushed clear of the crowd. " Still, a pass satisfies me. I've got it all set up to start with Altarc. You staying on in New Altair, or heading back to Earth ?"

" Neither. Earth's too overcrowded these days—no real opportunities. I'm going out to Eltanin VI."

" Isn't that the place where they run everything by one huge computor ?"

" That's it. The Solmak of Milos."

Raywalt said the name as though he held it sacred. Brand shot a sidelong glance at him, but did not reply. He matched Raywalt's long stride as they walked down the colonnaded cloisters, while the taller man looked out across the wide lawns of meral moss, planted with blossom-bearing trees that had something of the look of an earthly tamarisk.

The centuries-old building of the New Altair Programming Institute were wide and spreading, their slender fretted spires vaguely Cambodian, although their greenstone blocks had been so accurately machined that each building appeared to have been cut from a single monolith.

" *But what now* ?" Raywalt muttered to himself.

" What was that ?" asked Brand.

Raywalt spun to face him, halting in mid-stride with outflung arms.

" Twelve years aimed at just one goal ! And *now*, now that I've reached it—" a ragged harshness tore his voice—" I've got nothing definite mapped out !"

Brand's dark eyes were steady and penetrating. He shrugged his thick shoulders, then took a firm grip of Raywalt's arm. " This is the reaction hitting you. You'll feel better after a drink."

The windows of the cafe looked out over the vast sprawl of the city—the sharp geometrical mountain-ranges of metal and glass and synthetic stone, the swarming aircraft, the high-flung spiderweb tracery of elevated roads. Brand gestured towards the soaring towers of the commercial centre, down towards the sea.

" Why not stay here ? This is the biggest centre there is. Centre of everything. Me, I wouldn't want to live anywhere else."

Raywalt ran a hand through his hair. " It's all right for you. It's your world, your city. For me, it's too big—too complicated. You could walk through the streets of New Altair all day, see a hundred thousand people—yet not one person you *knew*."

The lights had come on at the starport, vertical beams of white and green light, titanic phantom columns in the darkening sky marking the rising and landing lanes for spacecraft. Raywalt watched a silver ship lifting on its antigravs, blazing with reflected sunlight as it gained height.

" From the beginning of our history, we've grown more and more complex." He leaned forward suddenly across the table, his eyes shining as he warmed to his favourite theme. " Life in the old Greek city-states was simple, clear-cut—"

" It might have been," broke in Brand cautiously.

" Of course it was." Raywalt brushed the interruption aside with a wave of one of his long, narrow hands. " Even in Twentieth Century Earth, when men first entered space, there was a simple, solid sanity there—everyone knowing exactly where he was going."

Brand looked thoughtfully at the table. " I wonder how true that is. Does it ever occur to you we get an over-simplified picture of past civilisations ? Remember, when you look at the Twentieth Century you're looking back five-hundred years. Don't you think the average man living then might have been as complicated as us ?"

Raywalt shook his head obstinately. " I don't see it."

Brand looked at him, summing him up. The tall, spare figure, the look of eager youth—he looked much younger than his twenty-eight years. " You know, Rees, sometimes I think you've specialised a bit too much."

" Specialised ?" Raywalt's eyes blazed. " The programming field touches everything—ecology, economics, politics, biology, industry—"

" I know that, but—" Brand paused, his answering flash of anger dying as quickly as it had come. When he spoke again his tone had changed. " You're seeing the Appointments Board about Eltanin, of course ?"

" Got an interview with Voss himself at 1100 tomorrow. Not that anything he says will make any difference. I'm sure of one thing : I'm going out to Eltanin to work on the Solmak of Milos !"

" I'm forced to the conclusion that you haven't given your future much thought, Raywalt."

Voss, Director of the Appointments Board of the Programming Institute, was a large, grey man, grey of eyes and hair. Sitting facing Raywalt across his massive desk, he had the solidity of a figure carved from granite. When he saw that Raywalt was not going to reply, he went ponderously on.

" First Class Honours place you in the top five per cent of the people who pass through here. There are plenty of large-scale organizations that would pay you almost any salary you demanded. But you won't find them on a frontier planet like Eltanin VI."

Raywalt's jaw set stubbornly. " Maybe I'm an idealist."

" An idealist ?" Suddenly Voss leaned forward. " Then think of this : Advanced training gives a man added responsibility to the community."

Raywalt felt a flush mounting to his face. " I believe it's possible for a computor system to be set up to run the economy of an entire world. The only place it's even been tried is Eltanin—and I don't think the idea has been fully exploited even there. Going out there gives me the chance to *build* something—something that will remain as a lasting monument."

" So that's it." The Director's tone hardened. " Better to be the largest fish in a small pool. I've seen that attitude before—but frankly, Raywalt, from you I'd expected better."

He looked down at his desk. " We have little data on the Eltanin system. I can't arrange appointments for you on a world sixty light-years away. I can only recommend you to the Eltanin Consulate."

At the door, Raywalt looked back. " The way I see it, I'll be building a civilisation."

Voss looked up from his papers. " I wish you success," he said, without a vestige of warmth in his tone. Raywalt left with a bleak feeling of frustration.

Most of the extra-system consulates in New Altair were located near the Central Starport. To reach the area, Raywalt had to drive his ground-car through many miles of the

sprawling, towering heart of the city, skimming along broad elevated avenues of green metal that sloped gradually up to higher and yet higher levels.

He found the building that housed the Eltanin Consulate, parked at the sixteenth level, and rode an elevator to the 135th floor. He stepped out into a large, bright, sparsely furnished lounge with windows overlooking the seething activity of the Starport. Doors along the lounge bore the names of the Consulate, of the Eltanin Trade Commission, of Eltanin Spacelines, and of the Eltanin Information Bureau.

He filled in the form for his visa, and was told that the Vice-Consul would see him in twenty minutes. As he waited, a tall, slim girl with fair hair walked in and pressed the bell-push.

" I'm Valda Larson," she announced when the clerk appeared. " Are my papers ready ?"

" One moment, Miss Larson."

Raywalt noticed that the name seemed to impress the clerk, and he looked at the girl with a fresh interest. The poised, gazelle slenderness of a light-gravity world. Eltanian, probably. Suddenly she turned, looking at him with direct blue eyes.

" Have we met ?"

" I don't think so. Rees Raywalt. From Earth."

" I thought you were from Eltanin."

" I'm going out there," he said.

She studied him with her head tilted on one side. " You don't look the type."

" What type ?"

" I mean—you don't look like a migrant. They have a certain look. A lost look. I suppose they tend to be unadventurous people who like everything planned for them." Her smile became mischievous. " Like sheep."

It was Raywalt's turn to smile. " You certainly don't look like a sheep."

" Oh, my people were descended from the Ninety-Eight." She said this with a certain pride, and as he looked puzzled she frowned slightly. " I see you don't know much about our history. The Ninety-Eight were the first permanent settlers—forty-nine men and forty-nine women."

" I see," he said.

" Why are you going out there ?"

" I'm a computor expert. Programming. Just finished a post-graduate course at the Programming Institute—"

Her eyes seemed to have widened very slightly. " And you're going out to Eltanin for a vacation ?" she asked quickly.

He shook his head. " I want to work on the Solmak of Milos."

She stood absolutely still, as if he had slapped her face, her full lips parted slightly to reveal even white teeth.

" What's the matter ?" asked Raywalt.

" Oh, nothing. Something just crossed my mind." She looked away from him. " I don't think you'd like it much in Milos. It's quite a small city. You'd find it quiet after New Altair. There's so much going on here—all the theatres, the shows, the motor-racing and the speedboats and the submarine trips among coral—" She broke off, looking at his quiet smile. " And of course, there are all the wonderful libraries and museums here, and—"

" You know," he said, " you're not a very good saleswoman for your own town. You're trying to sell me on staying in this turmoil here." He spread out his hands. " I like it quiet."

Her eyes looked darker. " I'll probably see you out there. I'm visiting my father. Rod Larson—have you heard of him ? He's on the Executive Council. They're the people who make all the decisions about running the place."

" I thought the Solmak did that."

" Well, yes. But there are still *some* decisions a computor can't make."

" Not with good programming. That's where I come in."

A door opened. " Rees Raywalt ? The Vice-Consul will see you now."

" Thanks." As he moved off, Raywalt turned to the girl. " I'll see you in Milos."

She took a quick step after him. " What did you say the name was ? Raywalt ?"

He nodded. He noticed that she repeated it soundlessly to herself as they parted.

The Vice-Consul was a tall, vague-looking man with an easy manner and eyes that had a trick of becoming suddenly alert for a moment, as though the real person within were looking out through the happy-go-lucky mask.

" An expert in computor programming," he said, looking at Raywalt's passport. " I should warn you—there's not much

opportunity in your field out on Eltanin VI. You won't find large cities out there. Even Milos, our capital, is a small set-up—about half a million people."

Raywalt looked at him steadily. " Rome had only half a million people at the time of Caesar Augustus."

" Caesar who ? You mean Rome on Altair V ?"

" No. I meant Rome, Earth."

" Ah, of course. Must catch up on my ancient history. Egypt, Greece, Mars, all that. But to return to the present—to go to Eltanin, you must deposit your return fare with us before a visa can be issued."

" I know. I've complied with all the conditions."

The Vice-Consul turned the pages of his passport. " There is no legal barrier against your travelling to Eltanin. But I must advise you to think carefully about it."

" I thought you were anxious for migrants."

" We are. For suitable people."

For sheep ? thought Raywalt as the Vice-Consul continued to look at his passport. Finally, as though coming to a sudden decision he stamped one of its pages and scrawled a signature.

" You see now what I mean by the Type ?" asked Valda Larson.

Raywalt leaned over the railing of the landing gantry, looking down on the two-hundred-odd migrants who had travelled out with them on the ship. " They look normal enough to me," he said.

" But so *very* normal." Her voice had a brittle sharpness, somehow out of character. Suddenly she put her hand on his arm. " I'm glad you were aboard. It's a deadly trip when the ship's full of people like these. They come to live here because it's a safe haven of refuge—everything planned so they don't have to make decisions themselves."

Raywalt looked about him. The spaceport of Milos was a dry lake-bed with a surface of brick-hard clay that had been levelled and bonded. Its buildings had an airy surrealistic style that dated them half a century back. Beyond was only a vast plain stretching to the horizon, dotted with wide-scattered buildings. He pointed.

" What's that green stuff ?"

" Barak. That's our main crop. Fast-growing cane."

Below, the other passengers were beginning to board a long, streamlined land-liner waiting on the far side of the Customs Building. Raywalt turned to the girl.

" Time I was moving. I'll see you around town, Valda."

" No, wait." She pointed along the black strip of road that led straight away from the spaceport, and he saw the distant speck of a fast-approaching vehicle. " This may be Dad—he's picking me up here. I'd like you to meet him. You can ride in with us."

The speck resolved into a huge, deep-finned ground-car which swung smoothly into the park, nosing through the gates leading on to the edge of the port and halting in front of a NO STANDING sign.

" That's Dad," laughed the girl. " He's a law unto himself around here."

Larson met them as they passed through the customs barrier. He was a big, blonde man whose movements formed an unending torrent of exuberant energy. At first sight, he did not fit in with Raywalt's pre-formed ideas of one of the industrial leaders of a quiet, well-ordered world, but he found that he had the immediate feeling that he liked him.

Valda flung her arms around him, then introduced Raywalt to him. " Mr. Raywalt is a computor specialist," she added.

Was it imagination ? Or was Larson's frank blue gaze suddenly piercing ?

" That's interesting," he said. " What brought you to Milos ?"

Raywalt smiled. " I've just finished a programming course at the Institute in New Altair. Since yours is the only planet-wide economy run by a computor-system, I think it's my logical choice."

" I doubt that. Still—" Larson's teeth showed white in a sudden smile. " Now you're here—glad to have you !"

He led the way out to his car, swinging open the capacious boot and dumping Valda's gear inside. As Raywalt stowed his own baggage, the long red land-liner moved past towards the road with a whistling scream of turbines, and under cover of the noise some rapid, tense conversation took place between Larson and his daughter. Raywalt was unable to hear a word of it, but he sensed a fierce urgency in it.

The three of them climbed into the front seat, Valda sitting in the middle. With a smooth whine of independent motors and a whistle of tyres, the car leapt forward, swinging out onto the wide black road.

" Where do I find a place to stay ?" asked Raywalt.

" There's a bureau in town—" Larson broke off. " No. Why not stay with us for a while ? We have plenty of room."

Raywalt protested, but Larson waved him to silence. The speed of the car mounted steadily. They overtook the land-liner and soon left it far behind. The road ran dead-straight between fields of barak and plantations of Eltanin palms, darkly green under the orange-tinted sunlight.

" We use some computors for handling material flows, market analysis, things like that," said Larson suddenly. " Would you be interested ?"

" I'm mainly interested in the Solmak."

" I don't think there's much needed in the way of new programming talent there," put in Valda. " Is there, Dad ?"

" No. Think everything's running in established grooves by now. The planet's been settled a hundred years, you know."

Raising his eyes, Raywalt met the reflected stare of Larson's in the panoramic driving-mirror. The expression was alert and calculating. At once Larson returned his gaze to the road, but Raywalt felt vaguely uncomfortable.

The fields of barak that had lined the road for many miles gave place to moss lawns and formal gardens from which pastel-tinted buildings arose—sweeping, spreading buildings, few more than a hundred feet high. The road lifted twenty feet above ground-level, and crossed over other roads at regular intervals. They were entering the city.

" Look there," said Larson suddenly, pointing. " That's what you came sixty light-years to see."

Away to the left, beyond a mirror-smooth stretch of water, a plain square building stood like a vast mediaeval fortress. Its windowless walls seemed to be made of red sandstone—or red concrete ; the distance and lack of external detail made it impossible to tell which.

" The Solmak ! Could I have a closer look at it ?"

" No point in that. Nothing to see. You can't get inside—it's fenced off by an induction screen."

We'll see about that, thought Raywalt with a sudden inner savagery. He felt his entire body bathed in sweat.

There was something wrong here.

He couldn't put his finger on the point where the wrongness lay, but somehow he could sense it. He said nothing as the car travelled through the centre of the city, but watched the people on the sidewalks. They looked normal enough. The men

wore bright-coloured shirts and shorts, the women short sleeveless dresses that suited the warm, mild climate. None of the other cars he saw were of the size or power of Larson's, nor did he see any other man dressed like Larson, who wore a suit of some thin, steel-grey material with a metallic sheen.

" That's one of my food processing factories," said Larson suddenly, indicating a long building. " The conveyor-belt you see runs right out to one of my barak plantations. Seven miles of it. My brother built it—he has one of the biggest construction firms in Milos."

Raywalt looked along the straight, elevated girderwork of the conveyor, which seemed to reach to the horizon. A little further on, Larson drew his attention to another building on the other side of the road.

" That's a plastic moulding plant of my wife's. She makes furniture hardware, mostly."

" Do you ever find your careers clash ?" asked Raywalt.

Larson merely laughed. His daughter turned her head to smile at Raywalt.

" Just about all of the Ninety-Eight have careers—women as well as men. Of course, there are over a thousand of us, now, although we still call ourselves the Ninety-Eight."

The wrongness that Raywalt had sensed began to take more definite form. This was almost a reversion to an ancient feudal system—a small, definite ruling caste. The feeling strengthened when at last they came within sight of Larson's house.

It stood thirty miles out of town on the far side from the spaceport, in immense formal gardens overlooking a reach of a broad river fringed with palms. It was vast. To his Terrestrial eyes it looked like a modernised counterpart of the Palace of Versailles.

They glided up a long drive bordered with prolifically-flowering hibiscus, and shaded by other imported flora. The style of the place, the scale of it, stood poles apart from the other dwellings they had passed. Larson swung the car to a stop in a green and pink tesselated courtyard flanked on three sides by the sprawling wings of the house.

" You can stay in a suite of rooms in the top of the east wing," he said to Raywalt. " Looks out over the river."

Raywalt stepped out of the car, swaying off-balance for a moment as he forgot to allow for the sixty per cent Earth

gravity. " That's very good of you, giving me a chance to find my bearings."

Larson waved his arm. " Stay as long as you're on the planet."

Raywalt shook his head. " That might be quite a long time," he smiled.

Larson looked into his eyes for a disconcertingly long time before he replied. " I doubt it."

Raywalt felt the muscles tightening along the sides of his jaw, but before he could reply Larson turned to his daughter.

" I have a few phone calls to make before meal-time. Will you show Mr. Raywalt his rooms, and take him over part of the estate ?"

He went quickly into the house. Valda led Raywalt across the courtyard, into an elevator, then down a long carpeted passage on the upper floor ; he found himself watching the light, easy movements of her body, tall and slim in a vivid iridescent dress she must have bought in New Altair. She opened a door.

" This will be your lounge, Rees. Bedroom, bathroom through there, library that way."

" You have a big place here," he said.

" Most of the Ninety-Eight have big houses. They often have meeting's at each other's places—trade conventions, that sort of thing. Dad has a meeting here tonight." She moved away. " See you downstairs in a few minutes."

Valda drove him down a long tree-lined avenue to a summer-house on a small headland jutting into the river. As they sat watching the broad orange disc of the sun sinking lower in the dark violet sky, he had the inescapable feeling that he was being kept out of the way for a time.

Through the meal, there was the same sense of tension, of *waiting*. They had been joined by Larson's wife Helga, a tall, lean woman who might almost have been an elder sister of Valda, although her hair had been cut short like a man's. Valda, who had gone to her room to change after returning to the house, had pulled her hair tightly back in a clasp ; she had changed from her bright dress into a steel-grey suit similar to her mother's, with loose trousers and a long plain jacket that reached almost to the knees.

" We have a meeting of the Executive Council here tonight, you know," said Larson as they neared the end of the meal.

" I'd like you to meet them later in the evening. I'll call you in the library."

He looked out through the great windows facing the courtyard ; it was dark outside, the ebon sky streaked with fitful glows of an aurora, lime-green and neon-red. He dialled two figures on a radio-switch activator lying on the table near his elbow, and the courtyard was immediately bathed in white floodlighting.

From the windows of the library a few minutes later, Raywalt saw the members of the Council arrive. They came in long ground-cars and in delicate-looking aircars, first singly and then in a milling crowd, until the huge courtyard was filled with vehicles. He watched them stream in through the main entrance, fully a hundred people, perhaps a third of them women. All of them wore the same plain suits, grey or brown or black, the women's differing from the men's only in the longer jackets.

When they had passed from his view, Raywalt turned his attention to the library. It had a prolific stock of books, all microprint editions, and he selected some at random, flicking their pages beneath the epidiascope and watching their image projected on the white wall, but the tension had sapped his interest in reading. He wandered morosely around the library, and picked up a radio-switch activator from a shelf.

It was similar to the one Larson had used—a flat rectangular box with a dial like that of a telephone. As he was replacing it, something else caught his attention—a duplicated typewritten list of numbers, several sheets thick. He scanned through it idly, and saw that it was an alphabetical list of things that could be operated at a distance by the activator—doors, lights, air-conditioners, a thousand such things.

Then, suddenly a name seemed to leap out at him from the list.

Solmak.

His hands trembled slightly as he read the code-figures.

Solmak, induction screen—137.

Solmak, main door—138.

He looked at the figures for a long time, implanting them in his memory.

About an hour later, Larson's voice spoke suddenly from an intercom high on the wall.

" Rees, will you come down to the main hall ?"

When he entered the hall, Raywalt found himself confronted by the entire Executive Council, sitting around a horseshoe-shaped group of tables. Larson, meeting him near the door, led him forward to the open part of the horseshoe.

" I'd like you all to meet Rees Raywalt," he said. " As we've already discussed his qualifications, I think he needs no further introduction." A murmur travelled around the tables, and Larson turned. " Mr. Raywalt—the Executive Council of Eltanin VI."

Raywalt found a hundred pairs of eyes on him, summing him up, calculating, weighing. He bowed slightly.

" There are many of us here who use computor systems," went on Larson, " and I think we should be able to make very good use of Mr. Raywalt's knowledge. He will be setting up as a consultant—isn't that so, Mr. Raywalt ?",

" No. Not exactly."

An intense silence chilled the room. Raywalt took a couple of steps forward.

" It's hardly correct to say that I'm setting up as a general programming consultant. My main interest is in the Solmak."

Had he suddenly produced a bomb, the effect could hardly have been more galvanic. It was as though almost everyone in the room made some slight, sharp movement at the same instant, then tensed into stillness.

" Can you explain that further ?" A heavy, grey-haired man at one of the nearer tables looked up at Raywalt with tired, bold eyes, his fingers drumming on the table.

" Yes. I'd like to study the programming of the Solmak. As you know, I have all the most recent data. I think I might be able to make a few suggestions."

The stillness in the large room reminded Raywalt of a gathering thunderstorm. The grey-haired man leaned forward slightly, his eyes boring into Raywalt's.

" My name is Benali. I do all the programming for the Solmak—with the assistance of my team, of course. If you feel that you could help us, let me take a list of all your qualifications and objectives. The committee will let you know the result within a matter of days."

" Could I see the rest of the committee about this ?"

Benali hesitated for a few seconds. " I don't think that will be necessary," he said at length. " The decision will be left to the Solmak"

During the next two days—very long days by Earthly standards—Raywalt saw quite a lot of Eltanin VI. Valda Larson took him with her on a number of long trips in an air-car to see various relatives, all of them members of the Ninety-Eight.

Eltanin VI was a planet of immense distances, with vast plantations of barak stretching for hundreds of miles, with mines and refineries and industrial centres geared smoothly into an integrated economy. The farms and the plantation houses were neat and well-designed, but it was the mansions of the Ninety-Eight which made the strongest impression on him.

All of them were on a scale comparable to Larson's, although they showed a rich variety of architectural style. All of them had extensive landing-fields for aircars, and great halls where large meetings could take place. All of them lay a considerable distance from the cities, although their owners had offices and factories within the city centres.

He began to realise that the Ninety-Eight were a more tightly-knit group than he had suspected. They had closed-circuit video systems linking their houses right around the planet. They referred to the mass of the population as " the Migrants," as though they were a different race. All he met knew exactly who he was before he met them, and they knew he was awaiting the decision of the Solmak, which would come to him through Benali.

Here, too, he stumbled on another fact which seemed basically wrong. Benali was the head of a large establishment manufacturing the electronic gear. Was the programming of the Solmak merely a part-time activity? The idea was incredible. Raywalt had the feeling that someone was lying to him, somewhere along the line.

On the morning of the third day, a message arrived for him from Benali. His services with the Solmak would not be required. No explanation—simply a flat, unequivocal *no*.

He was still stunned by the bluntness of the rejection when Valda came to him.

" I'm flying up to Ios to see my grandparents. Care to come along?"

He hesitated. " No, thanks, Valda. I'd like to take a look around the city, today?"

"Around Milos? All right. Take the old blue ground-car."

When she had gone, he went to the video booth and got in touch with Benali. The screen showed him seated at a wide desk. He looked at Raywalt with his head thrown back, his eyes tired and insolent.

" I'm sorry about that result, Mr. Raywalt. But the Solmak is always right, isn't it ?"

" Could I see your programming of the data I gave you ?"

" That was done by my team. I doubt if they kept a record." Benali glanced at his watch. " I hope you have a pleasant journey back to New Altair, Mr. Raywalt. Or is it to Earth ?"

The screen went blank.

Raywalt sat staring at it for a long time—maybe for a minute, maybe for a quarter of an hour. Suddenly he rose and went up to the library.

He found the radio-switch activator he had seen there before. The typewritten list was missing, but he could remember the numbers he wanted. Induction screen—137. Main door—138. Slipping the activator in his pocket, he went out to the blue ground-car.

The motors hummed with smooth power as he switched on. A moment later he was swinging out across the great tessellated courtyard, down the hibiscus—lined drive, out along the road to the city. It might almost have been a warm spring morning in sub-tropical Earth, except for the alien colour-balance of the tangerine sun and the purple sky. There was little traffic on the road—a few monstrous multi-wheel freighters, and one other ground-car which passed him in the opposite direction, its driver signalling with a blast on a horn, which Raywalt answered. Probably another member of the Ninety-Eight—at the combined speed of passing neither could have recognised the other.

He followed the road on which Larson had brought him, passing the long conveyor and the factories. At last, the massive red fortress-like building of the Solmak of Milos showed up on the right.

He turned off the main road towards it. At last, he came out on the edge of a broad lake, smooth as a sheet of polished metal, reflecting an inverted image of the windowless red walls. A single causeway crossed the lake.

There was not a single sign of life, of movement. He drove out along the causeway, the long red rampart rising cliff-like in

front of him. In front of it was a long line of slender metal rods, between which light flickered in a hazy shimmer. The causeway continued between two of them, which were surmounted by red lights like traffic-signals. A black and yellow cantilever boom barred his way just in front of the rods, bearing the words HALT * HEAT-INDUCTION SCREEN.

He stopped the car, and looked about him. No-one was in sight. He slipped the activator out of his pocket, and dialled the number 137.

The section of the screen in front of him flashed and was gone. The lights changed to green. The boom lifted silently out of his way.

He drove through, his pulse thundering in his ears.

Seen close, the great building looked frighteningly deserted. The single door of black metal, directly in front of him, was closed. He pulled up alongside it, and this time dialled the number 138 on the activator. The door slid open.

He stepped out, his feet crunching on gravel. Within the open doorway he could see a short, bare hall, lit only by the reflected sunlight from outside. He walked inside. Turning, he saw a luminescent light-switch in the gloom, and when he touched it the hall was flooded by cold green-tinted light.

He dialled the same two numbers on the activator, and saw the induction screen spring into being again. The boom began to swing down, and then the closing door shut it from view.

He was inside the building of the Solmak of Milos. It had been easier than he had thought.

Two passageways opened off the far end of the hall, with more light streaming from them. He looked up at a large wall-plaque of green metal facing the door, and read its inscription :

SOLMAK
Components manufactured by Meridian Electronic Company, New Altair N45 E744, Zeta Herculis IV.
Installed Eltanin VI, Year 9.

Other data followed in smaller lettering—additional components added. Surprisingly enough, the last data was almost a hundred standard years ago, although there was plenty of space left on the plaque.

He walked along one of the corridors, soft-footed on the thick carpet of dust. The dust bothered him. It was not the

dust of days, or of weeks. It was the dust of many, many years.

A door along the corridor stood open, and he looked through it into a vast space lit by cold fluorescent tubes. His eyes took in the long control-boards, the endless lines of thousands upon thousands of metal cabinets, all of them ashen with the dust of a hundred years.

He padded across towards the nearest of the boards, his feet making blurred imprints on the level dust. He swept his hand across a raised name-board and uncovered block lettering spelling the words INPUT STORAGE.

He threw a couple of switches, but nothing happened. The switches he had touched showed two spots of bright plastic in the universal greyness of the dust.

" I don't get it," he said aloud, and the echo died slowly in a whispering murmur across the empty vastness of the room. He walked around between the ranks of cabinets and saw dusty tangles of wire behind them—wires which in many cases had never been connected. He passed down an aisle cutting through row after endless row of the cabinets—ten rows, twenty, fifty, and yet more.

Then he came to an open space, still less than a third of the way across the building. Beyond were stacked rectangular plastic boxes—cabinets which had never been unpacked.

" But *why* ?"

Again, he found that he had spoken aloud. He stood for a while as if stupefied, then walked slowly back the way he had come. The line of his footprints stretched to meet him across the dust.

As he neared the last row of cabinets, he became aware of sound in the outer hall—the sound of dust-muffled footsteps, muttering voices. He stepped behind one of the long control panels, suddenly tense.

The footsteps neared the door leading from the corridor.

" Wait at the main door, Frank. We'll follow his tracks. You stop him if he doubles past us."

" Is there another way out ?"

" Don't know. Get where you can watch his car."

Steps came into the large room, halting near the control panels.

" *Rees Raywalt* ! *Are you there* ?"

The echoes of the shout thundered across to the farthest walls. When they had died away, another voice spoke almost in a whisper.

" There. See ? His tracks—behind that panel."

" Um. Come on."

Footsteps again.

With a sigh, Raywalt walked around the end of the panel. There were two men coming towards him, dressed in shirts and slacks. One was tall, loose-limbed, with black hair hanging over one temple ; the other was thick-set, with cropped blonde hair and protruding blue eyes. The tall man carried a compact pistol in his hand, although it was not levelled.

" I'm Raywalt."

" I know. What are you doing here ?"

" Looking over the Solmak. I'm a computor expert."

There was silence. The dark man glanced at the tracks leading far into the building, and at the cleaned smear on the input storage panel. He jerked his head towards the door.

" I'm going to ask you to take a ride with us."

" On what authority ?"

" The Executive Council."

" And if I choose not ?"

The dark man lifted the gun slightly. " We'll have to insist."

Raywalt shrugged and walked towards the door.

Outside was another man, younger than the others, also carrying a pistol.

" Bring his car back with us," said the dark man, and the youth turned towards Raywalt's car. They put Raywalt in the back seat of a black ground-car, and while the blonde man sat at the controls the taller man slid in beside him, facing Raywalt across the back of the front seat.

As the car started moving, Raywalt said nothing. The whole situation, with its threatened violence, seemed grotesquely unreal to him, like a drama of some earlier century.

They took him to a part of Milos he had not yet seen—an area dotted with great, bare buildings that appeared to be warehouses of some kind, with large multi-wheel trucks and handling-machines moving about them in paved yards. He was taken into a building that might have been some form of bond store, and locked in a completely bare room with white cement walls and a metal door.

The windows were louvre-like ventilation slits cast into the outer wall, unglazed and immovable. The place had not been built as a prison, but it served the purpose.

Raywalt took a cigarette-pack from his pocket, found it almost empty, and replaced it. The dark man watched him for a moment, then handed him a partly filled pack of some local cigarettes.

" Keep it. You may be here some time," he said.

Then they were gone. A key snarled in the lock, and their footsteps rang on the concrete floor, fading into the distance.

Raywalt tried the door, then crossed the room to the ventilation louvres. They were broad, but each slot was only two inches deep. He stood looking down through them at an empty, paved yard, slowly wiping away the sweat that had appeared on his face and neck.

This could not happen. He kept trying to tell himself that : it could not happen. This was the Twenty-Fifth Century—not some past era of darkness and violence and savagery. Yet the walls about him, the locked door, the louvred windows which offered no hope of escape—these things were solid and real.

All the detached intellectual idealism built up in the past twelve years was swept aside by an intense, primal desire to survive.

Suddenly he knew fear. The fear of a trapped animal.

The shadows outside were almost vertical when he heard footsteps outside. He had been alone for several hours, pacing tensely in a room that measured ten strides one way, seven across—he had measured it a dozen, a score of times.

The sound of the lock brought the touch of ice to him. When the door opened, the first person he saw was Larson. Then he noticed the lank man with the black hair behind him, and the shorter man with the prominent blue eyes.

" Would you come this way, Rees ?"

Larson's voice was quiet, with all emotion damped out of it. Silently Raywalt went out through the door, and at a gesture from Larson he walked along the passageway beside him, the other two men following. Larson said nothing until they reached a door at the far end.

" In here," he said, sliding the door open.

The room was an office, with a number of desks and filing cabinets and flow-charts on the walls. Sitting around the largest desk, which had been drawn to the centre of the room,

were six members of the Ninety-Eight. One of them was Benali.

" Wait down the corridor," said Larson to the two men who had accompanied him, and stepping into the room he closed the door, motioning Raywalt to a chair at one end of the desk.

He sat at the opposite end, leaning forward with his elbows on the desk, his eyes frigid.

" How did you get in there ?" he asked at length.

Raywalt took the activator from his pocket and laid it on the desk. " I saw a list of numbers in your library," he said. " When Mr. Benali told me my offer had been rejected by the Solmak, and refused to show me the programming used to arrive at the result, I felt suspicious."

Larson nodded.

" First of all," he said, " let's recognise the fact that you've had a severe shock. No, wait !" As Raywalt began to interrupt he held up his hand with sudden authority.

" We can understand your viewpoint. You've specialised for years on training for computor programming and the organisational work associated with it. You've always heard of the Solmak of Milos as the most fully integrated computor system in the known Universe—I know ; I've seen the publicity handouts. You come here, and you find—what ?

" You find an empty building. A computor set-up that has not been used for a hundred years. A system that has never been fully installed. Right ?"

Raywalt shrugged his shoulders. " I came out here with a shipload of two hundred people who believed they were coming to an economy run by an infallible electronic brain. Now, it looks as if they've been the victims of a lie."

" Two hundred ?" Larson flung his arms wide in a gesture that seemed to indicate the entire planet. " We have five million people here who believe that. Maybe you're right in saying they believe in a lie—but the system works ! Haven't you seen enough of it to realise that ?"

" It works, yes. But—"

" But what ?"

Raywalt remained silent. Suddenly Benali leaned forward.

" What do you know about the history of the Eltanin Project ?"

Raywalt turned. " According to the data I've seen, the system was settled over a century ago—just about the time it had become possible to build a computor capable of handling

an entire world economy. In the established systems, it wasn't practicable to switch to full computor control. This planet, just explored, was ideal for such a project."

" And have other new worlds been settled since ?" asked Benali.

" Of course. Many."

" Any on a full computor basis ?"

" Not as far as I know."

" Does that strike you as strange—if this had been such a success ?"

Raywalt didn't answer. Benali leaned back in his chair, his eyes hooded beneath heavy lids. Larson lit a cigarette.

" To put you in the picture, the bald fact is this : Running a world economy on a computor system has never worked. It was tried for a few years, right at the beginning—but problems involving human motives and goals can't be programmed in the final analysis. Too many variables."

" But if the system didn't work, why pretend that it did ?"

" In the beginning," said Larson, " to keep the waves of migrants satisfied, to keep them believing in the Solmak, the Council made most of the decisions themselves. They were in a position to make very good guesses—and they found that the migrants accepted their advice without question—as long as they believed it was the advice of the Solmak. So—" He spread his hands. " We've kept it going that way—from generation to generation."

" We use computors in small aspects of everyday life here," put in Benali. " Same as anywhere else. Things like traffic flows, material control—but nothing wider. Wage rates in different industries, for instance—the Council picks a reasonable figure, keeps adjusting it as necessary, and everyone's happy with the illusion that the Solmak has everything under control. People still flock here in thousands to live in a completely safe and stable economy."

" A facade," said Raywalt slowly. " And behind the facade —nothing."

" I wouldn't say nothing." Larson's voice was sharp. " The Council is well chosen. It's decisions are far more intelligent than the decisions of the majority would be."

Raywalt looked at the ring of faces around the desk. " Well," he said. " What happens now ?"

Larson lifted his shoulders slightly. " Exactly. What happens now ? You see the position you've put us in ?"

Raywalt swallowed, and the sound seemed to him shockingly loud in the silence.

" Look at it our way," went on Larson, as if he didn't like the task that had been forced on him. " If the entire population of the planet knew what you know, there would be sudden chaos. Can you see that ?"

Raywalt felt the coldness of fear in the pit of his stomach. His skin felt chilled. He hoped he was not turning noticeably pale. He forced his voice to a level monotone.

" If they knew the truth suddenly—yes. But can you keep them in ignorance forever ?"

The ghost of a smile played about Larson's lips. " Show me any government that takes the whole of its populace into full confidence in every decision it makes. Leadership—did you ever think of this ? Leadership of any kind involves some witholding of knowledge. But I'm straying from the immediate problem.

" The point is, we can't let you go about broadcasting what you know. We can't even *risk* it. It's one man's security and happiness against five-million's."

" One man's *life*," added Benali very quietly.

Larson nodded to him without taking his eyes from Raywalt's. " You might put it like that," he said.

Raywalt looked at the faces about the desk, at the firm mouths, at the bleak, relentless eyes. Suddenly he found himself looking at the problem from their side. His life against their whole society. And they were quite capable of killing him.

Benali suddenly leaned forward. " Do you still think all human problems can be settled by a computor ?"

Raywalt thrust his chin forward. " Yes."

" Then perhaps you'd like to programme one of our computors to settle this. One man against five million."

Raywalt felt the sweat trickling down his forehead. He forced himself to breathe very steadily and deeply. Abruptly, he realised that a profound change had come over him, as though within minutes he had become a different man, thinking with a different type of mind. The realisation was so startling that he forgot his fear.

He looked at Benali with a cold authority. " It could be done," he said.

Their eyes showed surprise, but nothing else. After looking at each man in turn, he went on.

" It would begin with an analysis of motives," he said. " Your overall motive—survival of your system—and mine, which was to promote the same thing."

They listened intently. As he talked on, their attentiveness told him what he wanted to know—that they knew virtually nothing about advanced programming. He felt a surge of freedom, as if a heavy load had fallen away from him. For years he had talked as a specialist, quoting his authorities, supporting every statement with masses of data. Now, only one thing mattered : to survive. He was on his own resources, his mind light and swift.

As he talked, and as they listened, an odd thought flitted through his mind : something within him had matured.

He did not feel completely safe until the Eltanian ship had dropped to a landing on the Central Starport back at New Altair. They had taken him to the ship under an armed guard in the early morning, before any of the other passengers were about. Throughout the long voyage he had been confined to his cabin.

He hadn't slept much during the first hundred hours in space. As the ship touched down he felt a deep sense of relief. He could so easily have been jettisoned into the interstellar gulf between the two planetary systems—a gulf so vast that the chance against anyone ever finding his body was practically infinite.

Now he was safe. They must have accepted his argument after all.

He began to gather his belongings together—then, without warning, a buzzer shrilled over the cabin intercom. " Mr. Raywalt," came the voice of one of the ship's officers, " I have to tell you you'll be confined to your cabin for some hours."

The snap of a switch added a maddening finality to the statement. Raywalt sat on his bunk, staring at the black grille from which the voice had issued, the palms of his hands suddenly damp.

Once again, he found himself awaiting something he could not predict. For one heart-chilling moment he had the monstrous idea that they might take him back to Eltanin VI,

and then the absurdity of this made him laugh aloud. His laughter threatened to climb into hysteria, and he stopped laughing abruptly, holding himself rigid, tightly controlled.

He had no idea how long they kept him in the cabin after landing. His watch had run down, and having no reference to external time he had not re-started it. But when they released him at last he stepped out into early morning sunshine, slanting across the starport with its roaring, flashing activity of aerial loaders swarming about the towering ships.

In front of him rose the sharp skyline of New Altair, soaring, metallic. The glideway across the deserted landing gantry was not running, and he had to walk.

At the customs building, he saw a group of people waiting near the gate leading to the outrunning lane of the gantry—the passengers for the next trip out to Eltanin VI. Two-hundred more migrants, men, women, a few children. There was an air of quiet eagerness about them that made a hot anger leap within him.

He caught the shuttle uptown and booked in at a hotel. After a hot bath and a meal, he rented a ground-car and drove out to the Programming Institute. At the enquiry desk, he asked for an interview with the Director of the Appointments Board.

When he was shown into the Director's office, Voss rose and extended his hand.

"Welcome home, Rees," he said. "I've been expecting you."

As they sat down, he opened a plastic case lying on the side of his desk, and took out two large envelopes, one white, one brown, also a single sheet of paper and a small, flat box which reminded Raywalt of the radio-switch activators used by the Ninety-Eight on Eltanin VI, except that it had a single button instead of a dial. He placed the box and the two envelopes on the desk as he scanned quickly through the typewritten lines on the paper.

Raywalt thought suddenly of the shipload of new migrants he had seen at the Starport, waiting to go out to a safe, computor-ruled life on Eltanin VI. He thought of the colossal lie they had swallowed. And yet—

He thought of the serene, untroubled everyday life in Milos. And suddenly there came to him a blinding moment of truth.

He had convinced the Council back in Milos that their secret was safe with him—that he realised their system *worked*, and that as far as he was concerned that was the main criterion. He had felt that he had been lying merely to save himself, to get back here and report the situation to Voss. Yet now—now that he was in a position to reveal the truth—*he found himself listening to his own argument.*

In one stride, he reached his decision . . .

" What did you think of Milos ?" asked Voss, raising his eyes.

Raywalt took a deep breath. " A very smoothly-run economy. There was nothing I could do to help."

Voss studied his face for a long time, looked down at the paper he held in his hands, then up again.

" You're too modest," he said.

" I don't follow."

Voss lifted the paper in his hands without actually showing Raywalt what was written on it. " The ship you travelled on brought this from Mr. Larson. He states you've done an excellent job re-programming the Solmak of Milos. Here—" he laid his hand on the white envelope, " are the references you needed. He, and the other members of the Executive Council, all seem highly impressed with your ability to sum up a situation."

Raywalt looked down at the white envelope, which Voss pushed towards him across the desk. It had his name on it.

He glanced at the other envelope, the brown one, which seemed similar to it except in colour, but Voss picked it up. Raywalt opened the white envelope and glanced through the letters of commendation from the Executive Council, all worded as if he had made a brilliant analysis of the situation on Eltanin VI and re-programmed the Solmak.

Lifting his eyes slightly, he saw Voss glance again at the paper, then press the button on the small box three times. After a short interval, an almost inaudible buzz came from the box, three times repeated, like an answering signal. Voss took the paper, the box, and the brown envelope, and thrust them into a disposal chute.

As they shook hands, his grey eyes looked steadily into Raywalt's. " I have never met Mr. Larson," he said, " but I have corresponded with him for many years. I have the

greatest faith in his judgment. You know," he added as he moved with Raywalt towards the door, " the Eltanin Project forms a very valuable outlet for a certain stratum in our population."

As he went out to his car, Raywalt kept wondering what had been in the brown envelope. White or brown. He had the feeling it had depended on what he had said to Voss, which he had been given. And that signal Voss had made. A signal to —whom ?

As he stepped into the car park, a car similar to the one he had rented swung away, driven by a man with cropped blonde hair. A taller man sat beside the driver, with lank black hair falling over one side of his forehead. He looked back once as the car swept off towards the Starport.

Suddenly Raywalt understood the signal Voss had sent. The Executive Council certainly took no chances.

As he drove back to his hotel he decided to call on Brand at the Altarc Corporation. He felt better about staying in New Altair now—especially as Valda Larson would be coming back here.

" Say !" was the first thing Brand said to him when they met. " You look older !"

Wynne N. Whiteford

Mr. Horne is another new contributor to our pages—in fact, just at the moment, there is a whole new influx making welcome appearances. It is an all-too-short cameo but well worth its place in the issue.

NUCLEAR JUSTICE

by LANCE HORNE

I suppose that, technically, I'm a murderer. Although—I don't know—perhaps not. Murder is intentional, isn't it? I didn't *know* I was killing a man by what I did, but I suppose I must have had some idea.

Anyway, it really doesn't matter, If I'm a murderer I'm the happiest one there ever was. In fact, I think I did a very good job.

There were three of us concerned at the time. Sir Miles Latham was in charge of the undertaking. Rudolph Erlanger was head of my department and I was his assistant.

Of course, our work was secret—much more secret than any other project that was going on at the time. This was because, although even we didn't know it, what we were doing was contrary to the declared policy of the Government. If anything had leaked out there would have been a packet of trouble, internationally and at home.

For this reason, each of us only knew the separate aims of our respective departments—and that, I'm sure, was Erlanger's position. Only Sir Miles knew the whole idea which was obviously something to do with producing a tiny portable " H " bomb.

We had been working for over a year in a lonely and desolate part of the country. We had to live in barracks in an area bounded by barbed wire and guarded by special police, dogs and all that sort of thing.

Almost like prisoners of war. Not that we weren't comfortable. We lived like lords. But under such conditions boredom in our leisure time became very demoralising and, quite understandably, led to frayed tempers and personal antipathies.

I think, in all the circumstances, we got on extraordinarily well together—all except Latham and Erlanger. On the face of it they appeared to be friends but I sensed, rather than observed, Erlanger's hatred of Sir Miles.

It may have been that Erlanger resented not being completely in the know. If anything had happened to Latham I suppose he would have taken over and then he would have been fully informed about our project.

Latham was a big genial man, more like a farmer than a scientist. I had a great regard for his knowledge and ability but I think Erlanger had the keener brain. He was a younger man, dark skinned and rather taciturn, with something of a fanatical gleam in his quick darting eyes.

One thing the two men had in common was their enthusiasm for golf. Both were scratch men and they had managed to get a rather primitive course laid out on the hills above the camp. A tremendous rivalry sprang up between them over the game. They played together whenever they got the chance and during the summer they went out almost every evening after dinner, each to a different part of the course, to practice driving for an hour or so.

Erlanger seemed most often to beat Sir Miles and I believe that Latham's continual practice was mainly to hold his own against the younger man.

I liked Sir Miles Latham and I would have trusted him anywhere and with anything. I couldn't say the same for Rudolph Erlanger. I didn't exactly dislike him but for some reason I never felt I could trust him. There was nothing I could put my finger on as you might say. Just a lot of silly little details which played on my imagination and made me doubtful of his loyalty.

I remember seeing him come out of Sir Miles' private office one night when I'd gone back to the laboratory building for something. In itself it was nothing, but I didn't like the look on his face when he saw that I'd seen him.

He always seemed slightly secretive to me.

I came into his room one day when he was reading a letter. The way he quickly stuffed it into his pocket aroused my suspicions. I'm not the sort of chap who looks over people's shoulders to read their private letters and Rudolph should have known it. But I couldn't help noticing that the envelope lying on his desk bore the imprint of a Swiss bank on the flap.

There were a lot of other little things like that.

Then, when I was on leave, I took my wife to a theatre one night and we dined in a little restaurant in Soho. We'd never been there before. It wasn't much of a place and there were a lot of strange looking characters in it. I looked around as I went in and noticed Erlanger talking to an obvious foreigner in a corner of the bar. His back was towards me when I saw him but, having been cheek by jowl with him for over a year, I couldn't mistake him. Something told me he'd seen me come in and didn't want to recognise me. Perhaps it was the purposeful way he was screwed round on his seat. As far as I knew he was up at the laboratory, some two hundred miles away.

When we got to our table and I looked back, both Erlanger and his companion were gone. Back at work a week later, I found that he'd had a couple of days off for " urgent private business."

I never mentioned I'd seen him.

The more I thought about things, the more I thought there was something sinister about Erlanger. Eventually I built up quite a case about him. I decided he was planning a get-away. Behind the Iron Curtain probably. I reckoned he was only waiting for one thing. Waiting until he could find out about the parts of our enterprise which he didn't know. Waiting, perhaps, until he could take over from Latham.

I toyed with the idea of reporting my observations and suspicions to Sir Miles. But it sounded so silly when I thought what I would say. There was possibly a perfectly simple explanation for each incident I could have mentioned. Anyway, I wasn't responsible for security and, goodness knows, we'd all been screened thoroughly enough.

Then one night—about two o'clock in the morning, it was—I had to get out of bed.

We lived in a bungalow and the bathrooms and toilets were at one end of a long passage leading to the side entrance. Immediately opposite them was the cloakroom.

I was wearing my bedroom slippers and I suppose I walked noiselessly on the carpeted floor. There was a light coming from the cloakroom and, through the glass panel of the door, I saw Rudolph Erlanger.

I don't know what made me stop, but I did. I stood back in the darkness of the passage and watched him. There was nothing very extraordinary about what he was doing, but it was a strange time to be doing it. And there was a devilish strange look on his face.

I quickly went back to my room and waited silently just inside the door. Presently I heard soft footsteps in the passage and the faint click of Erlanger's door. Then I went quietly back down the passage and into the cloakroom. Straight to where Erlanger had been.

I found what I was looking for. I couldn't think why he'd put it there, but there must have been some reason. An evil one too, I guessed. Maybe I could spoil his little game, whatever it was.

Stealthily I went through to the adjoining lounge.

There was a shaded table lamp on the writing desk and I switched it on without a sound. I noticed that the ink on the pen lying on the inkstand was still wet.

It took only a matter of seconds to write what I wanted.

Then I went back to the cloakroom. From there to the bathroom and toilet block. Then back to bed.

I was in Erlanger's office the following afternoon, just about closing time. I was discussing some calculations with him, when Sir Miles came breezing in.

" I say, Rudolph," he said, " it's a lovely afternoon. What about a round with me before dinner ?"

" No, I'm going to practise," said Erlanger curtly.

" What about you then ?"

" I'm afraid I couldn't give you much of a game, Sir Miles," I said, rather hoping that he'd over-ride my protest, " but if you'd like . . ."

Erlanger interrupted hastily.

" I want you to check those calculations of mine before dinner, if you don't mind," he said. " I shall be working on them tonight and I must know they're right before I start."

I didn't think there was all that urgency about them and I was about to say so, but something in Erlanger's tone changed my mind.

" All right," I agreed flippantly, " orders is orders. Perhaps you'll give me a game some other time, Sir Miles."

" Yes, of course, I'd be glad to," said Latham and he turned back to Erlanger.

" Come on Rudolph. Let's have a few holes."

" No," Erlanger insisted, " I must have an hour's practice. I've developed a bit of a slice and I'm determined to correct it before I play again."

Latham's eyes narrowed under tufted brows. There was the tiniest pause. Then he said quietly,

" You could do that after dinner, Rudolph."

" No, it gets dark too early now and, anyway, I've got work to do after dinner."

I couldn't help feeling that there was more to Erlanger's determination to practise than his desire to correct his fault. I saw Sir Miles looking at him queerly. Then he shrugged his shoulders and said, " All right. If you're so set on practising, I'll go and practise too."

He went out and I saw him walk over to the bungalow. Erlanger got up and followed him.

" Get right on with those calculations, won't you ?" he flung back over his shoulder, as he left.

I tried to get back to work but my power of concentration had gone. Thoughts hopped about in my head like fleas. I sat gazing out of the window and I saw Latham and Erlanger going out with their clubs. Erlanger went off towards the third tee, where he always practised, and Sir Miles seemed to be making for the fifth on the other side of the course.

On an impulse, I went out and followed Sir Miles.

When I reached him, he had tee-ed up a dozen practice balls in a row and was loosening up with a few preliminary swings.

Each of his practice balls had a letter " L " marked across them in ink and I knew that Erlanger always marked his similarly with an " E." It amused me that they took such precautions to protect their ownership, but the course was a bit

Continued on Page 122

THE NEON HALO

by Jean-Louis Curtis

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rough and lost balls were always being found and returned to them, so I suppose there was something in it.

" Hello," said Sir Miles, " I thought you had homework to do."

" Yes," I replied, " but I decided that a breath of fresh air would do me good. I'll watch you for a few minutes and then go back to work."

" I can't think why Rudolph regards that stuff as so urgent," he said. " Funny chap, sometimes. Almost seemed as though he wanted to prevent me getting a game. Wouldn't play himself and wouldn't let you."

He laughed but his eyes remained serious and puzzled.

I could see Erlanger on the tee in the distance and I watched him drive a couple of balls. Even I could appreciate his magnificent style.

Then I stood back to watch Sir Miles. He drove a long straight ball and stood watching its flight. I couldn't think why he needed to practise.

As he was addressing his second ball there was a vivid flash. A booming roar followed from across the valley. It might have been lightning and thunder, but that the sky was clear.

We both started visibly and looked over towards the noise.

A small but distinctive mushroom of smoke hovered above the third tee. As it drifted away in the wind, we could see that the tee was empty.

Erlanger had disappeared.

We started to run across. Then we stopped as the same thought occurred to us both. With our experience we couldn't be mistaken. We turned towards the buildings to get protective clothing and equipment. Men came running out from the barracks but Sir Miles shouted to them to get back. We didn't want to endanger other lives. If we were right in what we thought had happened, there was no hurry to get to Erlanger.

Nothing was ever found of Rudolph Erlanger. Bits of his golf clubs were picked up in various parts of the course. Occasionally, an old practice ball, marked with an " E," would turn up in the rough.

But that was all.

Of course, there was an enquiry. But the mystery remained unexplained. Eventually they came to the conclusion that he had inadvertently carried fissionable material in his pocket. It

wasn't a very convincing explanation to the scientists but I think they wanted to avoid any suggestion of suicide.

Erlanger was given a eulogistic obituary.

"A great loss to the nation." "One of our foremost scientists." And so on.

It was better that way.

If I had done anything about it, when I suppose I should have done, and told what I knew, I'd have made such a lot of difficulty for everyone. To have taken action against Erlanger would have embarrassed the Government beyond measure. They'd have to disclose in Court the secret project on which we were engaged.

Justice, in our country, must not only be done, but it must be seen to be done. This way, thanks to me, it was done without being seen.

What had I got to do with it?

Well, when I saw Erlanger in the cloak room that night, he was fiddling with the pocket of Latham's golf bag. The big blue one.

At first I thought he was stealing balls from Latham's bag. But he wasn't taking anything out. He was putting a ball in!

At any other time I would have assumed that he had found one of Latham's ball and was returning it to its owner. But not at two o'clock in the morning.

When I picked the ball out of Sir Miles' bag I knew which it was because the inked "L" was still wet. All I did was to add two strokes to make it into an "E." Then I dropped it into Erlanger's bag.

I thought there must be something funny about that ball.

Lance Horne

Soul Searching

Dear Mr. Carnell,

I have been following the trend of the argument in *New Worlds* which concerns itself with the definition, purpose and, more important, the future of what is called ' Science Fiction.'

I have been a devotee of this genre since I read Merritt's *Metal Emperor* way back in the mid-twenties when I was a youth, very impressionable and wide open to the appeal of space opera. Since that far-off day when I picked up my s-f diet at the pavement stall in Little James Street (I think) I have become among other things a teacher and student of English—and more particularly of English literature.

Apart from the fact that science-fiction, as a title is a contradiction in terms—since in the compound noun one element performs adjectivally, and, if the genre is fiction (which it is) then it cannot be science which is systematic and formulated knowledge of (by implication), fact ; it seems to me that what we have experienced in this field resembles the advent in the world of literature of the novel itself.

Defoe, Richardson, Fielding and others were innovators in that they introduced the readers to realism, the hard core of characterization and the essential truths of individual reaction to life. Their plot situations were novel, a little startling, and often the centre of dispute. In the s.f. field, the originators began to postulate probable results arising from the application of scientific development to life. It was quickly apparent that a greatly extended range of plot situations was now available, plus the possibility of a few new twists to the plot itself (arising from the introduction of factors hitherto beyond the realm of human experience) as well as an opening for over-ripe imaginations to capitalize the clamour for excape literature, itself a symptom of an uncertain life in an often awful world.

The last characteristic, probably because it was most quickly rewarded, assumed an unworthy prominence. The B.E.M.;

the incredibly hardy spacegirl—nearly naked in galactic space while mere man progressed to her ' rescue ' in space suits ; the constant theme of space war and an inferno of destruction brought about by crudely drawn villains ; the poor quality paper and presentation of too many of the magazines ; the juvenility of many of the ' fans ' and their magazines—a kind of adolescent insistence that the adherents of s-f were a select race, apart from the rest of the literature ; all combined to bring about a critical (in the destructive sense) down-the-nose attitude to the genre as a whole.

But reality—the very stuff of the novel—caught up, and we find ourselves on the threshold of extra-terrestrial experience. What was once impossible is now possible ; what was improbable is being done. Does this mean that what is known as ' science fiction ' is moribund ? Far from it—it is more important than ever. The genre now has two tasks before it. In the first case it must by adequate presentation of extrapolations of current knowledge, carry forward the process of educating the ' average man,' of sharpening his awareness of the possibilities now opening to rational man.

To do this the science must be at least probable. Authors must not let fantasy supersede science as so often happened in the mid-twenties and thirties. If an author wants to write fantasy, let it be clearly labelled as such ; otherwise the reading public will continue to disregard the excellent work of so many of our authors. Terminology should be reasonable, and not a cloak for ignorance of technical details. (Even if one does not have a technical vocabulary in this sense—the term invented should conform to the standard methods of vocabulary extension, not be merely four consonants and a half-vowel ; i.e. Wells' Time Traveller is preferable to X's pqxyl—which is semantically impossible.)

In other words, s-f has the task of getting into hard covers, and good magazines, as a well written, literary form ; designed for Everyman ; dealing with tomorrow's probable reality in the light of today's achievements, and correcting, by its restraint, the incredible errors in the terminology of our major spokesmen every time a rocket leaves the ground.

I refer to the habit of referring to the galaxy as an ' island-universe '; of referring to interplanetary probes as ' deep space flight,' or of a flight in the stratosphere as of one ' in space.' The first is a contradiction in terms, and the others are gross exaggerations.

In the second place, the authors writing in the ' s-f ' glare must continue to prepare readers for the inevitable shock of realization that Man is not alone in space. This is of course, no more than a specialized extrapolation ; a special instance of my first points, but I believe it to be very necessary.

To do it will require a special humility not always discernible in our authors ; a humility that can admit that man is probably very insignificant—except to his Creator ; that all the years of our history are probably very short ; that we are, in all probability, the Neanderthals of the galaxy. One day we shall meet *them*. If our s-f writers have done their job properly we shall be, if not ready for that moment, at least not as stupid as the words and actions of some of our world figures indicate us to be.

Finally, of course, stop calling it Science Fiction. It is fiction in the novel or short story form and not much else. If you must have a category akin to ' The Western '—' The Thriller '—' The Whodunit '—the ' Historical Novel ' and so on, call it Speculative Fiction. (The s-f " fanzines " can leave their title sheets unchanged) and at least be accurate.

Meanwhile, keep *New Worlds* in orbit ; and keep Kenneth Johns on your payroll—among others.

E. C. Savage,
Winding, N.S.W., Australia.

Dear John,

The soul-searching has gone about far enough. It's about time it stopped and the soul-searchers got down to creating the new things that are so vitally important, far more important than their introspective meanderings.

Before dealing with the correspondence in No. 93, here is one big important truth : *If* there is anything wrong with s-f today, it is this peculiar idea that editors have developed, the idea that there are such things as Plot-Nots. The whole reason for s-f's existence is its *beyond-ness*, to coin a word. If the editors are going to put the authors' imaginations in straight-jackets then all the life will go out of the genre. The sheer scope and drive of older s-f came from the urgent need of the writer to create a mental world which, while rooted firmly on inescapable truths like E equals mc squared, yet could carry the reader—and the writer—into transports of galactic scope.

These (the older writers) wrote s-f because they had to and because their ideas could range untrammeled through the

pages. What now ? You mustn't do this, you mustn't do that. Psionics, the newest source of inspiration to writers, has become a dirty word, just because a few conservative lab-hands consider psi "unscientific." Ye Gods! Flying was unscientific once.

When a new idea or some new science has hit s-f in days gone by, the result has always been a spate of wonderful yarns featuring it. Remember semantics ? What jumps fromyour memory—*The World Of Null-A.* Parapsychology ? *The Humanoids.* Note that both these things stemmed from the same source as far as s-f is concerned—the brilliant pen of Campbell, editor of ASF. What I mean, of course, is that his editorials and his editorial policy gave the initial impetus to the writers who gave us stories based on these themes. But psi ? Oh, no. Instead, a lot of semantic noise about people riding hobby-horses when they should be editing their magazine. What's up ? Are people frightened of psi because one must not suffer a witch to live. Or must s-f ignore the forward fringe of science and only paddle around the safe reaches of confirmed knowledge ?

There are some people who would have you withdraw the science from science fiction. Now this is absurd, for without science s-f would never exist. Science is the root and kernel of s-f and, what it infinitely more important, its jumping off place. The imaginative extrapolation of science as a form of entertainment is the entire business of s-f. Not just the extrapolation of immediate trends but the taking forward of the whole advanced fringe of science and using it for sweeping and if necessary swash-buckling themes.

Harry Harrison's scathing reply to Doc Weir was very much to the point. Doc wants to put s-f into a straight-jacket of contemporary knowledge. It is always pretty safe, actually, to ignore Doc Weir's opinions on literature, because it is one—possibly the only one—of his weak subjects. Harry's remarks about the long and arduous apprenticeship to s-f are unfortunately and discouragingly near to the truth. He exaggerates somewhat, but it is true that one has more chance of writing good s-f if one has grown up with the medium. When a mainstream writer tackles it the results are generally laughable.

John Brunner has several good points—I won't deal with them—and on the whole I agree with him. His statement that s-f was for a long time the only field in which absolutes were considered at all, however, needs a lot of elucination. First of

all, a definition of " absolutes." Then, which absolutes ? Is John referring to the absolutes of science ? Or those of religion which have no place in contemporary reasoning ?

Don't forget this—the thinking involved in the creative outermost fringes of science is very much like that involved in experimental witchcraft. Let's weave a theory (spell) and mix this and that (tailor the molecules into a certain pattern) and see if we can get what we want. We must follow the (arcane, scientific) method to get results. We can offer a third method —the sciencefictional method. It's rather safer than both the others and just as productive of marvels. Well, come on, let's have some.

Laurence Sandfield,
*London, W.*13.

(*The Plot-Nots listed in the January Editorial were not devised by any s-f editor but by a feature writer in* The Writer, *an American trade magazine for the literary field. It was aimed at the general writer not the specialised one already in the field. You confuse the issue.—Ed.*)