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Guest Editorial

PHILIP E. HIGH

★

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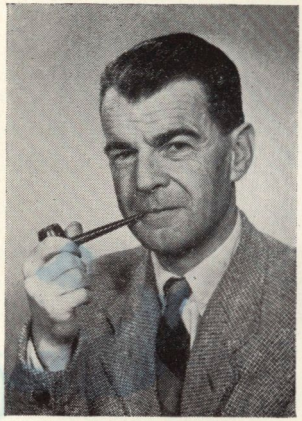
of Publication

Philip E. High

Canterbury, Kent



Most good authors appear to have been rolling stones at some time or other, portraying a restlessness of character which ultimately finds an outlet in creative literature—and their writing is usually the richer for the experiences gained. Philip E. High, this month's Guest Editor, has been a commercial traveller, insurance agent, bus driver, reporter, salesman, and many other things while trying to find the right job which would allow him time enough to write as well.

Starting from scratch he worked hard at writing, accumulating the usual horde of rejection slips, until one day his perseverance was rewarded and a story was accepted. Even then the hardest task was to come—to go on improving—a fulfilment which became evident in his brilliant short story " Routine Exercise" published last February in this magazine. Since then his stories have maintained such a good standard that he is attempting his first novel.

Never having lost his " sense of wonder " his editorial asks the **Question** " Have any of us? " as well as covering many other points of recent **controversial** interest in the science fiction field.

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CONTENTS

Editor : JOHN CARNELL

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TWO SHILLINGS AND SIXPENCE

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Editorial

Most science fiction readers have, at some time or another, endeavoured to explain the genre to the uninitiated or to those for whom the medium has little or no meaning. Usually without much success. Mr. High virtually says, " Why bother I"

Why Explain S-F ?

by PHILIP E. HIGH

Perhaps it would be wise to begin this editorial dogmatically, a somewhat difficult task for I am apt to oppose dogma on principle. Such a beginning will, however, save confusion later and leave the reader in no doubt where I stand.

As regards science fiction I have a simple and almost child-like philosophy—one likes the genre or one doesn't. Place me unshakeably in the latter category, I am a die-hard. I like science fiction and I am proud to be associated with it, but I reserve the right to criticise. I will defend it against attack but I refuse outright to *explain* it.

Good science fiction needs no explanation. (I will go into that a little more thoroughly later). It is not product of a secret society speaking an incomprehensible language but a perfectly understandable form of literature well within the grasp of the average man or woman.

Why label it ?

Why not? My father reads *detective stories,* my wife favours *romances* and I have a friend who devours *westerns.* All are labels enabling a reader to select the type of story which appeals to him or her personally.

I have no intention of answering all the questions critics fling at us. There are bad westerns, crude detective stories and I have read some nauseating romances but I condemn none of them on that account. All types of reading matter have their classics and science fiction is no exception.

As for the horror angle—a frequent criticism—how many corpses roll out of the cupboard in the average detective story ? In westerns, in the course of a single year, white man and red eliminate each other from the entire American continent in a series of bloody massacres and individual combats. I have no objection to either type of story but I do appeal for a sense of proportion and, for our part, some small understanding of the medium in which we work. It is true, we have on many occasions destroyed the entire planet but our purposes are often misunderstood. Remember, please, the mainspring of our work is, what-would-happen-if— ? Worlds *might* collide, an alien race *might* attempt invasion. We are, in effect, reporters of a possible future and, as reporters it is our business to write the story.

I am often asked how I began but that, too, began with a story.

The scene is a low hill somewhere in Kent and the month is August. The actors are three schoolboys sprawled in the long grass. The ' props ', a pile of magazines, a lemonade bottle and an empty packet of cheap cigarettes.

One of the boys wears a wide, albeit fixed grin which challenges the others to question his familiarity with cigarettes, nonetheless his face has a greenish tinge.

To hide the unease in his stomach he grabs the nearest magazine to hand and, in so doing, opens for himself a new world . . .

Half the cover of the magazine is missing but what remains depicts a group of rounded greenish beings with short legs and improbably large heads. They have no mouths but the huge red eyes strongly resemble faceted tail lights.

All the beings carry torch-like weapons which pour forth miniature lightnings but, apart from a few wisps of smoke, the victim of this dastardly assault has, perhaps mercifully, been removed with the torn half of the cover.

This, then, was my first introduction to science fiction but before continuing let us consider the illustrations.

Continued on page 122

The making of Johnny Dawson as a synthetic being with a human brain appeared in '• Goodbye, Doctor Gabriel," in New Worlds Science Fiction No. 109. *In this brilliant story of the making of yet another synthetic humanoid, John Rackham presents the strangest love story ever told.*

THE DAWSON DIARIES

by JOHN RACKHAM

Part One of Two Parts

Saturday, Novemberl3th, 1982.

I never thought to see this old diary again. I never thought to see or hear anything again, come to that. I imagine I'm the one person in the world to know that death is not necessarily final, having died twice, only to be revived yet once more. I felt quite sure, that first time, when those thugs paralysed me and threw me in the vat of stomach acid, that I was dead. Looking back, I can't recall ever thinking much about life and death, before then. Being alive is something one takes for granted, I suppose. At least, I did. I was never one for philosophising about the meaning of things, at that time.

Since then . . . since Dr. Gabriel rescued what there was left of me, a brain and a few shreds of flesh and sinew and then built a new body for me—I have had plenty of time to wonder about life, what it is for, and why. Above all, why me ? If I could bring myself to believe in some sort of Divine Providence it might be easier. Then I might be able to believe that I was being saved for some purpose. Which would help, even if I didn't know what it was. But I can't do that, not now. I

suppose I'm too old to change. The Jesuits claim that the first seven years are crucial. And I'm twenty-six. By all accounts, I shall never be any more than that now.

I wonder what the Jesuits would think if they could know what I have known . . . the switching off of life, into a nothing, that passes in no time at all, be it months or minutes. This has happened to me three times. Once when I died by violence ; again when Dr. Gabriel shut me off, while he made all the many connections between my brain and my body ; and again, yesterday morning, when I discovered how to shut myself off. It was not an easy decision to make. It is not easy to die, deliberately. And, I find, it is not easy to stay dead, either. This is a strange thing. People say—all sorts of people, like doctors and surgeons and biologists—that life is something of a miracle, and how marvellous it is that it persists, when one tiny slip can blot it out. But I can't blot mine out, no matter how I try. And I tried, hard enough.

Of course, when I pulled the fuses on the transmitter-control unit which supplies my body with power, I thought I had cut off supplies to my brain, also, and that it would perish. I didn't know that my brain, the part that is really' me,' was somewhere else, independently cared for, and not in this body, at all. I still find that difficult to accept. I feel, quite convincingly, that I am here, at this desk, writing this. Yet I am assured that it is nothing of the kind. The real' me ' is over there, in a cabinet. A securely locked and sealed cabinet. A brain, in a bath of nutrients, connected by hair-fine wires, thousands of them, to a transmitter, a thing jam-packed with electronic trickery—and this is what operates and controls this body, telemetering it.

I have to believe this, because, when I did pull the fuse, my brain did not die. It was kept alive by its own power-sources. All I did was to cut the connection between my brain, and this body. And all Dr. Gabriel had to do was restart the transmitter, and I was alive again. So I have to believe it, even if it still feels as if I am at this desk, writing.

As for why I am writing, and why I am here at all, there are a number of reasons, some I have been told, others I suspect. Originally, this diary was my way of getting things off my mind, a kind of private confessional, because I needed it, having no-one I could call friend. Then it became a way of organising my

ideas, of thinking things out. Now it has become my friend, again. I shall always think of Dr. Gabriel as the most wonderful man I have ever known, but, somehow, I feel I can't trust him now. That is a terrible thing to say, and I would never dare to say it aloud, but I can write it here. I shall try to write down, here, everything that happens, from now on, so that I shall have something to refer to, afterwards. Some proof. And, if I'm to do it right, there must be a regularity about it, a discipline. I have to learn to control myself, because no-one else can. I'm immune to that. It is a dangerous thought, but I won't run away from it. I have to learn to live with it.

As this is Saturday, I will make my entries each Saturday, which will be a start towards regularity. Now, I pulled the fuses on myself yesterday, Friday morning. I had just killed a man. That he richly deserved to die—that's beside the point. I had also broken up an evil, world-wide conspiracy. But none of it meant anything to me, and I was afraid of my inhumanity. That was why I decided to switch myself off. It seemed as if I had just stretched out on the bed, and pulled the wire—and then I was looking up at Dr. Gabriel, again. Something had gone wrong, perhaps ? But his first words killed that idea.

" This is Saturday morning, Johnny," he said, very steadily, " and you can't move anything, only your eyes. You can hear me, and talk, but nothing else. You understand me ?" I understood, right enough.

" So you can't even let me die, if I want to ?"

" No," he sighed. " We can't do that."

" You surely aren't going to put me in the dock to be tried for murder, are you ?"

" Nothing like that. A foolish question, as you must know. If it will put your mind at rest, I can tell you that all that has been taken care of. It is a closed episode. All right ?"

Then he went on to explain where my suicide effort had gone wrong. He didn't point out, but I could see, that my brain cabinet had been modified. ' Fortified,' would be a better word. Somebody had been very busy, in twenty-four hours. There was little chance that I would be left to try and kill myself again. It took quite a while for this to sink in, for me to realise that I was now a helpless slave, that I had to go on living, whether I wanted to or not. This, what he was doing to me, was just a foretaste of what he could do to me, as a sort of punishment, if I didn't behave myself. That's why I say . . . I can't really trust him, any more.

He was quite accurate, too. Just by setting some controls, he had cut me off from everything except seeing, hearing and talking.

" Just while we talk this thing over, Johnny," he said, " and get to some kind of understanding. You are too strong to take chances with."

" If you're so scared of me, why bother with me at all ? Why not just let me die, and be done with it ?"

"Because it would be a waste. Because there is so much good you can do. Because I have need of you. Do you want some more reasons ?" There was one more, one I thought of all by myself. I said it for him.

" Also Croxley Bio-Chemicals and Ungar Electronics have a large packet of money invested in me, and they want their profits—that's the real reason for it, isn't it ?" He didn't even try to deny it.

Instead, he sighed, and said, " Johnny—you, and me, and all the people on Earth today, we are all an investment. Ever since fifty thousand years, there has been Man. Ever since millions of years, there has been life of some kind. Living, struggling, dying—little steps at a time, but all adding up, going on. You and me, Johnny, we got all that free. There are no rules here. We can use it to go a little step forward, or a step backward—or we can throw it away. Like you tried to do. Did I want a reward, or a profit, when I tried to save you, to make you a new man, the first time ? How could anybody make a profit out of that, eh ?"

" You could parade me for demonstrations, lectures, to doctors and all sorts of scientific people. As a robot. That's all I am, anyway !"

But that made him laugh, and take off his old steel-framed spectacles, to polish with his big white handkerchief.

" There is so much you do not know, my boy," he said, kindly. " Look at me. I have given lectures, and demonstrations, many times. Am I rich ? Do I show a big profit ? And you—what are you—what is this, eh ? Plastics, alloys, wires and magnets, servo-motors, thermocouples, sensory cells—mechanisms. All very clever, some very delicate, some quite new. Yes. But what big business wants this ? Who is the business tycoon who has several thousand spare brains to be equipped, eh ? This wonderful body—what use is it to anybody else ? What is the profit to Ungar, or Croxley, or anybody. Who can use it, except you ?"

This had me floored, and it still has. I hadn't thought of it like that. But I did know that both firms had put quite a lot of money into me, and that a lot of great specialists, of all kinds, had spent a lot of time and trouble, not to mention skill, on me. I put *that* to him.

" You can't deny," I said," that I have *cost* plenty, can you ? And, in my experience, that means I'm worth something, worth quite a lot, to somebody. That's ordinary economics, isn't it?" This made him laugh again.

" Sure, you represent a lot of cash, and time. But—suppose we take just one item. You are looking at me, now, with eyes—which are miniature television cameras, with full colour-register, spiral scan and remote automatic focussing. What we have learned from making them is already obsolete. That new skill is already being used. On the street, by television interviewers. In radiation laboratories, to observe dangerous reactions. Is being built into dozens of other devices—into undersea probes, for instance. And so-on. You see ? Or, let us think of your body responses. All the sense-data from your body is being relayed to your brain, over there. This is high-speed telemetering, and is being built into new devices to go to the Moon, and to Mars and Venus. With you, we had the chance to try it, to make it work. You are a multiple experiment, Johnny—which worked out, was successful. Already, both Croxley and Ungar are showing a profit, on you."

I hadn't thought of that, either. And, when I did think it over, the next question was obvious.

" All right," I said. " I'm an experiment. A success. And I'm finished. So that lets me out. I'm obsolete . . ."

" No, not finished, my boy. Good, yes. Perfect . . . no !" He smiled, and put back his spectacles. " There are still things we can do, little improvements to make. And you can help me. You *must* help."

Then he told me about this girl. It's so pat that he might almost be making it up, especially to trick me. But I'm not quite as far gone as to believe that. At any rate, I'll soon know. It seems he's had a letter from a fellow surgeon, about a girl who had been a cripple all her life, an invalid. Then just to cap the whole thing, the place where she lived caught fire and burned down. And she is, now, in pretty much the same state as me—just a brain. That's the gist of it.

Naturally, Dr. Gabriel wants to do the same for her as he has done for me. That's obvious. And, in a way, it was obvious

why he wanted me to help. In a way. But, when I came to think of it, it wasn't so obvious. After all, he more or less made me from scratch, with only the help he could get. So why not her, too ? In fact, with what he has learned from me, it should be simpler. So I asked him. And his reply shook me. I put it very bluntly.

" Why me ? I'm not a brain-surgeon, or an electronics wizard."

" I will need your empathy, for one thing. You can help to tell me how she feels, what her reactions are, and should be. So much is common sense. But there is something more. Something you will be able to understand better, perhaps. To build a body for this girl will cost money—much money—and she has none."

" Well, don't look at me. I haven't any, either !"

" But that is just where you are wrong, my boy. Something else you did not know. Listen carefully. Croxley Bio-Chemicals carry comprehensive insurance, against robbery, theft, and work injury—yes ? There was robbery, and theft, as you know, and the compensation was considerable. Your actions made good both of those items, so you qualify for a reward from the Insurance Company. You understand, I am simplifying this. Also, you were ' killed,' on the job. Again, the compensation was considerable, to be paid to your ' next-of-kin.' Now, by a lot of legal argument, and some not-so-legal argument on my part, those sums of money became yours. I did not tell you this. You had other things to worry about, at the time. Also, at my insistence, your money was used to buy you' shares ' in the exploitation of all those gadgets I was telling you about. This was only fair, I thought, and the dividends are considerable, already." He smiled, to himself, at some thought that had crossed his mind.

Then almost as if he was talking to himself, he went on. "You are rich, Johnny, in anybody's terms. And your expenses are small. A battery for your brain, once a month. And electricity —which is much cheaper than food. Of course, if you ever need repairs, they will cost much. But that should not be for a long time yet . . ."

As I've said, it shook me. It argued badly with my idea of being a slave. But what came most ironic of all was the suggestion that I would want to use my money to help some girl I'd never even heard of before. That angle didn't trouble

me much, I'm glad to say. He could have the money, all of it, any time. I told him that. I admit feeling a bit ashamed of my loss of faith in him, but I can't cast it off, not while that brain-cabinet stays heavily locked the way it is. But, you know, it's funny to think that I am my own next-of-kin. I wonder how the legal experts fixed that one ?

Saturday, November 20th, 1982.

This has been a busy week, and I have learned a lot, most of it about myself. On Sunday, after I had given Doc my word that I wouldn't do anything stupid, he gave me back the full use of my body, all my functions, and we went to call on this surgeon who had written the letter. It was a short bus-ride, and it gave me time to think out a few things. Slavery, for one. In a way, I still think it's the right word. Doc can switch me off, or cut me down to size, any time he wants to. But he can't *make* me do anything. There are only a few ways in which you can bring pressure to bear on a person, and they all involve a fear of some kind. Right now, there is very little I'm afraid of. I can't feel pain, not from injury, or hunger, or anything else like that. All I get are sensations. And I am certainly not afraid of death. So what else is there ? This is something I must think about much more, because it could be important.

We arrived at the hospital about eleven, and were shown in, right away, to the consultant-surgeon's private quarters. Being a Sunday, the whole place was pretty quiet. Mr. Willing, his name was—it seems that surgeons are always called 'Mister,' not ' Doctor '—but anybody less ' willing ' would be hard to find. Apparently it had been three days since the accident, and his letter, and he'd had time to regret it, wanted to call off the whole thing.

" You must understand," he said, very chilly and precise, " that I cannot allow myself to be associated, professionally, with this affair. I have done as much as was necessary to preserve the skull and contents, with the able assistance of the Pharmacy Department, purely for the purposes of investigation. The brain appears to be whole, and uninjured . . ."

I fancy Dr. Gabriel's appearance put him off a bit, too. Doc has the unfortunate knack of looking scruffy and untidy, no matter what he's doing. Willing went on to say that he'd heard of Doc by way of one of the keener members of the same Pharmacy Department, and you could guess, from his tone,

that there wasn't any love lost, there. Bit of professional rivalry, maybe. Anyway, it came out that Willing had been under the impression that Doc was in the market for a human brain in good condition, for the purpose of study, or dissection, something like that. Then, after he'd written that letter, he'd heard a bit more, and he didn't like, it at all.

" I do not approve," he said, " of the idea of using a brain in this way, for some fantastic and ill-advised animation experiments."

Doc was quite brief, to begin with. " First of all," he nodded, " I will see what you have, if I may. Then we can talk, if necessary," and away he went with one of Willing's assistants, and I was left to talk—or rather, to listen, to the great man. I may be wronging him. He may be a great man, in his own line. But he sounded like a fool, to me.

" I have heard garbled versions," he declared, " and I assure you that this idea, that the brain is an entity in itself, that it can function without a body—is fantastic. Quite fantastic. You are a medical man, Mr . . .?"

" Dawson . . . " I helped him. " No, I'm not qualified, in that sense. I'm just a general helper, you might say, to Dr. Gabriel. But, if you'll pardon the question, if you believe what you've just said, why did you write that letter ?"

" I have already explained. I understood that the brain was required for study and dissection. I understand that Ungar Electronics are working on a new design of ' brain-machine.' I know very little of such things, of course, but I do know Ungar's reputation. We use several of their more complex instruments, in this hospital. And I looked up your Dr. Gabriel. He is listed as having been a brain-surgeon, at one time. A very good one, by all accounts. Now, young Haverfield, in Pharmacy, it was he who originally informed me of the call for a brain in good condition. And I know only too well that condition is everything, in a matter like this. So I wrote, at once. It so happens that the young woman involved has no living relatives—which makes a deal of difference, you know. It eliminates such a lot of tiresome legal matters. The law is very restrictive in matters of appropriation of parts of the body. Why, apart from eye-banks . . ."

" You say ' Young woman '?" I had to interrupt, as he was obviously away on a pet grievance, there. " We have been thinking in terms of a ' girl' . . ."

" A young woman, definitely," he said. " About twenty-four, I believe. It doesn't matter very much. What is important is that, shortly after I had written, I spoke again to Haverfield, and then I learned the truth about these experiments."

" What's your version of this ' truth,' sir ?" I asked, and he snorted.

" You ask *me* ? You know very well that your Dr. Gabriel has some idea he can maintain a brain in a functioning state, and make it work—operate various devices—by connecting it to machinery. One presumes that by so doing he will learn something of how the brain works, how it thinks, and incorporate this information into the structure of the new computer."

" Haverfield told you that ?"

" Apparently it is common rumour and gossip. Certainly within the field of electronics speculation. Apparently, even brilliant people are not above retailing fantastic stories . . ."

" Which is your way of saying that you don't believe it can be done ?"

" I didn't say that," he snapped, all his professional caution showing up. " Of course, one knows that the brain is electro-chemical in structure and function, and there is much to be learned about it. One would not wish to discourage research. But, for a brain to operate machinery, in any valid sense, it would have to be ' alive,' of itself, and that, my dear sir, is ridiculous . . .!"

It was rank bad luck for him that Dr. Gabriel should come back, just then, and wind up by asking him the very same question. He was just that little bit on edge, which is a sign that he's excited.

" The brain appears to be in good condition," he said, " so far as I can see, from a superficial examination. This is good. If I may use your phone, I will arrange for transport. Your equipment will be returned as soon as possible, of course. Now, you will state a price, and I will write a cheque, yes ?" Then he noticed Willing's hesitation, and guessed why. " Come," he said, " I am purchasing from you a specimen, yes ? In good condition, it is worth something to me. But if it is alive, then it is a person, is a patient . . . and we do not buy and sell people, do we ? So—I ask you—is it alive ?"

" In a vegetative sense, yes, possibly . . ."

" I am not buying cabbages. A vegetative sense—pah ! I am asking do you believe there is a young woman shut up in there, eh ?"

" Certainly not !" Willing snorted. Then, " Oh, this is ridiculous . . ." and he named his figure. Doc whipped out a cheque-book and scribbled.

" You have information about the young lady ?" he asked. " We need it, you understand, and she is in no condition, yet, to answer questions." But Willing was not to be baited, now. He had retired on his dignity.

" You can obtain all that information from the proper quarters."

" You take care of that, Johnny," Doc said. " I shall be very busy for a while. You meet me back at the flat, yes ?"

Well, I chased round the ' proper quarters ' and what I got was so meagre that I thought I'd do more, and I took a bus to the scene of the fire, and spent the rest of the day asking around, all the neighbours and anybody who might have information. I found the local G.P. who had attended her, once or twice, and he knew more than anybody. It still wasn't much.

When I got back to the top flat at Ungar's, I went straight in without thinking, across the outer living-room, but Doc stopped me in the doorway of the bedroom.

" This part is not for you," he said. " It is not nice. Later, when all has been cleaned up and cut away, and there is just the brain, then it will be all right. For now, you just stay there. Sit, and read, or something."

He had a perfectly good point, there. It's not possible for me to *be* sick, but I can feel like it, and without any chance of relief. So I stayed in the outside room, and spent some time making notes of what I'd found out about the new patient, getting into coherent order.

Her name was—had been—Frances Walker. At once I had the silly idea of ' Frankie and Johnnie,' and it wouldn't leave me. In a way, I was glad of it, because it suddenly made a lot more real just what Dr. Gabriel was hoping to do, and what might happen. As for the rest, there wasn't much. She was twenty-four, and had been a total paralytic as long as Dr. Ramsey had known her. He was the local man, and had prescribed sedation for her, from time to time, as she had had trouble sleeping. She could move her upper limbs, head and eyes, and could talk. Nothing else. He recalled her as dark haired, without much shine to it, sallow skin, thin face, great

dark eyes, the rest of her body withered and baby-like. The people caring for her had been an aunt and uncle, good-hearted, but simple, and struggling under a burden they weren't competent to carry.

" Well-meaning folks," Dr. Ramsey had told me, " but out of reach of the girl, altogether. What she needed, more than anything, was intelligent company. I used to get books for her." She had lived all her life—if you can call it living—in one little upstairs back room. There were no records to be had of her parents, or her aunt and uncle, who had perished in the fire. And the local people knew almost nothing, had virtually no contact with her, at all. In the way of working-class people everywhere, they had tended to shrink from a ' cripple.'

I began to feel for Frances. She'd never had much of a life, anyway. I had to hope that Doc and I, between us, would be able to do something for her. Whatever it was, it would be more than she had had. Meanwhile, he was fidgeting about, as touchy as somebody at the end of a long queue waiting to go to the toilet. It was late evening before he would let me see. Up until then he had been calling for all sorts of things, for instruments, supplies, machinery—and I'd been fetching them. Then, by eleven p.m., he let me go in and look. I looked at him, too. He was dreadfully tired, more so than I had ever seen him, and he looked discouraged, too. But I saw the brain.

At that time, I hadn't seen my own, which was in the cabinet right by this one. It wasn't too horrible. A pinkish grey mass, more like a double-handful of worms than anything else, and contained in a double-layered plastic bag, with a pair of pipes leading in and out, pumping fluid from the 'works' underneath.

" It doesn't look alive," I said, which was a bit simple of me. But he shook his head, worriedly.

" It may not be," he said. " I do not know, for sure, yet. So many things. She was under heavy sedation when it happened, and I have had to wash out the residues of that. Also—those fools in the hospital—they were thinking more of pickling fluid, I think. I suppose I should not speak of them like that. They did not know. But I am not happy about it, Johnny. Not happy at all. The brain is rugged in some ways, so delicate in others. This one may be utterly ruined. It will take a day, maybe two days before I can be sure. One thing I do know, it is very sick. I must nurse it back to health, first."

" You've tried the encephalograph on it ?"

" The small one, yes. Not the big machine. That will come later. But I have detected neural discharges—yes. Very faint. Something is there. But Willing may be right, and we may have here just a vegetable." Then he looked up at me with a touch of his old humour. " You would like to see your own brain, my boy ? You will be the very first man who ever did that, you know !" Well, I didn't want to, not really, but I'd seen one brain. There couldn't be all that much difference. I let him show me. And there was a difference. It looked a shade bigger, for one thing, and the colour was slightly different. But, Lord, it was weird to stand there and look at that double-handful of stuff, in that bag of plastic and liquor, and to know that' I' was really in there, and not out here, at all. And the wires—there were thousands of them, hair-like and dull silver colour. It caught my breath to realise that every one of them had been put in place by hand, and absolutely accurately.

Doc must have seen that I was out of my depth, because he snapped the lid down briskly, and took me by the arm.

" Come," he said. " We will wait two days. Then we will know, one way or the other. In that while, you, my boy, are going to study. I will get for you some books and charts, all about the brain, and you will read them. Also, you will read about electronics. And I will study with you. Because—I tell you this, for sure—this way . . ." he gestured to my cabinet, ". . . is all wrong. It works, sure, but it is too complicated. There must be an easier way—and we have to find it." I hadn't the foggiest idea what he meant, but I was willing to give it a try.

Wednesday morning didn't come any too soon, for me. It is one thing to have a photographic memory for things, for names, terms and diagrams. This I have. But it is a vastly different matter to take all the stuff you learn and put it together so as to make some kind of workable sense, and that's where I failed, largely. I could draw you a pretty accurate diagram of the brain, with all the fissures, folds and functions, but it would be just a recitation. Understanding it all is something else again. I used to be a storekeeper, and a good one. I have that kind of mind. I used to know the quantity, part-number and location of thousands of utterly unrelated items, but I hadn't a clue what any of them were for, and it wouldn't have helped much if I had known. Doc wasn't worried, though.

" I need you, Johnny," he said, " in a different way, as a sensitive and very accurate instrument. Your fingers don't shake."

So we went back to the brain again. Her brain. Alive, or dead, or something in between ? Frankly, I was a bit scared of it, and I think he was, too, although he tried not to show it. It certainly looked a better colour. Even I could tell that. And, this morning, we had the big encephalograph console brought up. What with that, and the rest of the gadgetry, my bedroom was pretty crowded. And I met Willis for the first time. He was the chap who had worked with Doc on my brain, on the first detection of life. I was right about him. He is tall and skinny, and he is afraid of me. Funny how it shows, even in the noises a man makes when he moves. This time he didn't have much to do except operate the big machine, while Doc affixed the pick-up electrodes, not directly to the brain, but on the covering plastic membrane. On a living person, those things pick up signals through the thickness of the skull and all the layers under that, so they had no difficulty, here.

I watched, while Doc explained to me what the various discharges meant, and the different rhythms, as far as was known.

" They are all important," he said, " but this one . . ." he pointed,". . . is most important of all. Think of it as so many millions of cells, charging and discharging, like typists gossiping when they have no work to do. Noisy and idle. Then something happens, you see or hear something, and you think—the cells have work to do and they are quiet while they do it. You will see. If we are to be lucky, they will show—just wasting time doing nothing. It will be a fair sign."

He made a sign to Willis, to switch on, and in a moment we had five round oscilloscope eyes waving lines at us.

This machine, I should explain, was not set up for drawing records with pens on a roll, but to give immediate readings on tubes. That was Doc's idea, as what he wanted was immediate and visible signs. Anyway, there they were, five sets of ripples. And I had to wait for him to tell me whether they meant anything or not. They all looked equally mysterious, to me. But he wasn't any too pleased.

" The Alpha . . . that is fine," he muttered. That was the important one. " But the rest . . . not so good." He studied

them a long time, studied the brain, made a fine adjustment in the positions of some of the pick-ups, looked at the tubes again, and sighed.

" What's wrong ?" I asked, and he sighed again, took off his spectacles, began to polish them.

" How can I make it simple ?" he mumbled. " I will say it this way. There are responses, but they are very weak, irregular, not normal. More than that, I cannot say, yet. So, what do we do, Johnny ? Do we go ahead, and make a contact with the girl, and then tell her that she is alive, but that her brain has been damaged—that we can do nothing for her ? Or do we just let her die, in peace ?" Well, that was a fine question to ask me. I dodged it.

" Suppose we wait," I said. " This new treatment you're giving—is there a chance that she might recover, if you keep it up a bit longer ?"

" We can try, of course," he nodded. " It might work. But suppose that it doesn't ? Suppose we are unable to get any further than just talking to her, with maybe a flashing light for her to answer with, to say ' Yes ' and ' No.' And nothing more than that ? Suppose we had been forced to stop at that, with you ?"

Well, I couldn't answer, and I don't think anybody should ever be asked a question like that. I know how maddening it was when I was just an ear and a click. I remember the joy when I could write, and then when I could talk. I tried to imagine what it would have been like to have been stuck in any one of those stages, and it made me writhe, just to think of it. To do something like that to a living person would be the most refined form of torture imaginable. And this poor girl had suffered enough, already. But, supposing it wasn't like that, at all ? Supposing it turned out to be possible for us to make her whole, all over again ? Was it worth the gamble ?

I told Doc, straight, that I couldn't answer him, that the only thing to do was to let his process run on for a few more days, and try again. He agreed with that. There wasn't much else he could do.

Thursday and Friday didn't turn up anything radically new. I did a lot more reading, some wandering round the plant, and a few jaunts outside, to get into the way of passing myself

off as normal. That's not as easy as it sounds. I'm not quite sure how to put it, but it seems as if I have much more awareness than ever I had when I was alive. I mean, I seem to be conscious of the least thing, of thousands of things, all at once. It could be because I'd never troubled to notice them before, like that bit of poetry which says 'Look upon all things, every hour, as if it was the last.' I'd never done anything like that.

But I'm sure there's more to it than that. Just a simple thing like a walk to the end of the street and back and I am almost stunned by the sheer quantity of impressions I receive. There's the feel of my clothes, my hands, my feet hitting the pavement, the breath of a breeze, light striking at me from all angles and all surfaces, literally hundreds of sounds, of traffic, voices, taps, rustles, clicks and coughs—and the lines and masses of buildings, lamp-posts, walls, roofs—so much, and all at once. I don't remember these kind of feelings, before. When I told Doc about it, he was distressed, and excited, at the same time.

" Not only is there so much I do not know, Johnny, there is a lot I forget, too. This I should have expected. See—our senses are selective. I know that the clock is ticking, for example, but I do not hear it. If I want to, I can make myself hear it. If not, I neglect it. So it is with many other things, too. We do not pay attention, except to the things we wish to know—our immediate interests. The rest we neglect. But I had thought that this was a trick of the mind itself. From what you tell me, this is not so. It is a trained function of the body. And you are receiving all these many impressions, all the time, and you cannot do anything about them, yes !"

" That's right. I'm sitting here. I'm talking to you. I am feeling the whole of my body, hearing that clock, the machinery downstairs, the traffic outside the window, the draught coming in, this chair pressing against my back and legs, the touch of my clothes, the movement of my jaw and mouth, the heave of my chest. All of it, all the time !"

He sighed, scratched his chin. " How wrong we can be," he murmured. " Always we have thought this was from the brain, that it selected what it wanted—but it is not so. It is like the boss who does not want to be disturbed, so he tells his secretary only to let in those things which are important—and the body knows how to do this. But your body, Johnny,

for all it is so clever, does not know how to do this. What are we to do about it ? How can we modify this thing, so that it will think ? Or can we find the part of the brain which gives this kind of order ? The medulla, perhaps ? I do not know . . ."

" Isn't this something the same as going to sleep ?" I asked. " It's the same sort of effect. Signals are shut off, although the senses are still there, all operating."

He scratched his chin again, and nodded. " There is a similarity, yes, and we do know where the so-called ' sleep-centre ' is, in the brain. But that does not help very much. I think what we want is a kind of discriminating thing. I will put it to the electronics experts, to see if they can think of something. But you have made a good point, my boy. It will help you, to get some sleep." That was a bit of a surprise.

" Why should I need sleep ?" I demanded. " Isn't that just a * thing of the body ' too ? And you know I don't get tired."

" Truly, we sleep in order to rest the body, to clear out the poisonous breakdown products of metabolism. But it is more than that. You were a storekeeper, my boy. You remember —every once in a while, you had to have some time off for stocktaking, yes ? It is the same with the brain. This is what they call subconscious activities, no doubt. I take very little notice of that kind of jargon, but there is some little bit of truth in it. The brain needs time to sort itself out, to file and catalogue and arrange all the impressions of a busy day. If we do not give it time for this, we have such things as bad dreams, nightmares, or forgetfulness—day-dreaming—sometimes breakdown. It is part of the business of thinking, and the brain needs to be left alone to do this. You can call it ' meditation ' if you like, it does not matter. But sleep you must have."

I wasn't given the chance to protest.

" You are still my patient, Johnny. I do not want you to crack up, or go mad. So, you will sleep, tonight, and tomorrow I will see the experts, and see what they can do for you."

Well, I didn't fancy this. I guessed that he was going to switch me off and that wasn't a bit like sleep at all, as I told him, plainly. " It's just a blank. It doesn't do anything for me, at all."

" This I know," he smiled. " But I am not going to switch you off. Come, lie down on your bed, and I will decrease the, signal strengths until it is just a faint buzzing for you, so that

you do not get disturbed. The higher levels of the brain will rest, then, but the remainder will be active, which is what we want. Come . . ."

By this time, I have grown used to facing things I don't fancy much, so I went along with this, too. And, I have to admit, it was quite pleasant.

All he had to do was read the meters on the transmitter, and adjust them accordingly. For me, it was as if the sights and sounds of the real world just faded away. I could still detect them, but so faintly that the effort didn't seem worth while. It was exactly like sleep. And that was Friday night.

When he woke me again, this morning, he didn't have to tell me that a night had passed. I knew. That's how real it was. Quite different from being switched off. I felt 'rested,' too. I don't know how to explain that, unless there really is something in this business of getting problems worked out when one is asleep. I certainly felt a lot better. And it was just as well, because we were in for a nasty shock.

It was like this. There is only a skeleton staff, on a Saturday, but as soon as they were on the job, Doc sent out a call for Willis. We wanted him again, for the encephalograph. And he begged off. Said he was too busy with a lot of other things. Doc was puzzled, but he shrugged it off, and we went down to the ideas department, to find out their reactions to this discriminator thing. And it didn't take all day to find out that we were being given the run-around. Nobody wanted anything to do with us, at all. And no-one would explain. We went back to the flat, and we were baffled, and getting a bit angry. At least, I was. Then Sir Andrew Croxley came to call on us, himself, in person.

The very fact that he was in the building, on a Saturday, told us there was something up, and his face confirmed it. He is a big man, burly-made, with a face like teak, or granite, maybe. And stiff grey hair that lays down flat as if it wouldn't dare argue with him. About forty-five, I think, and a very competent bio-chemist, in his day, but a whole lot more competent at hiring the right people and letting them get on with it.

" We'll waste no time, Dr. Gabriel," he said, bluntly. " You've got to put a stop to this business, right now !" Doc took the obvious line.

" I am employed by Ungar Electronics," he said. But Croxley cut him short.

" Both firms are together in this," he said. " That's no secret, as you know. We had a full directors' meeting, last night, and I speak with their full backing. Your experiments have got to stop. Understand ?" Well, I chimed in, here, even if it wasn't my place.

" You're not being very clear," I said. " Just what is it that has got to stop, anyway ?"

" Not *you* !" he said, flatly. " For all practical purposes, you are an employee of mine, on sick leave. Your job is waiting for you, just as soon as you are clear of the doctor. If you want it. If not, you're free to resign—*all* of you !" His nod made it quite clear that he was referring to the gadgetry in the other room which kept me alive.

" You represent about £35,000 worth of equipment, as I expect you know, but you've been worth more than that, to us, and we aren't going to grumble if you decide to pack in here. I gather you're very well off, in any case, what with royalties and such. So that takes care of you. There's a job, if you want it, but you're free to go, if you want that." He swung his head round at Doc again.

" With you, the position is not so simple. You have another brain in there, I believe. Somewhere, anyway. Now, whether it's alive or not doesn't matter a damn to me. That's your business. What does matter is that there is a lot of talk going round. I don't know who started it, or how much truth there is in it. The point is, we've had our troubles. There was the burglary, and the difficult business of hushing up information about what was stolen. There was the murder of a store-keeper, and the hush-hush about that. Then there was the second murder, and more hush-hush.

" Now, there's a limit to what we can expect from the Home Office, in the way of co-operation. There are competitors to be considered, and the Press. We cannot afford any more unsavoury rumours. We've managed, so far, to smooth things over. But now there's a new crop of gossip—that you are doing more experiments, with a living brain, vivisection and animation experiments."

" No . . ." he put up a thick-fingered hand, " . . . I don't want to hear your side of it, at all. It doesn't matter, one way or the other. What does matter is that these stories are spreading. It's not you who is doing these things, it's Ungar

and Croxley. And we can't afford that kind of rumour. We are two big firms. We depend a great deal on reputation and good-will. If this kind of talk should blow up to the point where there would be an enquiry, you understand, it would be awkward for us, even if nothing was proved. And there are a few things we would just as soon not have uncovered; You follow ?"

It was plain enough. Doc, at seventy, would cut a beautiful dash as a ' mad ' scientist all over the front pages of the more sensational rags. And I would have no competition at all as the world's number one freak. There was no need to answer, at all. It must have been obvious, on our faces.

" You do see," he said, roughly. " It's got to stop !"

" But how can I stop—and let someone die ?" Doc asked, quietly.

" From what I hear," Croxley growled, " you don't know whether she's alive or not, do you ?"

" That is true. But it is not a chance that I can take, is it ?"

" Let somebody else take it."

" And if there is no-one else ?"

" I can't help that," Croxley snarled. " Millions of people die, daily. I can't see our two businesses ruined for the sake of one probable. Get this, and make no mistake about it, Doctor. Stop it—or get out ! And take your box of tricks with you. Is that clear ?"

Doc smiled, and it was weird to see that. " It is not so easy to ' get out,' as you say. I would do it, willingly, but where can I go ? There is so much special equipment I need, that I could not get anywhere else."

" That's a different matter," Croxley unbent a little. I think I have said, somewhere, that he is really a kindly man, underneath, and it showed, just for a moment. " Understand me. I know you have done wonderful work here. Other people know it, too. I'm in sympathy with it. But I'm dependent on public opinion. We have a business to think of. Our Government contracts, alone, you understand, could not be upheld in the face of any kind of unsavoury rumour, linked with us. But . . ." and he shrugged, spread his hands, . . if you were elsewhere, independent, working on your own, that would be different. We would be happy to regard you as a valued client, a customer. We will even allow you special rates, and gladly. That would be quite all right."

" I see," Doc nodded, thoughtfully. " How long can you give us, then—a week ?" Croxley got up.

" That is the very outside," he said. " I'd prefer you out of here by Monday, and every day after that will be a loss. Bad publicity is easy to come by, but damned hard to get rid of. The sooner you go the better. If you need any help in moving, you have only to ask."

That is how we stand, at the moment. Doc is a bit stunned, I think. He is certainly subdued. He has talked, hopefully, of all those good kind people, some of them rich and famous, who came to my aid at his request, but I can detect an undertone of despair in his talk. I don't think he believes any of them will be able to help us now. The circumstances are quite different. It's one thing to come and help, but its a different thing to provide accommodation, of the kind we would want. And there's transport, too. I know portable radios are tiny things, but my brain-cabinet and transmitter come more in the range of' hardware ' in the military sense of the word. We'd need a truck.

But I'm really worried about Doc. He's out of touch with the real world a lot more than I am, even if that does sound mad. He's been here at Ungar for a good few years. He lives here. He hasn't anywhere else to go, at all, and he has no real idea what the world outside is like, apart from his own narrow field of interest. That may sound a bit off, but take what he was telling me, about those experiments made on me being of help to put instruments on the Moon. Now, as any bright child knows, we reached the Moon, with men, in '67, when Selyov and Elgelovin landed. They never came back, it's true, but they were the first, and there's a reasonably secure research colony up there, now.

Of course, they are still putting instruments down through the clouds on to Venus, and they might have learned a thing or two about that from me. But not the Moon. Doc is more than ten years out of date, there. And he's a bit off with some of the other things, too. I've had the chance to walk round the plant a bit, lately, and I hear talk. It wasn't so much new inventions, on me, but a chance to try out latent ideas. For instance, they had a theoretical circuit for a super-fast switching relay, which looked good on paper, but needed something very special in the way of a computer to test it out. And they needed just such a relay system in order to make that kind of computer, anyway.

So they were trapped in a circular dilemma, until I happened. And they were able to try out a lot of other ideas on me, too.

But Doc was right when he said I'm worth a lot of money. It's true. I'm rich. And I'd gladly spend every penny of it, to buy us out of the mess we're in. He's too old to have to face this kind of problem.

Saturday, November 21th, 1982.

It seems there is to be no end to the shocks and surprises that life can turn up. No sooner do we tuck one problem behind us than another stares us in the face. I don't remember ever thinking about life in this way, before. As far as I recall, it used to be rather dull ! Anyway, we're out of Ungar, as since last Tuesday. From this window, as I write, I can see the wall and the high chimneys of the Bell Road Power Station, almost next door. This is a queer old house. Quaint. I wouldn't have believed there was one like it left in London.

It started, quite unexpectedly, on Monday. Doc had spent most of Sunday ringing up all the people he could think of and reach, on the off-chance that one of them would be able to offer us a home and facilities, but I don't think he had any more hope than I did. Those who did answer were sympathetic, most of them were sorry, but not one could help. It wasn't as if we were looking for bed and breakfast, that was the point. You don't turn up the run of an electronics lab, just by asking.

Monday, traditionally, is a bad day, but this one was worse than most. Right up until noon. It took Doc as long as that to get weary of using the phone. He had just given up and was persuading himself to go down to the canteen for something to eat, when the phone rang *us.* Grabbed it, and it was the switchboard automat, with a call for us, from a Mr. Klein.

The name didn't mean anything to me, or Doc, but I couldn't see why not, so triggered the setting to put him on. There came a thin reedy voice, in very careful English, asking for Dr. Gabriel.

" This is his assistant," I said. " Shall I call him ? He's very busy, at this moment." At that moment, Doc was frowning at me from an easy chair, but I had it in mind that this might be an abusive call.

" So I gather," the reedy voice commented. " I have been trying to reach him all morning. I understand he is looking for research facilities in the design and trial of remote-controlled servo-mechanisms ?"

" That is part of it," I agreed, as calmly as I could. " There is a lot more, in plan."

" Indeed ! How much more ?"

" Well, the aim is, eventually, to transmit and receive, accurately and at speed, a volume of data equivalent to that handled by the human brain in the process of everyday life."

That produced a thick silence from the other end for quite a long while. Doc raised his eyebrows at me, enquiringly, but I shook my head at him. I'd been watching him, all morning, wearing himself out trying to be tactful and gradual, and I wasn't having any of that. I'd packed it all into one brief exchange. It was now up to the other party. The reedy voice came again.

" That is a rather ambitious undertaking, I think. But I am interested. And I may have the facilities you are seeking. I will say no more, over the telephone, but I would welcome further discussion. Would Dr. Gabriel be free this afternoon?"

" Hold on," I said. " I'll find out." I put my hand over the mouthpiece, and asked him. He looked weary, but willing. Then I said, " Look here, let me go. If I run into anything I'm not sure of, I can always ring you up and ask. You know, you're very good at arranging sleep periods for me, but I doubt if you have been getting much, yourself. And that won't do. You're the key man."

He tried to make an argument of it, but he really was weary, and low in spirits, and I had my way. I made the arrangement with this Mr. Klein, who then said he would be sending his car for me, at three.

" Sounds hopeful," I said, putting the receiver down. " He has a car, with somebody to drive it, and facilities for research. And neither of us have heard of him, so he isn't a business. Ergo, he must be a rich eccentric of some kind. And that is just what we want."

We wanted a lot more than that, but I didn't want to burden him unduly. It was coming home to me, more every minute, how utterly dependent I was on those machines in the other room. The brain-cabinet had its own power-source, but the transmitter was a different matter. For that, for me to stay conscious and active, I had to have an absolutely dependable 13 amp, 240 volt, 50 cycle A.C. supply. And if we failed to get set up somewhere, I was well and truly stuck, right there in Ungar living off their current supply. It might be a bit far-

fetched, but they had only to cut off the juice, or pull the fuses, and I was as good as dead.

This was selfish of me, and I admit it. I should have been worrying about Frances Walker. But I wasn't. And I did know I was being selfish. So I didn't let these thoughts get out to trouble Doc. I wanted to follow up this Klein lead myself.

The car was prompt, at three o'clock. I'd warned the gate-keeper to look out for it, and he sounded impressed when he rang me to say it had arrived. I was impressed, too, when I saw it. A real vintage Rolls, easily more than twenty years old, for all the modern trimmings. To say nothing of the stiff, uniformed chauffer.

I'd never actually seen a chauffeur before. Not many people have. In this day and age there can't be many left. Cars are so stuffed with gadgetry, these days, that practically anybody can drive in perfect safety, what with automatic ' readers ' for stop-and-go signals, route-guides built into the road-surfaces, and linked with the steering-selector, and proximity-detectors to keep track of everything else on the road. The next step, I suppose, will be built-in robot controls, so that you need only dial your destination and sit back. By that time, chauffeurs will really be extinct.

But this one looked exactly like what I had imagined from the stories—very stiff, sleek uniform, no expression on his face. He didn't even turn his head when he asked,

" Mr. Dawson ? Please get in . . ." and the rear door slid open. All I had to do was what he said—get in. And that's all I did. I hadn't the nerve to try to chat with him. I spent most of the time, only a short ride, guessing. And, oddly enough, I guessed right, for the wrong reasons. I guessed that maybe this Klein was frail, an invalid. That was partly from the voice I'd heard. And it would account for the age of the car, and the chauffeur. I knew, soon enough, that my guessing was only a pale shadow of the real thing.

We pulled up in front of a huge old house, back in a side street, very close to the Bell Road Power Station. That house—this house—is an antique in itself. It must have been a family mansion, at one time, and it looks it, still, from the outside. But the big front door swung open by itself as I walked up to it.

Then a wall-speaker lit up with a red light. This was in the passage, just inside the door, a passage floored with dark,

glossy composition-tiling, as bare as a prison, with doors leading off on both sides. As I was taking this in, with a dubious glance, the reedy voice came again, from the speaker.

" Mr. Dawson ? Would you please carry on as far as the end of the passage, take the lift you will see there, and come up. Floor Two."

" All right," I said, wondering if I could be heard. The lift was as bare and featureless as the passage, but when the doors slid back to let me out, it was into a huge room—obviously extending over fully one half of the ground area—and there was, just as obviously, Mr. Klein. One look at him told me that my guess had been well short of the mark.

He was huddled in a wheel-chair. A little gnome of a man, with a great bush of wild white hair, a pinched and wrinkled face, needle-sharp green eyes, a friendly smile—and beautiful hands. What I could see of the rest of him was covered up, casually, in a wine-coloured jacket, with a white scarf-thing round his neck—what they call a' cravat,' I think—and a plaid blanket. There was pitifully little under that blanket. Trying hard not to gawk at his frailty, I was compelled to notice the complex array of buttons on either arm of his chair, and I began to get an inkling of the type of person I had to deal with.

" Excuse my remaining seated, won't you," he said, chirpily enough, " and please come right in. Don't waste time feeling sorry for me. I've been like this for more than thirty years. And I'm not quite as helpless as I look, at that. Now, take a seat, won't you, and tell me all about your Dr. Gabriel."

" All right," I said, picking a seat. " But I'd like to know, first, how you came to hear of him, and what made you ring up ?"

" I have good friends in Ungar. I use quite a lot of their materials, from time to time. Word gets round, you know. And I have learned to keep in touch, for all my isolation here."

" I'd guessed you were invalid," I offered. " From the car, and the chauffeur. Man in your position must need a lot of servants."

" I have a lot of servants," he chuckled. " But not as you mean it. I have no chauffeur, for instance. Machines, and electricity—these are my servants, Mr. Dawson. I was your chauffeur. Come, let me show you," and he ran his chair up to the far end of that room, past clustered arrays of gadgets, to a thing very like the kind of sound-proof hoods they fit over

telephones which are to be used in a noisy machine-shop. He demonstrated it, with obvious pleasure, showing me how it was fitted with panoramic vision screens, speakers, microphones and hand-grips. From here, by remote radio-link, he could be at the wheel of his car, and take it anywhere in London. I was impressed, and said so.

" It is just a toy, a thing I play with, and not too often. My real work lies within this house, in this room and in most of the other rooms downstairs. I think I can claim to have brought remote-control devices to a fine art, in my small way. Can your Dr. Gabriel compare, do you think ?"

Well, I was too cautious to blurt it all out, yet. First of all I wanted to know how much he'd heard, and how. The way he told it, Willing, the surgeon, had been talking to the wrong kind of people, and the story had been well and truly mangled in being passed along. Then the confusion had been compounded by the more factual, but cautious, news from his ' friends ' at Ungar.

" Your Dr. Gabriel is reputed to be, or to have been, a brain-surgeon. I know that Ungar have a pilot-project in hand for a ' brain-machine.' The story goes that Gabriel is experimenting with brain-tissue in an attempt to duplicate its function in some way, mechanically. Another version is that he actually is using brain-stuff to actuate remote-control devices Currently, I understand that Ungar have washed their hands of such experiments. It sounds like poppy-cock, to me. But I am vastly interested in remote-control ideas of all kinds. If nothing else, I would like to meet the man who is courageous enough even to have the idea of actuating a slave-mechanism direct from the brain. I hope *that* much is true. The idea—the sheer scope of it—fascinates me."

" Then you don't feel that it is inhuman, or unethical—or impossible ?"

" Certainly not. New ideas, new steps, are not in themselves inhuman, or unethical. Discovery is always neutral. What foolish man may make of it, later, is a different matter. That has always been the trouble, you know. Silly people criticise scientists and experimenters for having delivered their ideas into the hands of common man. But common man would be the first to cry out if the inventions were deliberately held back. As for ' impossible,' well, the brain is an electro-chemical system, I believe. More than that, no doubt, but that, at least.

And the signal from my brain to my finger—so—has to leap many gaps in its flight. So what is there impossible in the idea that such a signal can leap a much larger gap, by radio, and move a finger, over there, eh ? But, tell me, can your Dr. Gabriel actually do any of this ?"

I had been fighting a little battle with myself, all the while he was talking. I'm no judge of character, but if this little old man wasn't transparently honest and genuine, then nobody was. I decided it was safe to tell him, but I went at it gradually.

" It's true," I admitted, " that Dr. Gabriel is experimenting with a living brain. And it is also true—and you should know this—that Ungar have ordered him to stop it. They have their reasons of course. They can't afford to bear the unpleasant publicity, the social scandal. This could happen to you, if you got mixed up in this business. It is true that we have been ordered to quit Ungar, that we desperately need other facilities —but it wouldn't be right to go any further with this until you know just what you may be letting yourself in for."

He nodded at this, then chuckled again. " Please don't worry about me. Here, except for the irregular visits of my nephew, I live all alone. I am not well known. I have very few intimate friends. I am wealthy enough to be called' eccentric ' rather than ' mad'—and to care little, either way. No-one gives a damn what I do, now. Once, long ago, I used to work there," he made a brief gesture to the power-station chimneys I could see out of the window. "I worked with fools, Mr. Dawson. People who could not be brought to see that power and machinery should serve man, not the other way round. It was there that I suffered the accident which made me as you see me now. It was called an accident, but I shall always class it as the result of working with, for, and in the service of, fools. No matter. I learned much, and I have not forgotten. This is my house. What I do is my business. Rumour has no power to frighten me."

For a moment, he was quietly bitter, then his sparkling smile broke through.

" I, too, am a fool, and a poor host," he said. " I should have offered you something. I have it all here. A drink, perhaps. A cigar ?"

" You asked me, just now, if Dr. Gabriel has done anything along the lines of the rumour. Well, Mr. Klein, let me put it

this way. I could, just, make a fend at smoking a cigar, because I have bellows. But I couldn't do anything at all with a drink, because I have no stomach, or any equivalent. Take a very close look, sir, and think of your ' chauffer ' . . . ! "

It took a little while for my meaning to sink in, but when he got it he stared, and leaned forward in his chair.

" You ? You are—a mechanism ?"

" This what you are looking at—yes !"

" Ah ! But there is a real Dawson, is there not ?"

" Well . . . " I had to grin, even though it felt weird, ". . . in a way, I suppose there is. But, in fact, all there is of me is a brain. A living brain, in a chemical bath, in a cabinet, connected to a power-transmitter, in a top flat in the Ungar building. That's where ' I' am, right now."

He didn't know what to say for a while, and I didn't blame him. I knew it was true, and it didn't make sense, even to me. But his pause to chew over this difficult proposition gave me time to think ahead of him, which was just as well.

" It is a fantastic claim," he said, very quietly. " Logical—I cannot deny that—but too much to accept at one swallow. I must have some sort of proof, some evidence. And it is embarrassing. You have obviously set out to make a perfect duplicate of a human body, so visual inspection will be fruitless. Mr. Dawson—I would like to believe you—but I must be shown !"

"That's quite all right," I admitted. "I'd guessed that would be next. You could check for heartbeats—I have none. I can stop breathing for as long as you wish. The inside of my mouth, see, is quite dry. There is no pupil-reflex to my eyes. You could stick pins in me, if you like. But there is a better way. I will sit here. You pick up your telephone and call Dr. Gabriel. Tell him I am here, explain your difficulty and see if he can suggest some test. I fancy he will be able to—but I'm not going to say what. I'll let you find out."

He ran his chair down to the other end of the room again, so far away that I couldn't hear what was being said. And I didn't *know* what Doc did, for obvious reasons, until after he had done it. Of course, what he did do was switch me off. By calculation, afterwards, I reckon I was ' off' for about three quarters of an hour. And I don't know what old Mr. Klein did, in that interval, but, whatever it was, it convinced him, completely. And that was that.

But, at once, we had more problems to cope with. Happily, we still had a bit of goodwill at Ungar, and could get help with the manhandling, getting all the bulky stuff downstairs to the van, and so on. Me, I was no help at all, there. I was just disconnected and didn't know a thing about any of it until it was all over. In a way, I am getting used to this kind of thing, but it is still a fear, somehow, that something will go wrong, one time, and I'll never know. It's not the same as deliberately switching myself off, at all. Frankly, I can't imagine, now, how I ever got into *that* frame of mind.

Anyway, that just about took care of Monday. Most of Tuesday was spent in settling in, arguing about choice of rooms, location of apparatus, who was to pay for what, and learning the geography of this old house. Mr. Klein was downright pig-headed about expenses. He insisted that we were his guests, and that we should save our money for the experiments we had in mind. But he and Doc took to each other like brothers, right from the first meeting. They are very much alike those two. They talk in ideas, all the time, and they catch my breath, as you might say, the way they launch out. Klein was all over that transmitter of mine as soon as ever he saw it. Ungar's best had led me to believe that the principle of the thing was something quite new in the line of power-transmission, but he was turning up his nose at it within ten minutes.

" Ingenious," he admitted, " but not very efficient. I will show you a way to modify this so as to increase the control and power range by a factor of ten."

His technicalities were miles over my head, but so far as I could follow, his method will direct-beam the power through a feed-back device that will follow me, by itself, wherever I go, and keep a sharp focus. Even I can see where this is going to save power, and make it more effective. And I've seen the gadget that will do it. Part of it, anyway. To look at, it is nothing more than a complex coil with a plastic-and-ferrite core, slung on gymbals, and it will point to me, wherever I am. That's all plain sailing.

But he has also worked out a discriminating circuit, as he calls it, and it is completely beyond me. He has explained it to me twice, and I have heard every word, but it still doesn't click in my mind. I have gathered this much. All the data-points in this body of mine—that is the thousands from my eyes and

ears, and all the others, from skin, muscles, position of hands and feet, balance and so-on, so many that the numbers just don't mean anything any more—these are all arranged in a sequence, and fired off in a high-speed burst, one after the other, and the whole collection takes just one-fiftieth of a second. Then there's an interval, also of one fiftieth of a second, while my brain transmitter fires back the same sequence of data to my body. This means, of course, that any part of my body is just one twenty-fifth of a second away from my brain. But, and this is the startling part, this is much faster than an ordinary human frame. My awareness, my reflexes, are faster than normal. Ordinary nerve-impulses don't travel as fast as that.

As Klein said, and Doc agreed, " The human frame is a wonderful thing, but it is limited by the materials it is made of, and the fact that it is just one of a long series of modifications and ingredients. It is certainly not good enough for the brain. It is like using a computer to play noughts and crosses, or using a slide-rule to work out two times three. This is why nine-tenths of the brain is idle, is capable of so much more than the body can ask it to do."

I had never thought of it like that before. I had always thought that nervous reflexes were fast, and I don't think I had realised, before, just how fast one hundred and eighty thousand miles a second really is. And that' spare ' time is just one of the things he had in mind.

No sooner had he understood the system we were using than he had his idea for the discriminator.

" See here, Gabriel," he said, " this is doing far too much. The body-brain system doesn't need *all* that data. All it needs is information, and information is ' news of a change,' isn't it ? Now, let me show you a circuit which will do just that . . and they were off !

Listening, and trying to understand, I managed to gather that this is what the body actually does do, in any case. The only time a person is actually aware of his body is when there is something happening to it, which is when there is a change in the signal. And that is what this circuit of Klein's will do. If the signal is the same as last time, nothing comes through, but but if something has changed, that new information *will* come. As I have said, I don't claim to understand it, altogether, but I can't argue. They tell me I'll be just as efficient as before, but

I won't have this effect of total awareness all the time. I'm ready to accept that. They know far more about it than I do.

And that just about brings me up to date for this week. My control-unit is safely installed in a basement room, and I have been on and off, intermittently, so that those two could investigate my bits and pieces. Klein keeps on being amazed and disgusted, by turns, at some of the stuff they have put into my ' works.'

" So clever," he says, " and yet so unnecessary. And so clumsy. We will do it much better with the next one—much better !"

Perhaps they will, but I don't think Doc is too happy about the' next' one, at all. Going by the expression on his face, the brain of Frances Walker isn't right. There's something wrong with it. Still, we aren't going to wait any longer. Come Monday, we make a start, one way or the other.

Saturday, December 4th, 1982.

This has been a mixed-up sort of week all round, with one or two exciting moments, one or two very bad blows, and a lot of hard work in between. Most of all, I think we are all aware of what a devil of a job we have taken on, with Frances. She's alive, all right. That's one thing we're certain of. If only we could be as certain of some other things. Here's one odd thing, though. Doc came in and caught me, last week, finishing off that last entry in this diary. He'd come to make sure I was comfortable, before switching me down to sleep for the night. He smiled rather sadly.

" That old diary, still, Johnny ? That's good. You need someone to confide in, I think." Well, I wasn't quite sure what he meant, until he explained.

" You are alone, my boy, without any security. Not like an ordinary man. You are still my patient, and I feel this. I think about it, often, but I can see no way of making you independent, yet. Perhaps it will be possible, someday. So, until then, it is a good thing that you keep your diary for comfort."

He made me feel like a child. We spent a little while discussing odd things, such as the importance of keeping records of things as they happen. I mean, neither he nor old Klein are getting any younger, and if anything should happen to either of them, I don't know what would happen to me, what my status would be. Things like that. It was a positive relief to know, as he assured me, that old Klein has almost a mania for records.

He photostats just about everything, in duplicate. So that's all right.

But after Doc had tuned me down and gone away I still had a lot to think about, and I still think about it, whenever I have a moment. It is true, what he said. The ordinary man has a degree of independence that I haven't got. What is making me feel a bit ashamed is that Doc has been worrying about this, on my behalf—and, all this while, I have been doubting him. I think I have grown up a lot in the last few weeks. Especially this week.

On Monday, while Doc got busy with the delicate task of setting up his measurement-contacts on the new brain, Mr. Klein and I had a go at a ' sleep ' circuit for me. I had no idea going to sleep was such a complicated business until we started on it.

" It is done by the brain and the body working together," he explained. " A man arranges himself in comfort, which means that he reduces the number of signals coming through to him. A quiet room, a dim light, a soft bed, so on. At the same time, by chemistry, his body reduces its sensitivity, its threshold. And, he decides to ignore such signals as do reach him. All this we must try to duplicate. Perhaps we can incorporate it in the discriminator circuit. We shall see."

We spent most of the morning on that, and we were just about ready to give it up as a bad job, when Doc came along to require my assistance—to make the first contact with Frances. Klein decided to come along, to watch. He has this house so wired that he can ' see ' and ' hear ' into all the workrooms, by radio and vision links, but this time he decided to make the trip down to the basement in person. I think he saw, as I did, that Doc wasn't too happy.

" I don't like it," he said. " Johnny—the brain looks fine, now, and you can see all the discharge patterns. It is alive. But the patterns are not as they should be—not right at all." Then he sighed, set his jaw, stuck his old glasses on firmly, and waved me forward.

" We will try," he said. " You have a steady hand—much steadier than mine. Here is the electrode. You know where to put it, eh ?" Well, I did know. I didn't relish the job much, but I had studied all the diagrams and such enough to know where to probe. I also knew that I could have a big job ahead

of me. The part of the brain where the nerves from the ear come together, the so-called ' hearing centre' isn't all that exactly located. It can be anywhere within an area about two inches square, which sounds small, but contains a devil of a lot of nerve ends. And I had to insert a hair-fine tube through our artificial membrane, then insert an even finer tantalum electrode through that, and then try to hit the end of the auditory nerve. The only thing which reassured me was that such a thing had already been done, to me, by Doc. If he could do it, with shaky human hands, then I could do it, with my much more precise mechanisms.

He had the microphone and circuits all ready connected, and we could both see the rippling waves on the oscilloscopes. We also had a refinement, sparked off by my recollections of that sudden, frightening, crackling intrusion from the void. We had a tape-recorder playing gently—my choice, Beethoven's Fifth. I began to probe. It seemed like hours, to me, but was, in fact, just fifteen minutes by the clock, when we saw that key-rhythm flatten out, and then break up into irregular teeth. Doc nodded like mad, put up a hand to me, to stop, and he lowered his head to the microphone.

" Miss Frances Walker," he said, very gently, " I believe you can hear me, and the music we are playing. Please do not be worried or upset. You have had a very serious accident, but you are going to be all right, very soon. My name is Dr. Gabriel, and this is my assistant, Johnny Dawson . . ."

" Hello, Frances," I said. He nodded, and went on,

" We will leave the music playing for you, and we will speak to you again, in a little while. Please do not be alarmed if you feel something strange or unusual in your arm, or leg—just try to be patient." Having said that, though, the smile went away from his face. He called me off to one side.

" I don't know what is best to try next," he confessed. " It is not the same as it was with you. Those other patterns are not right. You can see—the Alpha-rhythm only has changed, not the others. With you, the change was all over. You were trying to move, I think ?"

" That's right," I agreed, " I was . . ." and then it went click in my mind. " Doc !" I said, foolishly. " You've forgotten—this girl has been a paralytic all her life. She never *could* move her arms and legs, or anything !"

" Oh my Lord !" He gaped at me so that his glasses almost fell off. " What a fool I am ! Of course—that is the answer. But . . ." and he frowned into an expression of dismay that would have been comical if it hadn't been so tragic. " I should have thought of this sooner. Johnny, do you realise we are trying to do the impossible, here ? We can do nothing without her help, and she cannot help because she doesn't know how."

That might have frightened me if I had taken the time to think it out, but all I had in my mind right then was the thought of that poor girl slowly going frantic, with nothing but music, coming from nowhere. Feeling nothing, wondering what had happened to her. I'd had some of that. I knew what it felt like.

" We're not leaving her like this," I said, flatly, " and we are not leaving her to die, either. She has got to be able to make contact with us, somehow !" This too, was straight out of my own memories. That was the worst part, being powerless to talk back, in some way. With me, of course, Doc had fixed it by connecting a relay to a hand centre. That wouldn't work with her. I raked through my mind, desperately. And then it occurred to me.

" She could talk—so she must have been able to breathe, too. We ought to be able to contact a response there ?"

Doc shook his head, dubiously. " It is not much of a chance," he said. " The speech centre is very small, indeed, and awkward to get at. The breathing control is even worse, in the medulla, underneath. Buried away. It is too difficult for a beginning. We must not confuse her. We must not start bad habits, and then have all the trouble of breaking them again."

I knew what he meant here, too. I had begun by making a ' strain ' in what I felt was my hand, and that was all right. But supposing I'd made my responses through a chest reflex point, or a neck movement. It would have been no time at all before I would have been thinking in that kind of term, of saying' yes ' or' no ' with my chest—and that would have had me absolutely mixed up when it came to connecting up my correct response points.

" But . . . " I said, ". . . she *could* talk. Therefore she could move her jaw. All right, then. Give me an electrode connected to a lamp, or a buzzer, and I'll try to hook up *that* centre." And that's what I did.

The facial control centres are in the parietal lobe, and not very big, but I got her to help me. I talked to her, first of all.

" Hello, Frances," I said, as confidently as I could. " This is Johnny again. I know you must be very worried, but please be patient. You can hear me because I am talking to you through a microphone connected directly to that part of your brain which hears. Now I'm going to try to connect up with your mouth, your jaw. I will tell you when, and when I say ' Now ' I want you to open and shut your mouth, as if you were saying ' Ah !' over and over. You won't feel anything, not even your own movement, but if I can hit the right spot, then your movement will make a light flash on and off, and we will be able to see it. We will know."

Well, I don't want to put it all down here. It took hours to get that damned wire positioned just right. It was late Monday evening before I got the result I wanted. Doc and Mr. Klein had taken a break for food, leaving me to it. There was a buzzer in the circuit, along with the lamp. But I got it, at last. One buzz for ' yes,' and two for ' No,' And she was all right. Sane, I mean. I had been worried about that more than anything else. I spoke to her, told her most of what had happened, and what we were trying to do—and she understood. Then Doc broke the switches and ordered me upstairs.

" It is no good being indignant with me, my boy," he said. " You have done very well, but you need rest. You are still my patient, remember ?"

" But we can't just walk away and leave her . . . " I started to protest, and then I had to grin, because who should know better than me that the silent interval wouldn't mean anything to her, at all ? I felt foolish. Without some contact with the outside world, the brain just idles, unaware of anything, not even its own existence. Besides, there was someone I had to meet.

With old Mr. Klein there was a stranger, a tall, sharp-featured man, about thirty, with close cropped jet black hair and hard, restless blue eyes.

" My nephew, Mike Hawker," old Klein introduced. " Mike is my right hand and the extension of my own small talent. Dr. Gabriel . . . Johnny Dawson."

Mr. Hawker had a slouch, as if he thought very little of his b ody, and a casual carelessness in his manner. He nodded, and said " Hi !" to Doc, and I suppose that was meant for both of

us, because he took no notice of me, at all. I took an immediate and quite irrational, dislike to him. I want to put down that word ' irrational' with care, because there was absolutely no reason, one way or the other, why I should have any emotions about this man. Yet I had them, which is intriguing. It seems that I am developing the ability to have emotions, after all.

" Mike is a rare visitor," old Klein explained. " He travels wherever his fancy takes him, and he comes back here, occasionally, with new ideas, things he has seen, or learned, and we argue about them. Now I have something new to show him, for a change."

" Uncle Roger has told me the gist of what you're trying to do, Dr. Gabriel," Mike grinned, briefly. " I hope to be able to stick around and see some of it, and to learn a thing or two. Maybe I can help. Just a thought, but I think you're on the wrong track, in one or two places. It's probably too late to do anything with the first model, but I hope to be able to explain and help with the second."

" I am always willing to learn, of course," Doc said, cautiously, " and to accept offers of help. You are a brain-specialist, yes ?"

" Mike has just returned from an international conference," Old Klein put in, quickly, " in Zurich. A meeting of psychologists from all countries, to discuss training-and-learning theory."

" That is interesting, truly, but I do not see the connection . . .?"

" You made the point without knowing it," Mike laughed. " That's the whole thing—connections. You don't really need 'em. I'm not a brain man, not as you mean it. Not in medicine at all. I'm in cybernetics. But, correct me if I'm wrong—it's the function of the brain to learn, isn't it ? I'm suggesting that, by going to all the trouble to make one-for-one connections between the specific brain centres and the artificial body-complex, you are defeating that process." He shambled to a chair and sat.

" You'll have heard, I'm sure, of an experiment that was made many years ago, with a man and a pair of special goggles. These goggles served to invert the images which entered his eyes. Remember ?"

" Yes, of course," Doc nodded, and then explained, for my benefit. " This man was made to wear these goggles, Johnny,

to see what would happen. You see, in actual fact, our eyes invert the images they receive. The little pictures on the retina are upside down and this is the message which goes to the brain. The amazing fact is that we learn, somehow, to correct this—and we actually see everything the right way up. Now this man, with these goggles, was now seeing, with his eyes, the right way up, but with his brain, upside down."

"That's right," Mike nodded, eagerly. "This guy was pretty confused for a while, naturally. But—and this is the point—he learned to make the adjustment, with his brain. After a while, he had everything under control and was acting normal."

" And so ? What has this to do with what we are doing ?"

" Just this. You don't have to give specific signals to the brain. All that is really necessary is to give consistent signals—the same signals for the same things—and the brain will do its own learning. It will make sense of them. It's too late, tonight, to go any further into it. I'm tired. I've been travelling all day. But I'll take it up with you again in the morning."

That was Monday. All day Tuesday we did very little except argue and discuss. At least, the other three did. I sat and listened, mainly. This Mike is very bright. Dogmatic as hell, and abrupt, but bright, just the same. For one thing, he has managed to solve the problem of the' sleep ' circuit for me, and very simply. I now have a thing which looks, and I wear it, exactly like a wrist-watch. It shuts down all my perceptions, gradually, to a certain limit, and I can set it, like an alarm, to switch them on again at any given time, or, if anything happens to create a stimulus above a certain level, like a bright light, a loud noise, or a touch, it cuts out and I'm wide awake, at once. It is a very clever little thing.

By Wednesday, what with all the arguing and discussion, even I had begun to catch what Mike was getting at. It's simple enough, in theory. It seems that Doc wasted an awful amount of skill, time and energy in connecting up all those thousands of links between my brain and my body—and, now that it's done, it isn't worth while undoing it, because I have learned this body, just as a baby learns its owns arms and legs and so-on. And that is the whole point.

A baby has to learn its body, has to learn to match this' feel' with that action. By the time it's grown up, the whole process is so second nature that we don't think about it. But Frances

has never had a body, in any real sense of the word, so she has never learned. At least, if she ever did, it was so long ago that she has certainly forgotten it all. When you come to think of it, a person sick in bed for a long while has to learn how to walk all over again. So, according to his theory, all we have to do is to present to her brain a series of regular and consistent signals, and she will' learn ' them.

" The encephalograph should have given you the clue," he said. " In an ordinary person, it manages to detect and read, and measure, electrical patterns of energy, and even to tell us something of the way a person thinks—and that is through the thickness of the skull and all the protective layers in between. That's so, isn't it, Doctor ?"

" It is quite true," Doc admitted. " We can tell quite a lot about the personality. If this is a person who visualises to some extent, we have what we call an' R ' type. The' feeling ' person, who does not see pictures at all, but works his problems in some other way, is the ' P ' type. And there are others, of course. But I do not see, Mike, what you are getting at. The encephalograph merely picks up crude signals, in terms of millions of cells."

" Grant you," said Mike, swiftly. " But I can improve on that. I learned my electronics from Uncle Roger, and I've gone a long way on my own since then. Tell you what. Give me a few days to work on this thing, and a diagram of your transmitter sequences, and I reckon I'll be able to show you. I'll have that pet brain of yours looking out of both eyes, hearing with both ears, and talking—and all without puncturing that membrane once—fair ?"

There wasn't any way of arguing with that, and Doc and I have had other things to do, anyway. We're keeping a careful check on the brain, of course, in case Mike wanted to have a go at it. But, whatever he has in mind, it's something he and his Uncle Roger are able to do all on their own. Our main job has been to check up with the technicians at Ungar and to get them cracking on duplicates of my bits and pieces. And a new transmitter, built to a different wave-length but the image of mine, otherwise. The different wave-length is essential, of course. It wouldn't be a bit comical if we should get our signals crossed.

The expense is high. I have the funds to stand it, so far, though. And, ironically enough, Ungar's couldn't have been nicer to us, once they discovered that we came as customers. That hurts, a bit. Still, I suppose it's just human nature, after all. What does puzzle me is how Mike hopes to give any kind of a workable demonstration by Monday. That was his last, confident word. The items we have ordered from Ungar won't be anything like ready for another week, at least. Still, as I say, he seems confident that he can do what he says.

And I have something else in hand, that I am not telling anyone about. It is to be a secret all my own.

Saturday, December Wth, 1982.

When I closed this diary last Saturday night I would have said, with a lot of confidence, that life had very few nasty shocks left for me. I mean, I've had just about everything—or so I would have said. But this week has brought things I would never have dreamed of in a dozen lifetimes, and a new kind of awful horror, so unexpected and yet so damned obvious. I can't really explain why it should feel so horrible, come to that. All I know is that it does. I will try to put it down here just as it happened.

Monday, of course, we all gathered in the basement room where the two brains are, mine and hers, and my transmitter. Mike and his uncle, Doc and me, and Frances. I couldn't see, quite, why it had to be in that basement room, but that was a minor detail. Mike took the floor, at once. He stood alongside the shelf which carried the two brain-cabinets, and he had a box of things all handy. He had her brain-cabinet open. Of course, her brain, just like mine, is contained, neatly, in a plastic membrane, with the nutrient fluids piped in and out in the region of the ' silent areas.' The point is, he could pick it up and hold it, in his hands, quite comfortably. And he did.

" I won't insult you," he began, " with a lecture on brain structure and function, because I'm in the presence of someone who knows far more about that than I shall ever do. But I do want to make a point or two. Let's think of any one of our senses—say, sight. Now, what actually happens, here, is that many thousands of nerve-ends in the retina detect and transmit a shower of impulses—here—along the optic nerve—to here, to the visual centre, just above the occipital lobe. That is, from the front of the brain to the back. But, and this is the key

point, those nerve-messages are not arranged in any sort of a pattern, here. By that I mean, if you put a square in front of my eyes, I see a square, but there is no such things as a' square ' arrangement of brain cells where I am seeing this. There is no actual square, anywhere in my visual centre. Am I right, Doctor ?"

" That is so," Doc nodded, thoughtfully. " There is no correspondence."

" Fine. So what we have is the fact that the brain learns to see a square, or any other meaningful picture, from what is, in fact, a series of random pulses. Random, but consistent. To quote from well-established evidence, adults who have been blind from birth or any early age, and who subsequently receive sight by an accident, or by operation—they have to learn how to see. They have to learn how to make sense out of what are, to them, meaningless splashes and daubs of colour and light and shade. This phenomenon has been observed many times. Now, what *you* did, Doctor, if I may say so, was fabulous—and I have to admire it. You took the whole series of transmitted signals from a miniature eye-camera, and connected them, one by one, to the *appropriate* optical nerves. Frankly, if I had not seen that, I would never have believed it could be done. And it was quite unnecessary.

" I have here . . ." and he dipped into his box of tricks to fetch out a small glittering metal plate, with a cluster of dangling wires, " . . . I have here an electrode, which I apply, thus, immediately over the main stem of the optic nerve. And another one, here . . ." he was sticking them on as he spoke, with great care. " Now," he said," all I need to do is to connect these wires to an appropriate pair of eye-cameras, directly—or to a transmitter manifold, which will accomplish the same thing, but by radio—and this brain will be able to see, just like the other one !"

" See, yes, but it will be scrambled nonsense !" Doc protested and Mike put up a hand for patience.

" I agree. It will be a meaningless scramble, at first. But she will be able to learn, just as the once-blind are able to learn to make sense out of what is meaningless scramble to them. She will also be able to hear, and will learn to interpret what she

hears . . ." he had produced more electrodes and was sticking them to the outer membrane as he spoke. With a careful twist he dislodged the ' hearing ' contact I had laboured so hard to make, then the ' jaw ' contact—and that got me.

" Hold on, damn you," I said, " They took me a hell of a lot of time and patience to get right . . ." but he took no more notice of me than as if I hadn't been there at all. With quick movements he was sticking his damned electrodes all over the place.

" There we are," he said, at last. " Those are all the special information contacts for seeing, hearing, facial movements and senses. For the rest of the body, the answer is a somewhat simpler one. As we know, all the rest of the body-information loops pass through the medulla to the spinal column, so, here, where the main exit is made, I apply a special contact . . ." and this one was bigger, a half-hoop of metal with a thick bunch of wire leads.

" Now," he straightened up. " Do I make my point ? This is all that is necessary, so far as the brain is concerned. These electrodes will pick up and put in a consistent series of information. And that is *all.* The rest is merely a matter of learning. A transmitter, a body—connections from these wires to the appropriate transmission points—and that's all. There is no need for any further delicate work on the brain."

There was a long and thick silence, broken finally by a sigh from Doc.

" This theory of yours," he said, quietly. " It is fine. I have no quarrel with it, as a theory. But, first of all, how do you know your electrodes will work the way you say they will ?"

" Because I've tried them out, on myself. I've had this collar on *my* neck, and I have received impressions, and relayed them. Right, Uncle Roger ?"

" It is quite true," old Klein smiled. " The results were quite significant and quite satisfactory."

" Very well," Doc sighed again. " You have done well. I admire. But, tell me, how can we test them—how can we know that these things are right for our particular brain—for Frances? You have disconnected the only contacts we had with her, the only ways we had of reaching her, or knowing what she is thinking. Without them, how can we test ?"

" That is a point which had bothered me," old Klein put in, worriedly. " I have faith in these contacts of yours, Mike. I helped you to make them, after all. But you should have waited a while, perhaps, until we had all the other things we need—the special equipment, the new transmitter—yes ?"

" I don't get you," Mike said, blankly. " The contacts are all in place. I know they will work. This is the proof I offered. As for special equipment for test—what is there to wait for ? We have a transmitter, and a body—right here, haven't we ? What are we waiting for ?"

Three pairs of eyes turned and looked at me—and I was so stunned I couldn't think of a thing to say. I suppose it was obvious, and that I should have seen it coming—but I didn't. Mike put it into words.

" We switch him off—connect her up—and then you'll see whether I'm right or not. It's obvious, isn't it ?"

To be concluded

We do not often have a story dealing with the first astronaut to attempt a sub-space journey to the nearer star systems. Australian Lee Harding, while predicting that the actual mechanical details may be much the same as that for the first man into the Solar System, also suggests that the effects *may be considerably different.*

DRAGONFLY

by LEE HARDING

Cameron held open the door and the young woman brushed impatiently past him. Once outside, however, she found herself confronted by the cold sterility of the hospital room and waited for him to close the door and lead her across to the bed where her husband lay motionless beneath the stiff white sheets and looked for all the world like a man already dead.

MacLaren was still maintaining his long vigil at the bedside. He looked up as they entered, his face drawn with fatigue and the dull light of failure resting in his eyes. He was slow in concealing this from the woman, so that a short little cry was forced from her lips and she leant quickly over the bed and stared down into her husband's vacant eyes. They looked up at her clear and unblinking, as though they were fixed upon some distant, unfathomable object. And they did not see her.

Cameron exchanged looks with the psychologist. MacLaren just shook his head and stared down at his folded hands.

The woman still looked earnestly into her husband's unbroken stare, willing him to see her. " David," she said, " it's Tanya. Your wife . . . "

It was the manner of his dying that troubled Ramsay. Not nobly and proudly as he had always imagined in his martyred day-dreams, but slowly and a little at a time as the component parts of his body surrendered their life-giving functions.

The parade of shadowy figures still moved around him. Their faces appeared to be full of compassion and concern, but at odd times he could detect other feelings hidden beneath their clinical masks.

In a way, he felt sorry for them, for they had done their best to save him. But the fund of their knowledge had already been exhausted. Now, they could do little more than wait for the end to come, and through their observations perhaps prevent others from suffering a similar fate.

For there *would* be others. Of that he felt certain. It wasn't like the human race to give up after one little set-back.

Of late, the faces had been peering much closer, so that they swelled grotesquely before him and blotted out the rest of his fixed, unchanging view of the ceiling.

They were watching to make sure when the last spark of life departed from his eyes. MacLaren's face moved into view most of the time. Poor old Mac. He would have liked to have spoken to him, explained even a little of what was puzzling him, but that was impossible. His vocal chords had been one of the first components to fail him.

So he was dying. Oddly enough, the thought had ceased to fill him with horror. Had he finally passed over the point of no return, so that he no longer *cared ?*

They had really been wonderful, he reflected. They had done their utmost to salvage the remnants of his life, which was commendable, considering.

Considering that he had failed them. They had hoped he would return from the stars with a fount of new knowledge, and instead he had brought only death. His own.

Where had the Trip gone wrong ?

The slow move out beyond the orbit of Pluto had been routine enough. The'fleet had cast him adrift in the empty gulf between the stars and retreated post haste to a point immediately inside the orbit of the outermost planet, anxious to keep as much distance between themselves and the experimental star ship before Ramsay pressed the button that would tear a hole in the fabric of space and hurl the *Ad Astra* into an unknown, uncharted dimension.

Sitting before the control panel with the darkness of space before him and the fleet lost from view, he had felt no intense pang of loneliness, no sense of bitter isolation at being deposited here like an unpleasant parcel and left to look after himself, only a desire to get on with the experiment and push the frontiers of man's stellar knowledge another notch further, so that he could return to Home and tell Tanya all about it. Where two robotic probes and a trio of monkeys had gone, he must now follow and prove that the stars were attainable.

It was only a *small* button, this instrument of ejecting him from the familiar reality around him and plunging him into the alien enigma of sub-space. One of three on the panel before him, it led directly to the mighty engines that would tear this hole in normal space, and then thrust the ship at an incredible velocity through the realm of sub-space towards Alpha Centauri.

So he pressed the button.

The control panel blurred before him for a fraction of an instant. He should have felt a momentary qualm about that, if at the same time his thoughts hadn't similarly blurred and clogged up, so that his mental processes were interrupted. But only for an instant.

His vision cleared. The control panel resumed its customary solidity and he was able to re-assemble the skeins of his thoughts. He breathed a trifle easier and relaxed back in his seat.

He was *through.*

The blurring incident as he had passed out of normal space and into *this* could either be a visual or a mental reaction. In any case it was something which a robot would be incapable of experiencing and a monkey impossible of reporting. He immediately entered the incident into his notebook and then forgot all about it.

His hand moved to the second button, pressed it, and the heavy metal shield slid away from the forward viewport and let in the chaos of sub-space. Just as quickly his finger stabbed down and caused the shield to slide quickly back into place.

He was sweating now, as he lay back in the seat, and he wiped it from his forehead with a hand that shook visibly. He had discovered one important thing—a robot might be capable of observing the horrible swirl of colour and sensation

moving outside the ship, but not the human mind. At least, not until the psychologists found some way to beat it. It was just *awful.*

What was it really like out there ? he wondered. Even with his mind still aching and protesting from the sudden strain imposed upon it, he found time to question the picture transmitted to his brain. Had his eyes only provided an approximation of the real matter of sub-space, because it was too inconceivable to accept ?

And then he remembered how the probes had returned with their miles of film all the same featureless colour of milk-white—and nothing else. That proved that the alien dimension could not be photographed, so they knew then that it was time to send a human observer.

There was nothing much for him to do. The ship was entirely automated and proceeding on schedule for the point in sub-space that would mark its emergence into normal reality again. Ramsay's function was simply to press the buttons that would send the ship in and out of dimensions at will. Apart from that he could relax and take things easy, which was what MacLaren wanted him to do.

So he relaxed.

The Trip was calculated to take five days normal and subjective time. That left him quite a lot of time to fill in, which psychology had anticipated and so provided him with a vast fund of reading and tapes that would satisfy an endless number of moods and desires.

They didn't believe in taking any chances, Ramsay thought, a little smugly, for he had little need for ninety per cent of the junk they had carted aboard the *Ad Astra.* Still, he couldn't overlook the fact that there was plenty from which to choose.

He wandered around the ship for a while, listening to the low hum of the generators, and then settled down with a book and began to pass away the time.

The *Ad Astra* was hurtling through sub-space in much the same way as a rocket projectile would proceed after first having punctured a fine fabric stretched before it. That is to say, there was some doubt that the ship would arrive at its destination without some slight, uncalculated deviation from the prescribed course. In the *Ad Astra's* case the fabric had been that of space itself, so there was good reason to suspect that the final point of emergence might place the ship a fair

distance from the Centaurian system. That was where Ramsay came into the picture. The preliminary robotic probes had apparently made the journey out and back safely enough. However, there was no evidence that they *had* emerged into the Centaurian system, for the photographic records were completely blank. So they had sent a man instead, and their hopes were high.

He had checked the functioning of the interior cameras and they had worked smoothly enough. They would provide a valuable record of his movements, emotions and actions throughout the ten day trip. Now he could only wait.

On the second day the Shadows began to appear. He capitalised them immediately, and wrote of them in his notebook, and wondered if he might be going mad and if the entry into sub-space had curdled his reason a little.

It was possible that he had become aware of them even earlier, only a few hours after penetration. But he hadn't been thinking too clearly then, and had probably attributed them to a slight fuzziness of vision.

But on the second day he became fully conscious of their presence. At first they were only faint, hardly discernable shapes on the extreme edge of his vision, and when he tried to look directly at them they were not to be seen, but still hugged the corners of his eyes.

He thought wildly of hallucinations, and the thought calmed him for the moment. It was easy to accept such a manifestation here, for *here* was an alien, unknown universe where man had never been before. Perhaps where he didn't even belong. If that was so then there would probably be similar occurrences during the Trip. It was no use getting upset by them this early in the piece.

So he decided to ignore them, and pretend that they weren't really there.

Another day passed. Seventy-two hours after penetration and he felt well and looked forward to arriving at Alpha Centauri. Only the Shadows annoyed him, worrying him now and again with their vague, insubstantial shapes that chose always to elude his prying eyes. Apart from this he read, ate and slept normally enough.

Until the fourth day. By now the Shadows had become something more than a teasing presence on the perimeter **of**

his vision. Now they spun and drifted openly before him, seeming to fill and at the same time be deserting the interior of the ship, and making his head ache when he tried to study their madcap gyrating.

The elusive Shadows defied description. He wrote of them in his notebook and hoped that the cameras were getting a record of their antics.

What were they he wondered ? The thought nagging continually at him, so that he could think of nothing else. Were they a product of his own imagination or some incomprehensible product of this alien dimension ?

Sometimes, when he slept, he would awaken screaming and with the feeling of evil scraping at his mind like a cold lump of conviction resting heavily in his stomach.

When the fifth day arrived he had begun to think of them as dimensional vultures congregating for his death. And that made him laugh, for he felt well and strong and except for the ache in his head from lack of sleep and the annoying presence of the Shadows, death seemed as remote as the furthest star.

Labelling them creatures of his subconscious was one thing, but to ignore them was something else altogether. They would not *be* ignored.

He tried to study their movements, to discern some form, some pattern in their movements, but it was hopeless. They behaved like will-o-the-wisps, weaving through the ship like wisps of smoke. It was useless trying to attribute meaning to their movements ; to his eyes they appeared nothing more than completely random, completely purposeless.

Until the fifth day.

He had risked another look at the chaos outside the ship. It was the same as before, and it made his head sick again. He began to wonder if his mind might be interpreting the Shadows the same way as it interpreted the space outside the viewport. Why, they could be *anything,* really. Even something as incongruous as this dimension's equivalent of mental thought, or speech—even light, if the imagination could be stretched still further.

They might even be signals from sub-space dwellers trying to make contact with the *Ad Astra.* Even that thought failed to strain his credulity, for wasn't sub-space incredible enough already ?

But should I try talking to a sunbeam ? he wondered. Or exchange pleasantries with a puff of smoke, or ask a raindrop the time of day ?

He drew his attention away from the tri-di set before him and his thoughts disentangled themselves from the familiar musical show and concentrated on the group of Shadows weaving and dancing before him.

A *group !*

He straightened up and his eyes narrowed thoughtfully. It was a group of the things, after all. The first time he had been able to see any sign of order in their vague wanderings. A *group* . . .

They moved towards him. Purposefully. That much was obvious. One arm of the stuff slowly detached itself from the main mass and drifted towards him. Another lot behaved in a similar manner and drifted to the other side of him. And another, and another . . .

They were trying to disconcert him, give him too much to follow. He had time to realise this and feel the panic begin to rise from the depths of his fears, but that was all. One of the arms shot quickly forward.

And he absorbed it.

In an instant his body contorted into a tight, foetal ball and he was frozen into instant immobility. The worst part of it was that his brain remained active, and he was able to feel the horrible *something* scratching at his mind. And then a warm lassitude seemed to spread throughout his body and he felt his stiffened muscles relaxing and the knots being ironed out of his nerve ends. He relaxed and slumped back into the seat.

His meagre resistance ebbed and was lost, admitting the infiltrating alienness into his consciousness and he felt it flow over his will and spread throughout his body. He had no real chance to resist, no more than a rivulet of water could resist the rock that alters its direction of flow.

Vague shards of coherent thought occasionally managed to pierce the enveloping euphoria paralysing his will, so that he groped in an effort to understand and perhaps translate what was happening to him.

Curiosity took the shape of alien fingers kneading the stuff of his mind, exploring the various strata of conscious and

sub-consciousness, probing and unearthing memories and experiences even Ramsay had forgotten, and a little of what the Shadows sifted floated to the level of his dim awareness to make him more puzzled than before.

He existed in this state of suspended animation for some time. It seemed as though the essential identity of *him* had been expelled from the throne of his mind and cast out into a tiny pigeon hole somewhere inside his skull, and left to observe what was happening to him with the dubious ability of a distant spectator while the inexplicable shadow substance explored the matter of his soul.

And then it withdrew. It was over. A vacuum was left inside his mind by the retreating alien and his identity was sucked quickly back into the familiar position. He opened his eyes and the control room of the *Ad Astra* snapped back into sharp focus.

The Shadows were gone. The room was as clean and as bare and as deserted as he had first seen it. The creatures had finally departed.

But for how long ?

He lit a cigarette and tried to analyse what had happened to him in the new light of reason.

Had some form of contact been attempted by *them* ? Or were they actually the agents and not the messengers ? Were they the inhabitants of this other reality, as puzzling to him as he was to them—and as unapproachable ?

Or were they but creatures of his imagination as he had first suspected ?

A red light was blinking patiently above the control panel.

The *Ad Astra* had reached re-emergence point. The outward journey was almost completed. He immediately thrust aside the nagging doubts and concentrated on the task ahead.

The generators had ceased forcing the ship through subspace. Now they waited, quiescently, for his human hand to activate the button that would send them spinning madly as they tore an entry into normal space again.

He didn't hesitate. The desire for a return to normal surroundings was too great.

He depressed button number two. Again the interior of the ship blurred momentarily. And then they were *through.*

The blind slid back from the forward viewport and let in the welcome stars. It was as though a great tension slowly

drained away from him under the cold light of interstellar space.

A sun glowed fiercly away to his right. Already the computer was calculating a course that would bring them quickly within planetary distance of the nearest world.

Not so far out after all, the thought, pleased with the accuracy of the ' shot.' But why hadn't the robot probes photographed this ? Perhaps they hadn't made it at all. Something must have gone wrong with the automatics somewhere along the line.

But *he* had arrived.

Hours later a planet swung slowly into view in front of him. It was a small, mottled world that looked very much like Mars from this far out, lonely and deserted as the *Ad Astra* dropped towards planetfall.

The ship settled gently upon the most vast, featureless desert Ramsay had ever seen. Never before had he beheld such desolation, a dead world where the quality of silence would be immeasurable.

Was this all ? Disappointment made a bitter taste in his mouth. They had all hoped for something better than this from man's first interstellar shot. But there would be other planets, he realised. The computer had recorded seven promising worlds in this system of Alpha Centauri. No use giving up hope this early in the piece.

The computer returned its analysis of the world they had settled on : 99% desert. A corpse planet if ever there was one. He sat in his seat and brooded over this matter while the many probes of the ship explored the soil beneath him and tasted the atmosphere around it. Lost in his new reality he had already forgotten the Shadows and cast them into the dim recesses of his mind.

Presently, his attention was drawn back to the viewport. All of a sudden he found his body in the grip of icy fear as he stared out at the desolate scene beyond the ship.

There was somebody waiting for him. Tall and straight and obviously humanoid, he waited a few hundred yards out from the *Ad Astra.* He stood unmoving in the ageless sands, staring steadily at the Earth ship, a ridiculous figure in a brown shirt, slacks and *desert boots.*

This was impossible ! Even at this distance it was easy to see that the figure was more than humanoid—he was as close to human as Ramsay could imagine.

Another creature of his subconscious ?

It *had* to be. Nothing else could make sense. What other reason for a figure so garbed to exist where it was quite obvious no life of *any* form had a right to.

But the hallucination stubbornly refused to go away. It stood there, patiently, as though waiting for something.

For just over two hours. In all that time it failed to move even the slightest, and its eyes remained focussed steadily on the *Ad Astra.*

In God's name what was it waiting for ? Ramsay wondered, for the thousandth time. Unreasonable panic was beginning to take control of his senses.

Very well, then. The figure's presence presented a challenge Ramsay could not ignore—which was probably what was intended. What if it was an hallucination ! He would get nowhere by ignoring it. Only by facing it could he banish the thing from before him. Perhaps after that his world might return to normal.

If he had known the stresses with which his mind was to be subjected during the period of the Trip, he would probably have backed down. Physical damage was something that held little fear for Ramsay. Modern surgical methods had made a man virtually indestructible. But they were still amateurs in the realm of psychological damage.

At the moment he desired nothing more than for the Trip to be over and to be back with Tanya and the whole thing an unpleasant memory.

He donned his survival suit and clambered into the air-lock deep in the bowels of the ship, a high-velocity explosive rifle gripped between his hands, thankful that the planners of the Trip had considered so many possibilities.

The outer door swung open and he stepped out on to the dead surface of the planet. He took a deep breath of the canned air strapped across his shoulders and turned to face the patiently waiting figure beyond the ship.

There was no doubting the fact, it *was* a man, and how else could he have arrived here if he were not a product of Ramsay's imagination ?

He began walking towards the enigmatic figure, his fingers tightening around the rifle. The endless desert stretched away all around him and the silence hung heavily like a shroud across the face of the land.

The figure watched his approach without moving as much as an eyelid. When Ramsay had approached to within a few yards he stopped and the two of them regarded each other carefully.

It refused to move, to go away, to disappear. That was what any respectable hallucination should have done when faced with Ramsay's determination. But it obstinately refused to budge.

He could go no further. Something held him back from actually touching the alien flesh to satisfy himself that it wasn't real.

Ramsay had never seen anybody look so real. Panic rose again within him and this time he was powerless to prevent it engulfing his rationality.

" Who are you ?" he demanded. The words spilled angrily through the mouthpiece of his suit radio and disrupted the timeless desolation of the planet. " What are you doing here?"

The face regarded him with interest. And smiled.

" Good day," it said, affably. " I've been waiting for you."

Damn it, the thing spoke English ! What would be the next madness ?

" I said," Ramsay repeated, doggedly, " *who* are you." And raised the rifle menacingly.

The figure turned its eyes towards the weapon, studying it curiously, as though it had never seen a Thompson rifle before.

When no answer was forthcoming, Ramsay's finger tightened whitely on the trigger.

" That is unnecessary," the figure pointed out. " We just wish to with you."

" We? You mean there's more of you, here?" Ramsay was astonished, not so much by the implication that the man was not alone on the desolate world, but by the implication inherent in the word his mind had been unable to interpret.

" In a way," the other answered, the smile still on his face and radiating good will like a weather beacon.

" What do you want ?" Ramsay asked, nervously. "That thing you said—"

" You mean ?" Again, the concept slid over the surface of Ramsay's mind and was rejected by his commonsense.

" It is difficult to explain," the other went on. " Life ? Wisdom ? Thoughts ? Identification ? There are many words and many meanings, but it is difficult to combine what we mean into an expression that your mind can accept."

He took a step forward. Ramsay backed off, pointing the rifle directly at his stomach. Alreacy he could feel his mind beginning to totter under the alien thrust.

For it was obvious that the thing was not a man but something vastly more complex.

And it had come to parley.

" Stand where you are," Ramsay snarled, " or I will kill you."

The other obliged. " All this," *it* said, " is really unnecessary. You are so difficult to communicate with."

Interspersed with these spoken words came a barrage of thoughts and impressions that made his mind struggle weakly to comprehend. Savagely, the memory of the Shadows leapt back into his mind.

He could take so much—and this was the limit. All he wanted to do was lock himself up inside the *Ad Astra* and lift ship for Home while his mind was still in one piece.

He backed towards the waiting ship.

" You are *so* difficult," the creature said, shaking its head sadly. " It was the same before."

Before ? Ramsey stopped. " What do you mean—*before ?"*

The creature smiled, as an adult might smile when endeavouring to explain some difficult point to a child. But it didn't answer his question.

" Who or what *are* you ?" Ramsay cried out, afraid now.

The creature replied : " We are "

Ramsay felt his mind go suddenly *sick.* It couldn't accept a concept so completely alien thrust upon him so bluntly. He stumbled towards the ship, and the creature followed him cautiously. Smiling, always smiling.

And then he turned and the creature stood before him blocking his retreat to the *Ad Astra.*

" We must " Communicate was what it meant, Ramsay knew, but *how* it meant was another matter entirely and something his mind could not, would not accept.

A flurry of sensations burst within his head. As he struggled to make sense out of them he growled, " Get out of my way !"

" Wait. All we need is a little time. You are . . . young. You are baffling to us." (In Ramsay's mind rose the familiar picture of himself shouting comprehension at a sunbeam). " You are . . . imprisoned. Sick. Needing. Unfinished. Half. Not complete. Shell . . . "

On and on it went, the endless impressions bursting over the rocks of his mind until he felt his head would burst with their accumulated nonsense. Pictures formed one on top of the other.

Picture of a nut splitting open and the kernel spilling out.

A bird soaring towards infinity.

His body chained to something, the chains covering him completely and their ends leading to the life around him. The Jovian base. The *Ad Astra.* MacLaren and the staff at the base. Tanya. His childhood, his manhood.

A dreadful feeling of death as well as life. Of being unborn, fighting within the womb of reality for rebirth.

It was too much. He swung the rifle up again.

" Get out of my mind, get out of my mind !"

The creature looked sad and he fired point-blank into the impossible face. And as he fired his mind whimpered under a final barrage of thought.

And then he knew what the thing was. It was a creature of the Shadows, just as this planet and the sky around it were likewise a product of his alien inquisitors. The whole thing was a facade, a mockery. None of this really existed at all. *They* had created the illusion for him, to make a place where they might meet and exchange—whatever it was they wanted to exchange. They had failed to make contact in the ship, and perhaps realising the impossibility of approaching him in this way had constructed this world and a human counterpart with which he could converse.

Only they were powerless to prevent Ramsay's intense fear. They had taken from his mind the substance of his familiar reality and provided him with this anchor while they endeavoured to bridge the unimaginable gulf between them.

But it was all mad, *mad !*

The creature was still smiling affably at him so he fired again, and again, the projectiles landing somewhere to the left of the *Ad Astra* but not hitting the alien figure before him.

He stared dully at the pseudo-man. Naturally he could not be killed for he didn't really exist. Only in Ramsay's mind. That was so much easier to assimilate than the mad thoughts the Shadows were thrusting upon him.

Panic resumed the mastery of his system. He must get back inside the ship before the very ground dissolved beneath his feet and the stars flickered out one by one and the chaos

of sub-space returned. For he knew now that he had been tricked, either by the Shadows or by his own mind. He had never really emerged from the alien dimension at all but was still caught in its clutches. The whole thing had been a vast facade—to trick him.

In front of him the creature collapsed and folded up on to the arid desert like a discarded doll. And the familiar shadow shapes now hovered before him. His eyes studied them warily and when he again looked at the ground the pseudo-man was gone.

So he had been right, after all.

He ran towards the ship as though all the devils in hell were at his heels. He gained the open door of the air-lock and clambered in. Before swinging the outer door shut he risked one last, frightened look outside the ship.

That was his undoing. The Shadow waiting outside pounced quickly in upon him. It flew directly at his wide, terrified eyes, sending an instant of shock through his nervous system. And then it was over. He had absorbed it. Or had he? The thing seemed remarkable quiet and unobtrusive. He closed the outer door and went quickly through into the ship.

Three minutes later the *Ad Astra* lifted from the surface of the planet. As Ramsay watched the viewport he saw the stars flicker and dissolve and the insane chaos of sub-space return.

He whimpered and sent the blind careering quickly across to blot out the monstrosities outside, and collapsed into his seat again.

The pseudo-reality was gone and he was back in the alien dimension. Or was it the *same* one? Could there be an infinite strata of connecting dimensions beyond his own familiar reality? Was that where the planners had gone wrong? Had he really emerged out of one unreal space only into another?

Now he knew true fear. He might never be able to find his own dimension again. He might be lost forever in this existence of dimensions within dimensions.

But the probes had returned safely enough. That made him relax a little. And no wonder their cameras had failed to record significant detail of the Centaurian system. Like the *Ad Astra* they had managed to punch a way into sub-space, but not find another way out. The only exit was the one

remaining in space, a gap torn in normal space and still lingering unseen in the cold depths of space beyond the outskirts of the Solar System.

Unless he hurried it might not be there. He had no way of knowing just how long the hole in space would remain there. Perhaps forever—or only for as long as the generators of the ship still functioned or until the forces of Creation got about to healing this man-made rent in her being.

He let the ship take over and guide him back to reality again.

And what of the Shadow—was it still inside him? Had it spread its substance through the hidden nooks and crannies of his mind and did it now lay there, dormant—and waiting? Waiting for what?

In this way he began the five day journey back to sanity.

The fleet had orbited on the outskirts of the solar system for just over ten days, waiting patiently for the *Ad Astra* to reappear.

This it finally did, its alarm ringing through the entire system. Two of the ships immediately accelerated across the gulf of space towards the coasting ship.

The boarding party found Ramsay in the last stages of mental and physical exhaustion and incapable of recognising them.

They shipped him immediately to Callisto Base Hospital and there, beneath the shadow of the ringed planet, the best doctors and psychologists in the system fought to save his life.

For Ramsay was dying. Not because of an alien virus tearing through his system, but from something vastly more subtle. Something they could not define. Only MacLaren guessed the truth—that it could only be found in Ramsay's own mind. But the bridge to that method of cure had been down from the start; Ramsay would not or could not speak, although he appeared completely conscious for most of the time. There was no way to reach in and root out the cause of his deteriorating physical condition.

So he lay there, day after day, a mind imprisoned within a useless body, and felt the component parts of his body slowly cease their work, and his life slowly succumb to the creeping paralysis. And they waited, for there was nothing else for them to do, waited for him to die. They were powerless to prevent it.

The notes he had left behind in the control room of the *Ad Astra* shed little light on the events. If anything, they only confused the issue more.

" What do you think about them ?" Cameron asked. He was head of the experiment and as such the blame for what had happened would be born by his own wide shoulders. " Do you think the man's a lunatic ?"

MacLaren shook his head. " I don't feel that's a fair judgment. There's no doubt that he seems to have experienced a degree of hallucinations unparalleled in space travel. The question remains, however, can we be *sure* about that?"

" You don't mean to tell me that you've taken any notice of those ramblings ?" Cameron demanded.

" That's not the point. What we have to consider is that Ramsay experienced a unique state of existence out there, something which the probes and the monkey's couldn't report. Something happened to addle the man's brains. But what ?"

" This business about the *shadows.* What do you make of that ?"

" Only what's in his notebook. The interior cameras certainly didn't record anything like that. But remember, we can't accept their records as the last word. After all, the exterior ones were as blank as their predecessors."

He opened the notebook and flipped the pages until he found the spot he was looking for. Ramsay's entries were neat and precise up until the time of planetfall on Alpha Centauri IV. After that there were only two briefly scrawled messages. The first said : *Not Centaurus.* And then, at the bottom of the same page and written in a hand so shaky that it almost defied decipherment: *I talked with a sunbeam.*

" That's what bothers me," he went on. " Those last two entries. It's almost as though he were trying to tell us something, before this whatever-it-was got hold of him properly." He let the notebook drop back on Cameron's desk in exasperation. " I don't know—-what the hell were we supposed to expect, anyway ? We take a man and seal him up inside a metal container, punch a hole in reality and push him through into some god-awful place and expect him to return a sane man.

" Have we really any conception of what it's like out there ? Oh, why do we have to be so smug, so know-allish about the whole damn business . . ."

He had had a lot of time for Ramsay and his young wife, Tanya. That was why the loss, the shameful waste, had assumed the danger of a personal loss.

" You mustn't forget that business of the blurring around him when the ship warped into sub-space," Cameron pointed out. " As the cameras didn't record anything like this then it indicates that the effect was a purely mental one. I think that was probably the beginning of his deterioration. After all, the a-field we generate with those engines could quite likely warp a mentality as well as the fabric of space. Heaven knows what we've been monkeying around with out there."

The commander was obviously a very disturbed man.

" If only I'd got to him a little sooner," MacLaren said. " If only I'd had a chance to *talk* to him for a moment . . ."

But that had been impossible. Ramsay's deterioration had already been greatly advanced by the time he had reached Base Hospital. Only his eyes seemed alive, staring out at them in mute appeal as he lay stiffly in his bed.

It was so crushing not to be able to do *anything,* only watch your best friend die before your eyes—for no reason whatsoever.

" It seems pretty obvious," Cameron was saying, " that he didn't make it to Centaurus at all, otherwise we'd have had photographic records of the system."

" Then where *did* he land ?"

Cameron frowned and tapped the notebook thoughtfully. " You think maybe that second last entry could be a coherent one ? He was trying to tell us that the planet hadn't been Centaurus at all—but *what* was it then ?" He sat back heavily in his chair. " I'm beginning to wonder if there mightn't be a lot more to this sub-space business than we had bargained for. I seem to see before us virtually an infinity of dimensions within dimensions. God, what a mess that's going to be !"

MacLaren said : " I suppose you think he's mad, don't you ?"

Cameron shrugged. " I don't know *what* to think."

But MacLaren didn't hear him. His mind was turning over a phrase from Ramsay's notebook : *I talked with a sunbeam.* He had mentioned that analogy earlier in his notes, when he had written at length on the enigmatic Shadows. Was he trying to tell them with his last conscious thought

that the world he had approached, perhaps even landed upon, was so utterly alien as this analogy suggested ?

" This will call a halt to the present programme," Cameron lamented. " We'll need time to figure all this out."

" And then ?"

" There'll be others. Other ships, other men. But next time we'll send a crew of four or six. That's what we should have done in the first place instead of sending a lone man. We were too bloody sure of ourselves, that's what." He ground the butt of his cigarette angrily into the ash tray.

MacLaren nodded his head, slowly. Of course, there would be more Trips—what else could they do ? After all, man *must* have the stars.

Time ceased to have any meaning to Ramsay. He lay beneath the clean white sheets and stared up at the ceiling for all his waking hours, waiting for the last of his body to die.

He had known that he was dying for some time. He had read it in the faces of the men and women bending over him.

He had read it in Tanya's face only a short while ago. It was so difficult to keep track of time. His dulled and blunted life now seemed composed only of two distinct periods—that was when he slept and when he did not. It was as simple as that. He had never imagined life could become so simple.

But he had his memories. He flipped over them like the pages of a book, dwelling here and there as one is apt to do with a favourite book. He remembered them bringing him here and the vast army of doctors and nurses and psychologists who were to fight for his life. And who were to lose in such humiliation.

He felt sorry for MacLaren most of all. It was so easy to see the agony hidden behind his compassionate eyes. And Tanya—he would have liked to explain so much to her. But that was impossible. The Shadow wouldn't let him.

For the Shadow was the cause of his death. He remembered how it had pounced upon him and penetrated into him as he had closed the air-lock door of the *Ad Astra,* and how he had got the ship aloft and headed back towards the great hole in space on the borders of the solar system. Only then had it managed to subdue him completely, so that he felt sick and nauseated. He had time only for the few brief words to be scrawled into his notebook before it had claimed him completely. His return voyage had been accomplished in a suspended state of unconsciousness.

It had left him completely in these last days. Perhaps it was hidden somewhere in the dim recesses of his mind, cunningly awaiting the death it had engineered for Ramsay. But why . . . ?

In those days talk had flowed freely around his bed. Even with his death as advanced as it was his mind remained as alert as ever.

" It can't go on much longer," somebody said. It sounded like Doctor Woodward, Ramsay thought.

"I know." That was MacLaren's familiar voice. He would miss MacLaren. " It's murder," he added, bitterly.

Not really, Ramsay wanted to explain. You don't understand.

Now what had prompted him to think that ? Oh, if only he could pierce this terrible lassitude that enveloped him and explain a little of what had happened to him.

Last of all, Tanya's face swam into brief focus above him. She was talking to him, her face betraying her fear and her eyes calling out to him with the love and devotion he had come to know so well.

But he could not hear her words for his aural parts had also surrendered to the devouring Shadow. And as he looked up and into her face his mind seemed to penetrate her remorse and move through her eyes and mind and body until he seemed to be observing himself and those around him from a point high up in one corner of the room.

MacLaren was there, seated beside him. And Cameron was leaning over his bed alongside Tanya. The whole scene appeared to him like something out of a dream.

" I think his pulse has stopped," McLaren said.

The room faded and was extinguished from his view. So this was the end.

No !

A voice that was not his own addressed him in shape and form alien to that which he was accustomed. It was the Shadow, still nestling there in the depths of his subconscious. Waiting.

Vision returned out of the empty void surrounding him. He again saw the room and the figures in it and himself lying quite still in the bed.

Now do you understand ? the voice asked. And explained in its way.

He could feel the Shadow beside him now, and part of him as well.

Yes, now I understand—friend. For the Shadow had never been anything else but that, and had never intended anything more harmful than the liberation of his psyche from the prison of his body and the encompassing chains of his conditioned reality.

Like the anthropologist who must first discard the mores and taboos of his own civilisation before he can begin to comprehend a primitive society, so Ramsay had been forced to discard the crippling husk of his own body and his own reality before he could ever hope to understand all that the Shadows had to offer.

Freedom. The right and the will to know the infinite planes of existence instead of being hampered by his own single reality. Freedom to roam the endless corridors of time and space that lurked behind the facade of reality built up by the mind of Man. All this would follow his chrysalis.

Already the figures before him had assumed the lifelessness of wax dolls as the familiar reality deserted him and his liberated psyche soared through time and space towards the endless stronghold of the Shadow and its kind. No longer did he feel the need of his husk of a body. What the Shadows offered was a freedom greater than any man was ever likely to know.

So he rose and flew beyond the demands of his old mortal self. His last conscious thought that retained the influence of his humanity was a pity for Tanya, and for MacLaren as well. He would have liked to explain to them how free he felt.

But that no longer seemed important. Soaring swiftly through the warm strata of interdimensional space, another Shadow sought its way amongst the wandering hosts of the never ending continuum.

It would have liked, momentarily, to have returned to tell its friends all about its new life, but the desire soon left it. It would never go back, no more than a dragonfly could return to the naiad beneath the water and extoll the virtues of its wondrous new life.

MacLaren watched the last faint flicker of life disappear from the staring eyes and felt a heavy weight of loss inside of himself. He turned to Tanya and said : " I'm afraid he's gone."

And then stretched out a hand to close the sightless eyes.

Lee Harding

Smuggling and murder do not often add up to making a good science fiction story but in this instance Kathleen James presents a combination of all three which is highly commendable

THE SEVENTH MAN

by KATHLEEN JAMES

There was a slight rustle as another six-foot bale floated gently out of the tube. The grab fielded it neatly at the bottom and tossed it across to the tester. A screen glowed blue, virgin and unstained. The bale vanished backward, with a lingering fragrance of new-mown hay.

" Grass! " Captain Theodosius Hoy sneezed delicately into his square of white lawn, wrinkling up his nostrils. " Magnet Lines Are First With Everything—especially grass."

The Customs man made a mark on his sheet and turned off his pen with a decisive click.

" You're clean," he said shortly. " Have all your men been checked through? "

"Pete! " the Captain bellowed. A lounging figure armed with a second checklist turned its head indolently under the hold lights.

" Captain? "

" How are the crew? "

Mate Jellicoe looked pained. " Oh, much as usual," he diagnosed. "Careless, idle—clean, sir," he added hastily, catching the Captain's frosty eye.

The Customs man grunted. " At your convenience, Captain," he said.

" All right, Pete," Hoy ordered. " Close her up."

The two loaders hauled themselves through the hatch, followed by the mate with his checklist. The heavy door settled quietly into place. The Customs man took his equipment from a waiting spaceman and formally impressed the Union Medical Service stamp into the thick lead seals.

" Number Four sealed, sir," Jellicoe reported. " All present and correct, and not an ounce of dreamdust between

. The Customs man signed a pink form, a blue form and a yellow form in a series of graceful flourishes and gave them over into the Captain's languid hand. " Any time you like," he said.

The uncoupled tube, drifting snakily away from the *Alpha Magnet's* side, was retracted grindingly into the entrails of the tender. A moment later, the small silver pip of the Customs launch slid away into space on a glittering trail of fire.

Hoy glanced at his chronometer and sighed. "Okay, Pete," he said resignedly. " Let's get the hay-wain moving."

Jellicoe looked reproving. " You just don't appreciate the fact that we are a vital part in the progress of a great industry," he proclaimed. " Consider the benefits to mankind, the . . ."

" Shut up," Hoy muttered, inhaling deeply of his perfumed handkerchief. " So Terran civilisation has proved so singularly successful at driving its citizens crazy that we have to import a million tons of bluegrass every year to keep the poor loonies on the straight and narrow. What do I care for the Terran drug industry? Hay's hay, as far as I'm concerned." He sneezed.

Jellicoe grinned. " Try some antihistamine, Doss," he advised. " After all, they might have given us the Fallona run . . ."

Hoy paled. " Sacred horse-dung," he reflected, horrified. " This service gets more of a job for a farmer's boy every day."

The *Alpha Magnet* trembled from nose to fins. Gusts of fresh country air, redolent of August nights and hunters' moons, blew down the corridors from her air-conditioned holds. Captain Hoy sneezed violently, and laid a pale elegant hand on the scarlet drive-switch. Behind them, Little Earth and its blue-white sun blinked and went out.

Magnet Lines were First With Everything, but the days when this had been a proud boast of determined efficiency in the face of hardships were now over. From being a service of tough pioneers serving a group of struggling and outflung colonies, the company had settled down into a staid freight-service, its crews facing deadly dangers on much the same scale as a lorry-driver on the Great North Road. Dangers existed, undoubtedly; but the company hadn't lost a ship in ten years.

The *Alpha Magnet* ploughed on, then. And four days out, the smell began.

It was only a hint at first, a faint shadow of mustiness in the fresh rural scent that filled the ship. But as the days passed it grew stronger and identified itself. A sweet sickening odour of decay, thick and cloying, it coiled in almost tangible drifts through the corridors, clinging to clothing and furniture, subtly flavouring food and liquids.

The Captain hesitated. The holds were quiet behind their Customs seals. Wafted in every direction by the air-conditioning plant, the source of the smell was hard to find.

" Don't want to break open the holds until we're certain it's in there," he told Jellicoe, rubbing the lobe of an ear with a ringed hand.

" Got to do something, Doss," the mate protested. " We'll be getting an outbreak of typhoid next. Owen's yelling his Cambrian head off." Owen Morcom was the cook, a gloomy Welshman. " Must say I'm off my food a bit myself."

" Mm," Hoy grunted. " Nearest thing to this I've smelt was the time on the old *Reliant* when some joker put a dead rat in the air plant. Had a grudge against the Old Man. Stank for a month."

" If this is a rat it's a bloody big one," Jellicoe growled.

Hoy shook his head. " It's not a rat, Pete. The ship was fumigated before loading. We'll send a man through the ventilator shafts and see what he finds there."

Jellicoe grimaced. " Whatever it is, I wouldn't like to meet it face to face," he said positively. " Who's the hero? "

The Captain smiled. "We11 draw for it, Pete. You can conduct the lottery."

" Six straws . . ." the mate began.

" Five," Hoy corrected. " I'm going to stand at the bottom and compose reports about it. Get going, Mister Mate."

The lot fell in the end to Jarvis, the engineer's assistant. The main air system was accordingly switched off, the auxiliary fans started, and the unfortunate Jarvis crammed through a small manhole into the big ventilation shafts.

As his kicking feet disappeared through the hole, the Captain leaned on the ladder and shouted after him. " Don't worry, Martin. Whatever it is, it's dead."

" Aye," Maclean the engineer said dourly from behind him. " Big and dead. Let's hope it's not what I think it is."

Hoy swung round with raised brows. " Oh? What do you think it is, Mac? "

Maclean was the oldest of the crew, a burly Scot whose red hair was now fading to grey. He drew down thick brows and growled, " I'm no saying it's you to blame, Captain, but I don't like the feel of this ship. That's a big animal making thon smell. There's only been one sort of big animal on this ship since she was loaded—men. You'll find a dead man somewhere, I'm thinking, and it's no likely to be in the ventilation shaft."

A faint cold shiver seemed to pass over the five men grouped at the bottom of the ladder. Hoy cocked an elegant eyebrow.

" Nonsense, Mac," he said lightly. " How could it be? Our mass ratios were all correct when we left. Two thousand bales, nine hundred pounds of stores, six men. All weighed in the balance and found correct. There are no extra corpses on this ship. A man's weight would have showed up in the calculations."

" Aye, well . ." the engineer muttered doubtfully.

There was a sound of scrabbling above them and Jarvis's face appeared at the manhole. He was white and sweating, his mouth gulping for air.

" Captain," he gasped. " There's a dead man in Number Four hold. Very dead . . . I think I'm going to . . ."

He did. The others drew back, their faces pale, an identical consternation reflected in each.

" Pretty foul, eh? " Jellicoe said. His skin had a faintly greenish tinge and he kept swallowing as though his mouth were full of saliva. Hoy regarded the thing in silence.

" Odd, that," he said thoughfully at last.

" Oh, I don't know," Jellicoe said uneasily. " Some wretched loader, I expect. Got knocked down by accident and locked in . . ."

Hoy regarded him steadily. " How many men were working in here, Pete? "

The mate's brow puckered. " Two, I think."

" I saw them both leave, and you came out after them. This hold was empty."

" Yes, but—hell, it's got to be something like that! " Jellicoe laughed nervously, recollected himself and hurriedly turned it into a clearing of his throat.

"Mm," the Captain said. "That's not what I meant, though. Take a closer look."

Reluctantly the mate bent down, a certain tightening of his nostrils suggesting held breath. When he straightened his pallor was more pronounced than before.

" What did that? " he asked with stiff lips.

" I don't know," Hoy said. " Makes it kind of hard to recognise, doesn't it? '

He turned away, leaving Jellicoe gazing miserably down at the putrescent mass with its faceless skull. A moment later his voice came again, slightly muffled by the piled layers of the cargo.

" Pete, come here a minute."

Glad enough to leave the thing on the floor, Jellicoe obeyed. In front of them a great pyramid of canvas-covered bales towered towards the ceiling, their characteristic grass-scent still faintly discernible at close quarters. Hoy was examining one of them closely, something bright in his hand. Jellicoe bent down and stared.

" Found it on the floor here," Hoy said, holding out the bright object. " Spaceman's knife, by the look of it."

" What's that? " Jellicoe was more interested in the bale beyond. There was a long vertical slit in the canvas wrapping, through which a few wisps of scented grass protruded.

The Captain pulled the edges of the slit apart. Among the rustling blue stalks, a corner of green oilcloth showed. Hoy eased the object out and held it lightly in his hand.

" Want to make a bet, Pete? "

" On what? "

" That this is a sample of Little Earth's most valuable export."

" Dreamdust! " Jellicoe exploded. " Somebody's getting clever."

" Yes, aren't they? " Hoy agreed humorlessly. " Somebody has finally worked out that they search the bales minutely at this end and the men at the other, so the stuff now comes in in the man's pocket and leaves in the bale. We'll have to watch that, Pete."

" A lousy smuggler," the mate growled. His feelings were hurt. " And he got it in past me! "

" That still leaves something out," Hoy said gently. " Who is he? "

The mate was silent.

" Something else, too," the Captain went on. " Look up there."

Jellicoe raised his eyes to the upper layers of the pyramid. One or two bales near the top seemed to have tumbled downwards, their lashings lying slack.

" Would you say a bale was missing up there? " Hoy murmured.

" Yes, I would! " Startled, Jellicoe stared again. " But that's impossible," he protested. " How can a bale be missing? "

Hoy measured the pyramid with a calculating eye. " How much yould you say these things weigh, Pete? "

Jellicoe regarded them doubtfully. " About a hundredweight apiece, I should think."

" I'd have put them at a bit more," Hoy said. " About the weight of a man perhaps? "

The mate meditated. " One bale—one man," he said slowly. " That would fix the mass-ratios, certainly. An extra man stowed away, so they had to move one of the bales to even up the weights. But—why a bale from the top of the pile? "

The Captain shook his head. " Why a stowaway? " he said. " What a remarkable amount of trouble to go to! And what did they do with the bale? The stuff was brought up here by tender, unloaded automatically, tested and checked by you and by the Customs, counted in here and the hatch immediately closed and sealed. How do you dispose of a bale in that set-up? And what did this man die of? "

" The knife? " Jellicoe suggested tentatively.

" It's clean. Never seen blood. And even that wouldn't account for his face."

Jellicoe shivered. " How did he get in here? "

" Same way as Jarvis did." Hoy gestured in the direction of the ventilation shaft. " The grille up there was open. It's big enough for a man."

" So we've had a seventh man wandering about the ship without knowing it."

" Not for long," Hoy said. " This fellow must have died right after blast-off to be in this condition. I'd still like to know what killed him. It'll be a little job for the police Earth-side, I suppose."

He moved towards the hatch, his shoulders slightly hunched beneath the exquisite lines of his tunic. The overhead lights flashed on the glittering stones that he wore in his ears, Earth-fashion. Jellicoe's colonial blood was disturbed at the sight. He had never accustomed himself to all the degeneracies of the mother-planet.

Just by the hatch the Captain paused. " What's this, Pete? " he asked casually.

There was an irregular dark stain on the floor by his feet, a shining sticky patch perhaps eighteen inches across, as if something coated with oil or glue had rested there. The outline had no particular resemblance to any known object. A strange sweetish smell arose from it. Jellicoe sniffed carefully, shaking his head. Then abruptly it came to him that he had seen enough of the place.

" Come on, Doss, let's get out of here," he said thickly.

The Captain nodded. They emerged into the relatively clean air of the corridor like divers out of the deep sea. The mate had the greenish pallor of imminent sickness, but Hoy's face held an expression closed and secretive, covering his thoughts from searching eyes.

It was the following day, with the remains stowed in a refrigerated locker and the last traces of the smell being swiftly ventilated out of the ship, that Jellicoe received an urgent message from the kitchen. He went at once, to find little Owen Morcom in a tearing Welsh fury.

" So it's come you have, Mr. Jellicoe," the cook received him hotly. " Will you come and look at this, now! "

Stamping out of the galley he led the way down the corridor, a rather puzzled mate following. Throwing open the store-room door the cook marched inside and pointed with a flourish to a row of meek, innocent-looking kegs,

each of them decorated with the stencilled legend, " Preserved Beef."

" Pick one up, now, will you, Mr. Jellicoe," he ordered, standing back with the air of a magician about to perform a particularly startling trick.

Slightly amused, Jellicoe complied. He seized one of the kegs firmly at the sides, braced himself, and heaved. It rose into the air with such astonishing ease that the mate staggered and very nearly overbalanced backwards. Suspecting a joke, he turned to Morcom with a threatening glare. The cook's face, black-browed, was perfectly serious.

" Try another one," he invited grimly.

Jellicoe approached the next with more caution. Raising it gingerly, he found it as light as the first. So was the next, and the next. He looked at Morcom enquiringly.

" The lids, you will see, are nailed down yet," the cook pointed out. " Open them, will you, Mr. Jellicoe? "

Jellicoe took the lever and forced off the four lids in turn. The kegs were empty.

" Well, that's a rum go," he said at last, panting a little from his exertions. " Must have made a mistake at the Company store, Owen."

" No, indeed, Mr. Jellicoe, that is not the way of it at all," Morcom said emphatically. " Nine hundred pounds of stores it was we were to have. I have here an inventory listing each thing, and the loading of everything I supervised myself. I watched these kegs brought in, and if they were empty then, it is very good actors that they are employing now on Little Earth, with all the puffing and the blowing that they made about it. But I think that they were full, indeed."

Jellicoe felt his scalp prickle. " They couldn't have been used and brought back in here by mistake? "

" No, they could not indeed." Morcom was indignant. " A list I keep most carefully of everything I use, and these kegs have not been touched yet."

"Theft, then," Jellicoe said reluctantly. "All right, then, I'll tell the Captain. Have you seen anybody in particular hanging about the place, Owen? "

But he knew the answer to that one beforehand.

" Everybody in particular I have seen hanging about the place, Mr. Jellicoe. Even the Captain has been in to visit my refrigerator. Small stealing in this place of thieves I am

accustomed to, but four kegs of beef in four days, is too much. Soon it is that none will be left at all."

The mate nodded. "Right. I'll tell Captain Hoy. By the way, what's that smell? "

A faint odour, sweet, unpleasant and vaguely familiar, had brushed his nostrils. Morcom shook his head.

" It is nothing that I recognise," he said doubtfully. " Coming from the barrels it is, Mr. Jellicoe,"

It was coming from the barrels. On the side of the nearest was a dark, sticky patch of irregular outline, as though something coated in oil or glue had rested on it. The smell was the same smell that he had met in the hold, from that patch by the side of the disintegrating corpse.

Coming up the corridor in search of the Captain, Jellicoe saw in the distance the chart-room door open and Hoy's elegant form emerge. The Captain was holding a strip of printed tape from the computer in his hands, and the lights glinted distantly on his jewelled fingers and the stones in his ears. He turned down the side-corridor towards his cabin, apparently without seeing him. The mate increased his pace, but arrived to find the cabin door closed. He tapped on it lightly.

"Come in," Hoy's voice called from inside.

Jellicoe obeyed, to find the Captain seated at his desk, apparently deep in paper-work. Of the computer tape there was no sign.

" Been doing a bit of astrogation single-handed, Doss? " he asked with simulated surprise. The Captain's form-filling was a standard joke.

Hoy raised his head, brows arched in sarcastic enquiry. " Now what would make you think that, Pete? "

" Thought I just saw you come out of the chart-room," Jellicoe explained, rather surprised at the answer.

The Captain's eyes flickered briefly. "Guess you were mistaken, Pete. Haven't moved from here for half an hour."

Jellicoe paused, his mouth open. The half-written report on Hoy's desk had all the appearance of evidence neatly arranged to back up a lie. But he was certain of the shine of that jewellery under the lights. Hoy was the only man he knew who dressed like a jeweller's shop on a merchant freighter in space. Carefully he took a breath and closed his mouth.

" Anything you say, Captain," he said.

Hoy laughed off the story of Morcom's missing beef.

" Oh, nonsense, Pete," he protested. " Who'd steal four kegs of Company horseflesh? It's all Owen's imagination. The Celtic temperament. Fairies at the bottom of the garden. You can tell him we'll have a big hunt if anything else disappears, but I don't believe it will."

" But Owen's not . . ." Jellicoe began.

" Look, Pete, it's all a fairy tale. Welsh myth and legend. If the fairies manifest themselves again, let me know. In the meantime, run along will you? I've got my homework to do."

Jellicoe went, but he was a badly puzzled man. Outside the chartroom door a thought struck him and he turned inside. The computer was switched off, but its casing was still warm from previous use. He switched it on again and typed in, " REPEAT PREVIOUS PROBLEM."

There was a chance that the Captain had erased his question, but he had had no reason to suppose that anyone would check up on him, so it was quite likely that he hadn't bothered.

The machine hummed and flickered, and began to type. Reading the tape as it emerged, Jellicoe found his suspicions confirmed. Hoy had been using the computer for a problem in mass-ratios. And the answer was slightly curious. The present weight of everything on board, cargo, stores, waste, men, tallied to the last ounce with the loaded weight before the voyage began. But they had been assuming that a stowaway had been substituted for a bale since that calculation. Surely a man and a bale couldn't weigh the same to that degree? Apparently the machine had reached the same conclusion, for it ended its summary with the neatly-typed statement: THERE IS NO EXTRA MAN.

There was only one thing wrong with that statement, Jellicoe reflected. There was an extra man. His rotted remains were lying in their deep-freeze locker at that moment.

He tossed the tape into the waste disposer and switched off, his brow corrugated with unaccustomed thought.

Maclean was the next person to approach him, swelling with righteous indignation.

" Mr. Jellicoe," he said without preamble, " will you come and have a word with that young Broughton? "

" All right, Mac," Jellicoe agreed mildly. " What's he been up to? "

The engineer's fierce brows bristled. " He's got a bit too much to say for himself, and most of it concerning Captain Hoy. I'd be pleased if you'd speak to him."

Jellicoe sighed. " Okay, Mac," he said. " I'll see him."

John Broughton was the second ordinary spaceman, opposite number to Jarvis; a black-browed, handsome youth with a sulky mouth. Jellicoe thought it best to summon him to his cabin, where he faced him sternly.

" Now, Broughton, I've had a complaint about you. It seems you have something to say about the Captain. Well, if you have you'd better say it to me. Let's hear it."

Broughton scowled, knitting his black brows. " It was none of the Engineer's business to pass it on," he muttered sulkily. " But I don't care who hears it. Everybody at the Little Earth spaceyard knows the story. Hoy's mad. Crazy. He was discharged from the Service for sabotage. He was on the *Resolution* when she blew up, only they couldn't prove anything. Still imagines he's an officer and a gentleman. Look at his clothes."

Jellicoe's eyes glinted. " Well, I'm one person from the Little Earth spaceyards who doesn't know the story," he said crisply, " and I'm willing to bet our owners are more of the same. As for you, you'd better unknow it right now. Incitement to mutiny is a felony."

Broughton's eyes fell. Sullenly he nodded and turned away. As the door closed behind him, Jellicoe was conscious of a great sense of unease. A malicious rumour, of course. But for the first time he realised that in fact he knew nothing about Hoy's past at all. He looked down at his table with miserable eyes.

The following day produced a sub-radiogram from Little Earth, apparently in answer to some question sent by Hoy on the previous day. The message was cryptic and brief. It said, " Yes. Four. No explanation."

Jellicoe took it to the Captain himself, curious as to its meaning. Hoy read it in silence, then screwed up the slip and dropped it casually into the waste disposer. Jellicoe thought that his lips had tightened.

" What's it about, Doss? " he asked.

The Captain forced a smile. " Just a little thought I had, Pete. Nothing of importance. How's Owen's bout with the fairies? "

Jellicoe recognised the change of subject and reluctantly followed it. " Oh, nothing else has gone so far," he admitted. He wondered whether to confront Hoy with Broughton's story, but decided against it. The Captain wouldn't admit it even if it were true, and there was no sense in angering him for nothing. If he really was crazy . . . he hastily dismissed the thought.

Hoy's eyes were on his face. " What's wrong, Pete? " he asked with a faint smile.

" Oh . . ." Jellicoe was confused. " What's the smell? " he asked abruptly, to change the subject.

" Smell? " Hoy murmured, sniffing. " Don't smell anything, Pete."

But there was a smell. Something sweetish and familiar. Jellicoe stiffened, feeling the hairs at the back of his neck stir in a cold breath. There was a little smear of darkish shiny substance on the edge of the desk, as if something coated in oil or glue had rubbed against it. It was just beside the Captain's hand.

Jellicoe was beginning to get " nerves." He admitted it himself. He went about with his nostrils constantly on the alert, straining after traces of that familiar sweetish scent. His relations with the Captain had become cool and distant. Vague premonitions of he knew not what haunted his sleep. Nevertheless, for a couple of days the ship remained quiet. The third night made up for all.

Jellicoe was wakened suddenly from a deep sleep by an unexpected sound. Hazy and startled, he groped dimly for the light-switch. As he blinked his eyes in the dazzling glare a second sound, different but unmistakable, rang through the ship. It was a human scream, from a man in mortal terror.

The mate was out of bed while the echoes were still ringing, and had flung open the door. The corridor was almost dark, only the small guide-bulbs burning; it was normal to black out the ship in sleep-periods, he reached for a switch and a flood of light filled the passage. A few yards away a figure sprang into relief, pressed against the metal

bulkhead as if for protection. As Jellicoe watched it began to slide slowly downwards, to collapse in a heap on the floor.

Doors were opening and anxious footsteps clattering from other parts of the ship. The mate took two swift steps forward and knelt at the man's side.

" Jarvis! " he said.

The young spaceman's face was bloodless, with a greenish tinge. His eyes, blank and unfocussed, were rolled back as if he was half-conscious, though there were no visible injuries upon his body. Jellicoe lifted his head gently.

" Martin," he said. " What was it? What happened? "

The head rolled helplessly in his lap. The pale lips moved, muttering half-formed words.

" Something . . ." he muttered. " Thing . . . horrible. Smelt . . ." His voice rose, and died away in incoherent babbling.

Jellicoe looked up at a ring of anxious faces. " Saw something that frightened him, apparently," he said. " The corridor was empty when I got here. Mac—you're the expert . . ."

The big Scot nodded. " Aye, I'll look after him," he said sourly. " Engines and men, it's all the same. Here, Johnny, give me a hand."

Broughton silently helped him to pick the body up and they carried it away between them in the direction of the engineer's cabin. As they lifted him, Jellicoe saw something on the floor, actually under Jarvis's body. It was another of the sticky marks, still without any regularity of outline, and with its usual characteristic smell.

Looking up, he noticed something else.

" Owen," he said sharply, " where's the Captain? "

Morcom shook his head. " It's not knowing I am, Mr. Jellicoe," he said. " I haven't seen him at all."

Jellicoe leapt to his feet, suddenly remembering the sound which had first wakened him. He had just realised what it was.

" Come on! " he said, and ran.

By the time they reached the junction of the two corridors, they saw Hoy coming towards them. His bright silk pyjamas were rumpled and he walked rather slowly and unsteadily as if dazed. A blaster dangled loosely by its guard in his right hand.

" Doss! " Jellicoe hastened to meet him. " Are you all right? "

The Captain turned his head slowly towards them and the light from above fell on his face. To their horror, they saw that his right cheek, from collar to temple, was scarred with a raw scarlet mark, a wide band of irregular shape, slightly pitted and blistered as if burned by acid. Hoy smiled painfully and foolishly.

" Did I hear something? " he asked thickly.

" Yes, something frightened Jarvis and he yelled. What's the blaster for, Doss? "

Hoy raised his hand vaguely and stared at the weapon, as if seeing it for the first time.

" Oh," he muttered. " That. So silly of me, Pete. I think it must have gone off by accident."

His foolish grin widened as his knees began to buckle. Jellicoe caught him forcibly by the arm.

" Here, Owen," he said. " Give me a hand and let's get the Captain back to his cabin."

Holding an arm each they steered Hoy's unsteady steps back the way he had come. At the cabin door Jellicoe paused, shocked. The room was still full of smoke from the shot, and a long reeking swathe of bare metal across the ceiling over the bed showed where the Captain had fired upward as he lay. But that was not the worst. The whole of the bed and the blankets were smothered in dark oily slime, and its sweet stench came out to meet them overpoweringly from the sticky pools on the mattress.

With a rasping sound that might have been a chuckle, Hoy slid from their loosened hands and fell forward to the floor in a dead faint.

"No," Maclean was saying. "No, I'll no' believe that." His voice held a note of doubt.

" But surely its the thinnest of thin stories," the other voice murmured, sullen and low. " Old wounds! He pulled that faint just at the right moment, if you ask me. Nobody can . . ."

Jellicoe quickened his pace.

" What is it this time, Broughton? " he snapped belligerently.

The young spaceman flushed. " Nothing, Mr. Jellicoe," he mumbled, and melted away.

The mate stared after him with angry eyes. " That youth'll get himself into trouble one of these days," he prophesied. " What's the trouble, Mac? "

" Well, now," Maclean rumbled. " That mark on the Captain's face, Mr. Jellicoe. I'm no' saying he couldn't have shot the gun off in a nightmare, and I'm no' saying he couldn't have woken up sick. But how did he get the mark, Mr. Jellicoe? "

" He said it was a burn," Jellicoe said doubtfully. " Looked more like acid than anything else, to me."

" Aye." Maclean looked at him steadily. " I'm no' a doctor, Mr. Mate, but I've seen a thing or two. That's no ordinary burn. The nearest thing to it was a young spaceman we once had who got mixed up with some of that grey goo that you find on Altair II. And you know what caused it there? Digestive juice. Concentrated digestive juice."

Jellicoe wriggled uncomfortably under his tunic. "How's young Jarvis? "

" Oh, he's pulling round. Can't tell us much, you understand. Saw something vague in the dark and it frightened him. Says he can't describe it."

" Which way was it going? " Jellicoe asked quickly.

The engineer fixed him with a shrewd eye. "Was it coming from the Captain's cabin, do you mean? Or going to it, perhaps? He doesn't know. Felt something behind him, he says, turned and half-saw it, squealed and passed out. No guts, that lad."

Jellicoe grunted. " Tell you what, Mac," he said. " I wish this voyage was over."

" Three more days, laddie. Though I'm no' saying I won't be pleased to see Earth myself."

Jellicoe was dreaming. Hot sand under his back, hot blue sky overhead, he lay beneath the palm-trees while the line of sinuous girls undulated before him. They didn't seem to feel the glare, white teeth and white garlands glinting like snow on their brown skins. Little green waves splashed up gently on the beach, to evaporate with a hiss on the burning sand.

The steady infuriating clamour of alarm bells bored its way into his sleep. Startled, he opened his eyes and sat upright. The beach and the girls had been a dream, but the heat was real. His throat and chest felt clogged, and the wet

sheets clung to his perspiring limbs. The atmosphere was filled with a kind of haze, as if the ship was a vast steam laundry. Outside, the alarm-bell continued its nerve-shattering trilling.

The mate leapt out of bed and began to tear on his trousers, swearing as the fabric clung to his damp legs. A fist hammered on his door, adding its thud to the shrill of the alarm. Distandy he could hear a voice shouting.

"Mr. Jellicoe! Mr. Jellicoe! "

Somebody rattled at the catch. Stumbling with haste, Jellicoe flung back the door. Maclean stood there half-dressed, face scarlet with heat and excitement, bushy eye-brows bristling with sparkling drops of condensation.

" It's the Captain! " he bellowed, raising his voice above the deafening clangour of the bells. " He's flying us into the Sun! "

Jellicoe forgot everything and ran.

Morcom. Broughton and Jarvis were clustered outside the control-room door, their faces glazed with sweat, each attired in various stages of undress. Broughton, in nothing but a pair of shorts, had a fire-axe in his hands, and several long bright scratches in the surface of the door suggested that it had been used. He turned on the mate in fury as he panted up, respect for his station forgotten.

" I told you! " he bellowed. " He's mad. He's a looney, that's what he is. Going to burn up the lot of us, the " He broke into a stream of blistering profanity.

Jellicoe ignored him. " Has anybody tried to get in to the drive units? " he shouted. The automatic heat alarms were still shrilling, making it necessary for everyone to scream to be heard.

" I"ve been there already," Maclean roared back. " He's put the emergency seals on, and they're handled from the control room. He's fastened himself in, of course."

" What's the use of getting in to the drive? " Broughton shrieked, lowering his axe from a fusillade of useless blows on the hardened steel door. " We can't stop her! "

" She's plunging in on full thrust, still accelerating," the mate bellowed. " If we could stop her gaining speed we'd have more time to spare."

" Time " Broughton yelled. " We're wasting time. What we want is a battering ram." He sent the useless axe clattering into a corner. " You, Jarvis! Morcom! The chart-room table'll do. Come on! "

He charged off, followed by the cook. Jarvis wandered apathetically after them. He seemed not to have recovered fully from his adventure, for there was a kind of blankness about his eyes and an unaccustomed slowness in his movements. Jellicoe turned to the engineer.

" When did she fade-in? "

" I don't know," the other shouted back. " It must have been sometime in the dark period. Nobody but the Captain knew we were so close."

" He must have been speeding the guts out of her," the mate bellowed. "We're nearly twelve hours ahead of schedule."

" Looks as though he meant to take us by surprise," Maclean rumbled grimly.

A clatter behind announced the return of Broughton and his helpers with the metal chart-table.

" If you can't help, get out of the way," the rating yelled recklessly.

Jellicoe fixed him with a steely eye. " I'll help," he growled, turning on his heel.

" Mr. Jellicoe! Where are you going? " the engineer shouted.

" To switch off that bloody alarm! "

The heat was intolerable, and worsening. The haze that filled the ship was smoky now, reeking of hot paint and charred wood. An acrid tendril issuing from a ventillator duct reminded Jelicoe of the cargo, just in time to seal off and evacuate the holds before the raging mass of flame within spread to more vital parts of the ship.

Maclean, Broughton and Jarvis were wielding the battering ram now, with little Morcom on permanent fire-duty with a patent extinguisher. The control-room door was bent and dented, beginning to spring at the hinges, but it held stubbornly against the repeated blows of the heavy chart-table.

They were all three-quarters naked, skins filmed with sweat, their lungs gasping in the saturated atmosphere. The men with the table had muffled their hands in gloves and

wadded clothing, for to touch the hot metal was to take away a blistered hand. Returned from his fire-drill, the mate lent his weight to the attack. Under its sweat and grime, his face was puzzled and miserable.

Slowly the heavy door gave. With a rending crack first one of the hinges parted, then the other. For a moment the door hung, pivoting on its lock. Another determined blow and it collapsed crashing inwards with the gasping men and their table on top of it.

Jellicoe cried out as his unprotected hands and knees touched the hot metal below him. Then with a quick lurch he was on his feet and inside.

Across the room Hoy faced them, a blaster held steadily in his hand. It was at full aperture, Jellicoe noticed, and felt sick. At that range the Captain could burn down all four of them at one shot.

Hoy didn't look like a madman, though the half-healed scar on his face gave him a look of demoniac comedy. His hair was lank and tangled, his elegant uniform dark with sweat, but his eyes regarded them steadily out of his piebald

" Well, Pete? " he said.

Jellicoe swallowed. Reason with him, he told himself. " Put the blaster down, Doss, there's a good fellow," he began persuasively.

A corner of the Captain's tight mouth lifted slightly. " Look behind you, Pete."

A trick—but what sort of trick? Something in Hoy's voice held conviction. Slowly Jellicoe turned.

Behind him Broughton stood rigid, eyes staring in a pallid face. The wide eyes grew wider, stretching out of all human semblance as the rest of the features began to melt and run. The body sagged, collapsing gently in upon itself, sluggishly drawing the thickened limbs back into the torso like true pseudopodia. Something strange had happened to the skin, too; it seemed to be solidifying and growing darker, turning into a thick leathery casing. Almost spherical in shape by now, the thing had become completely alien.

Horrified, the men drew back. Only young Jarvis remained rooted to the spot, dreadful choking noises bubbling in his throat. Suddenly a shriek burst from him.

"That's it That's it! "

Maclean stretched out an arm just in time to catch him.

Shaking, Jellicoe turned his eyes upon the Captain's face. It wore an expression of weary satisfaction, verging on triumph.

" I knew it was that," he said simply. " It had to encapsulate sooner or later. They can't stand heat, you know." He moved over to the thing and kicked at the leathery hide. It was still. " Quite dormant. You'd better fix some safe place to put it, Peter. It's pretty intelligent, and it'll change shape again as soon as it cools."

He laid the blaster down and turned back to the controls.

" So our little Johnny was the smuggler," Jellicoe was saying reflectively. " I'm sorry for him. It was a pretty rough finish, even for a smuggler. I wonder what he must have felt like, in that sealed hold, when he saw one of the bales beginning to move . . ." He shivered.

Hoy grunted. " It would have been worse if it hadn't happened, Pete. Those things are infinitely imitative, and they reproduce by fission. Just imagine one loose on Earth. Our little Johnny did humanity a bit of good, willy-nilly. They're getting them cleaned up on Little Earth, too, now that they know what to look for. They're destructive beasts."

"Four deaths a week ago, fifteen yesterday," Jellicoe muttered. " Have they found the home planet yet? "

" They will," Hoy said confidently. " Ours is the first live one they've got hold of, and the Earth Central boys are delighted. And after our little experience, they know what to do about it. I hear it's surprising how many washing-machines and refrigerators on Little Earth panic and change shape at the sight of a furnace."

Jellicoe grimaced wryly, regarding his bandaged hands. " It's lucky it worked. It was a bit drastic Doss."

Hoy shrugged. " What could I do? As soon as I discovered there had been no variation in mass since loading, I knew there had been no substitution. The only thing left was that something must have changed. So I sub-radioed base, and when I heard that they'd had four unexplained deaths too, I was sure I was right. One of our men wasn't a man. Trouble was, I didn't know which. It seemed the only obvious solution. Not that it didn't have me worried a little towards the end, especially when I woke up and found it trying to digest me."

" Oh, well." Jellicoe stretched. " It's going to take a while to get the old can refitted. With Jarvis off sick, we're going to need a couple of new crew members, too. With a bit of luck, Doss, we might get something new. A change from your eternal grass."

Hoy looked doubtful. "Maybe. But if I know Magnet Lines . . ."

A light knock came on the door. Jellicoe put down his glass and went to open it.

" Special delivery for Captain Hoy," he said, coming back. " Looks as if it might be fresh orders."

He passed the yellow official envelope over. Hoy took it with suspicion, opened it with an expression of foreboding, and read it with dismay.

"Oh, no! " he said.

" What is it? " the mate enquired.

" It's fresh order, all right. Pending the repair and refitting of the *Alpha Magnet,* the Captain and crew are requested to report for duty at the Lunaport yard next Tuesday, to take over the ship *Lambda Magnet* for the Fallona run."

They regarded each other with faces of distress.

" The Fallona run! " Jellicoe groaned. " Sacred horse-dung! I was just thinking we'd had sufficient bad smells to last us a long time. Who wants to be a farmer's boy? "

Kathleen James

First generation births on an alien world may well be vital as a connecting link between human beings and native life forms. Man will meet some strange qualities when he eventually makes those fascinating contacts.

INITIATION RITES

by JOSEPH GREEN

The sun was a soft purple ball sliding toward the grey sea when Carey got home from school. He closed the door against the cold, penetrating wind, and hung his cap and coat in the closet. The gas-lights were already burning and it was warm and bright inside the big wooden farmhouse.

He heard voices in the kitchen and walked that way. His sister Doreen, fifteen and skinny, turned from the table she was setting and flashed him an impish grin as he stepped inside the warm, fragrant room. Maud was bent over the burners of the home-made gas stove. She was a tall, gaunt woman in her early fifties, the head of her family of five children and one crippled brother since the death of her husband under the heel of a *grogroc* eleven years before. The Sheldon family had prospered under her care, and now the two oldest boys had farms of their own, and the married girl would soon deliver her first child.

" Hello, Carey," she said, and smiled warmly at her big, husky son, who would be eighteen tomorrow and a man at last.

" Hi, mom. Can I help you there, sis ?" He opened the silverware drawer and started distributing forks and spoons. Doreen, who had known the instant he stepped inside that he had something on his mind, kept silent and let him work. There was a rapport between the two members of the family born on Refuge not shared or understood by the others.

He thought of how to say it, how to lead his mother into a receptive frame of mind, knew there was no way, and ended up blurting out, " Mom, I . . . I'm going to take the Controller's initiation with the young Loafers tomorrow."

Maud whirled from the stove in sudden shock, her face paling. This was what came of letting Carey associate with those creatures. She had been warned, all the neighbours had told her to keep him away from those naked savages, but she had believed in good relations with the natives and had let him visit their crazy little town, let the solemn, bright-eyed children play with Carey and Doreen in her own yard. Then the strength gained from a thousand past crises came to her rescue. Her thin, strong face grew calm, and her voice was controlled when she said, " I don't know what possible reason you could have for wanting to go through a bunch of primitive rites, son, and I don't much care. You're going to school tomorrow same as always, and that's final."

" I'm eighteen tomorrow, mom. That makes me a man, and I have to make my own decisions. They're holding the rites a weeklatejustforme. I . . . I can't explain it too well, but I've got to go."

He faced his mother squarely, feeling miserable because he was hurting her. She was an understanding woman, ordinarily. But how did you explain a conviction like this ? How did you tell her about long walks in the brightness of the Refuge night, how explain the peculiar affinity he felt for the whole group of young people he knew, that same affinity which existed between himself and Doreen but between no two other members of the family ? How did you convey a feeling of peace and purpose Earthpeople did not know and could not understand ?

Worst of all, how did you explain that they were hard-working people in their own right, and deserving or respect ? Their ultimate aims were beyond him, he knew, but he had caught a glimpse of the power they wielded in their control of nature, their power over animals, in the ability of Timmy and his father to find each other over a distance. And the few occasions when Earthmen, drunk or rowdy, invaded the little towns and tried to get personal with the Loafer girls ! They had come crawling back, sick and shaken and frightened, but without a hand being laid on them. When questioned they could only speak of visions, delusions, of loss of control over their bodies, of finding themselves hitting wildly at imaginary

foes and striking down their companions. The tales had been incoherent, but potent. After the first few times the Loafers had been let well alone. They had large preserves of land, all that they needed, and the two races had little to do with each other. Refuge was big enough for both of them.

" Sounds like the lad's made up his mind, Maud," said a new voice. Uncle Harvey, unnoticed, had entered the kitchen from outside and was standing quietly by the door.

Maud whirled toward him, and for once the strong woman was weak before the challenge of her son and the apparent agreement of her brother. There were tears in her eyes when she said, " Talk to him, Harvey. Make him see those manhood rite things don't apply to Earth-people. Harvey, he can't go !"

The crippled man stepped carefully forward, favouring his artificial leg. He had lost a limb on Earth, many years ago, and never got used to the manufactured replacement. He had lost, with it, the desire to command his own life. His only happiness was in his work, and in that he and his dominating sister found a common meeting ground. They were both happiest at the end of a long day of constant toil, and the half-square mile of rich new land that was the Sheldon farm provided many such days.

" I would talk him out of it if I could, Maud, because every year there are a few who don't come back. And though he was raised from birth with the Loafers I don't think he can match them at their own game. Whatever they do, it's dangerous."

" Not really," said Carey quickly. " It's mostly just a long fast."

Maud sat down at the table, her tough, wrinkled hands folded in her lap. Doreen came and stood by her chair, resting one arm across her mother's lean shoulders in silent sympathy. Maud's voice was under control when she said, " Why don't you go feed the fatbirds, son, while your uncle and I talk this over. We'll discuss it again after supper."

" There's nothing to discuss, mom, but okay." He walked through the kitchen into the yard, and across the hard ground to the caller at the barn. He seized the handle and gave a hard starting jerk. The high, wailing scream of a siren in the high frequency range lasted just a second before fading out as he picked up speed. He turned the handle for a solid minute, then let it relax and slow, stopping it with a hard jerk when the noise became audible again.

He walked into the barn, unlatched the door to the peanut stall, seized a shovel and began patching them into the centre of the barn. He worked vigorously for several minutes, the dust rising in a cloud around his body, and he was thoroughly warm when he heard the first flutter of wings outside and thud of taloned feet hitting the dirt. The fatbird waddled through the door, his big red beak probing the air, his bright black eyes searching for the food.

With thousands of others just like him from all the neighbouring farms he had spent the day in the heavy woods a few miles north, eating the berries that were still plentiful this early in the winter, but his greedy appetite demanded more. The fatbirds were giants among flying creatures, and their eating was their death. When they became too heavy to fly they fell prey to the many carnivores that roamed the heavy woods covering most of Refuge. The Earth colonists provided shelter and extra food during lean times, and the hundred-pound birds grew heavy while comparatively young and tender.

The fatbirds were slaughtered by the colonists on the same basis nature had selected, and provided the bulk of the tons of meat the colonists transmitted to Earth every day. And in return the transmitter brought them the tools and implements needed to grow more crops, raise more fatbirds, plow more land into the ordered rows that were swiftly transforming this rich and virgin wooded world into a gigantic farm.

Earth's teeming billions had to eat, and there was not enough arable land left on its atom-scarred face to feed them. With the perfection of the matter transmitter it became economically feasible to raise food on other worlds, and the great emigration from Earth began. The transmitters killed any living thing sent through them, and even the largest interstellar ship could carry only a few thousand people, keeping the movement slow and ordered. But Refuge was only one of a hundred worlds already busily producing food, and the day they solved the problem of transmitting living things the Earth would see an emigration such as it had never known. There were still millions of people who like to have room to stretch their legs, who enjoyed breathing fresh air and working under no boss but themselves.

Carey waited for several minutes after the last fat figure oined the feast, then scanned the sky one last time and shut and latched the main door.

The family was at the table when he came in and his oldest brother, Robert, who had married the Steven's youngest girl and built a house adjacent to theirs, had dropped in for supper.

They let him eat in peace, but when he pushed back from the table Robert was set to pounce. He was the oldest and smallest of the three brothers, the most hard-headed and the shortest-tempered.

" What's this about you taking the manhood tests with the young Loafers tomorrow ?" he asked, keeping his tone friendly and reasonable.

Carey shrugged broad shoulders. " That's it. I'm taking the tests."

" What are you trying to prove ? That an Earthman can be as useless as a Loafer ? Listen, I know you spent a lot of time playing with the Loafer kids and I know you've got friends there, but what reason is that for trying to be a useless bum yourself?"

Carey felt the hot surge of anger deep in his body and had to force himself to be calm, to keep his voice down. " They're not bums. They're not even loafers. They're as human as you and I, and in their own way they work just as hard. I've asked permission to take the tests because I want to learn how they manage the animals, and if I become a Controller I'm going to show you and a few hundred others that these people are developing in their own way just as fast as we are in ours. There are other things in this universe besides spaceships and transmitters and tri-di sets, and they have something we've missed entirely."

He paused for breath, and Harvey asked quietly," You mean their ability to make nature furnish them with what they need, Carey ?"

" That's one big point, yes. We call them Loafers because they play a lot and spend hours just sitting around daydreaming. But if dad could have controlled the *grogrocs* the way they do he'd be alive today ; we could learn a lot from them if we weren't so blindly obstinate to seeing what they *can* do instead of what they can't."

" We know they walk around in warm weather like naked savages and wouldn't hit a lick at a snake," said Robert stubbornly, sticking to fundamentals. " We had to bar them coming into town in summer because they refused to wear clothes, and they just laughed at us when we tried to hire them

to work on the farms. I think they're a bunch of lazy heathen devils and you haven't any business being seen with one, much less taking part in their god-awful primitive rites."

" And think of the danger, son," added Maud earnestly. " As your uncle said, two or three fail every year, and they've been learning that Controller stuff since they were babies. What chance would you have ?"

Carey got to his feet, his face weary. " If they fail, mom, they either starve themselves to death or go wandering looking for another tribe that will take them in and let them try again next year. If I don't make it, all I have to do is come home and forget it. As for my chances, I've been studying for years. I probably know as much as anyone else in the group. Now I'm going to Loafertown and get my final coaching, so good-night."

Carey got up, and put on his coat and cap and walked out the door, leaving a dumbfounded silence behind him. He walked with the long smooth strides of the practiced hiker, heading toward the coastline and the little community called Loafertown, two miles from the Sheldon farm. The sun was setting, its dying rays reflecting brightly off the snow-covered hills to the Northeast.

He reached the path along the shore just below the town and paused, struck by the tableau before him. A young Loafer woman and two small children stood on a rockwall that jutted a hundred feet into the turbulent water. She was singing in a high clear voice, a song of purpose and power ; before her in the water, its great black bulk tossing uneasily in the waves, was a *whampus,* a giant pelagic mammal for which the colonists had discovered no conceivable use.

Carey recognized the woman as Tharee, sister of Nyyub, the Head Councillor, and aunt of his friend Timmy. Her husband had been killed in an accident two years before and according to Loafer custom she was raising her children without re-marrying. As Carey watched, in sudden understanding, the woman's song changed, became ow and caressing, and the *whampus* moved forward until it was brushing the rocks. Tharee stopped singing and reached forward to pet the great black head reassuringly, and then there was an agitated swirling in the water and the whampus seemed to dive, to sink beneath the waves. A moment later its body reappeared, subtly altered now in outline. After a moment Carey realized it was lying on its back in the water.

Protruding out of the water on the *whampus*' underside were four swelling black mounds. The two children, watching their footing carefully, stepped off the rock on to the belly of the *whampus.* Carey raised his eyes and saw what he knew must be there, three small black forms a hundred feet off shore, tumbling and playing in the calmer water. He turned back to the children and saw that each crouched low over one of the mounds. Their small heads bent forward, and each took a great black teat into its mouth.

The children drank.

Carey had drunk *whampus* milk before, though never direct from the source. It kept well without refrigeration and the Loafers, when the *whampus* females were lactating, milked them often. The liquid was remakably rich ; he had ran an analysis in school and discovered it had roughly twice the food value of cowsmilk.

The larger animals such as the *whampus* were usually controlled by men, but for a woman alone, like Tharee, it was not uncommon to control even the giant *grogroc.*

When the children had their fill she handed them deflated hide bags and the two youngsters milked them full. The heaving, tossing motion of their host seemed not to bother them at all. The whole operation took less than five minutes, and the *whampus* could easily stay submerged for ten.

The children scrambled back to the rock. When they were safely ashore their mother leaned over and patted the giant mammal on its soft black belly. It flipped over in the water with a great splashing, righted itself and headed for the open sea. The three small calves came rushing inshore to meet their mother, the water foaming behind them, and dived beneath her to start their own meal. In a moment there was only the gently tossing bulk of the *whampus* visible above the waves as she swam slowly through the breakwater and headed out into the open sea.

Carey waited at the foot of the rocks until Tharee and her children stepped ashore, and greeted them politely. The Loafers were completely human except for a light coat of hair over most of their bodies, and some of their women were beautiful.

Tharee wore the heavy *wirtl* cloak that was the Loafers standard winter garment; she was a grave, unsmiling woman, but her face relaxed into friendliness when she recognized her

nephew's friend. The two children scampered to him and noisily demanded to be carried.

He stooped and lifted a child in each arm, carrying them and their milkbags easily as he walked the short distance to the town with Tharee. He told her of his argument with his family and she nodded in grave sympathy.

" Your people do not understand ours, Ca-ree, but times will change. We are starting some children in your school next year, in the beginning grade. Our elders have decided that, although your people have much to learn of the mind and its powers, your accomplishments in the physical world deserve study. And if you succeed in becoming a Controller we hope to convince your elders of our ability to offer useful knowledge in return."

As they reached the first houses they heard the muffled, grumbling roar of a working *grogroc* somewhere in the interior, and Carey hastily put the children down and said good-bye to Tharee. He followed the sounds through the twisting, curving paths between houses and soon located the great beast.

A Controller was building a new house. The Loafers' had various methods of securing housing, but one of their favourites was to select a grove of the giant *waquils,* a trailing plant which grew on the ground, and hollow out the interiors of the huge fruits. The *waquil* fruits looked something like oversized melons, as much as twelve feet high and thirty feet long, and their tough hides were several inches thick. Once the soft interior was removed and the walls scraped to prevent rotting a *waquil-house* could be used for years.

He found Timmy and several of the other youths there, intently watching the work. The Controller was standing calmly by the great shoulder of the ten ton monster, directing it with a gentle voice and guiding hands. The heavy, ugly head, crowned with a great circle of forward-tilted horns, plunged again and again into the tough *waquil* hide. The *grogrocs* were herbivorous mammals of huge size and ugly disposition, the largest animals on Refuge. They had been fairly well cleared away from the areas inhabited solely by Earthmen, but the Loafers used them for many purposes.

When the Controller had the door he was cutting outlined he had his huge battering ram lock his horns in the centre of the panel and twist his head. A large section clung to the horns. The *grogroc* backed away, snorting, and the Controller swiftly

and expertly removed the fragmented mass. Then he led the giant herbivore back to the *waquil* and it began to eat the soft, pulpy interior. The door he had made was large enough to get his head and heavy neck inside, and he would eat half of the pulp before the sun rose in the morning. The *grogrocs* had appetites as bad as the fatbirds. The Controller would bring in smaller herbivores to finish the job of consuming the pulp and cleaning the walls down to the tough hide. The family which moved inside would weave a curtain of the soft, heavy *wirtl* leaves, hang it over the door, and be at home.

There was a huge fire burning in the centre of the grove. A large group of older women were sitting around it, singing in low voices a chant as ancient as the sea before them. As Carey and Timmy walked toward it Carey felt the hairy arm of his friend encircle his shoulders affectionately. He and Carey had received most of their final coaching from Nyyub, head councillor and Timmy's father, together.

Carey would be the first human ever to take the manhood rites of the Loafers, but that too was right. Of the several thousand humans on Refuge he was the oldest one actually born on Refuge soil, the only one who had grown up with Loafers as constant companions. And he was quite certain that if he was not the only Earthman on Refuge who liked the Loafers and respected them he was a member of a very small minority. They were generally looked upon with utter contempt by the industrious humans busily engaged in turning Refuge into an Arcadian paradise. The Loafers had got their name from a corrupt pronunciation of their own word for themselves. It fitted so closely with the colonist's evaluation of the aborigines that it had been adopted and gone into common usage.

Carey and Timmy found a seat near the warmth and sat quietly, listening to the beauty of the old old songs. The other youths, both male and female, began to gather, and after a time the songs changed. The old tales were replaced by songs of instruction, some of them recited by the elders who were the governing body of the tribe. Most of what they had to say was repetition and Carey found his attention wandering.

" Do you think we'll pass tomorrow, Timmy ?" he whispered

" If you do not it will be your own fault," said Timmy, low-voiced. " My father says you have the power, as much as any of us, and you have received more instruction than most."

" Yes, but I'm not a Loafer. I wasn't bom to this, I don't—"

" Hush, foolish friend. The power is within all of us, as much a part of Doreen as Tharee, of you as my father. It must only be brought out and trained, groomed and put to use. Do not worry, you will be fine."

" I wish I could agree with you," said Carey, and subsided.

After a time the teachers finished and two young, nubile girls shed their cloaks and danced nude in the firelight, a dance as old as the folk-songs, and as beautiful. Carey watched their whirling limbs, the happy faces, the shapely breasts peeping out of their nests of fine hair, and felt a strong surge of affection for these people. Somewhere in the past they had taken a separate path from the rest of mankind, setting their energies toward controlling their environment rather than changing it. They had not developed the prime ability that had brought mankind up from darkness ; a capacity for dull work, in its place they developed their minds. They were telepathic to a fair degree, and worked hard toward strengthening this quality in themselves. They had eliminated want as a factor in their lives, and their time was their own. The manner in which they used it was beyond his understanding, but he had long ago realized that the Loafers openly exercised only a small part of the power they possessed.

After the girls sat down Nyyub rose and said a few brief words, and the coaching session was over. Carey said good-bye to Timmy and struck out for home, walking alone through the crisp cool air, alone and full of doubts.

When the sun peeped over the edge of the purple world next morning it found Carey back in Loafertown.

There were seven young Loafers standing by the dead ashes of last night's fire, three female and four male. They were stark naked, as bare of covering or ornaments as new-born babes, and shivering in the cold. Carey stripped himself to the skin and walked among them, his tanned brown body conspicuous among their hairy forms. It had snowed again in the night and the fresh white coolness lay on the ground in a thin blanket, unbearably cold to the feet.

There were no adults present by Nyyub. The old councillor nodded his greeting to Carey and smiled when he saw him shivering. There was a woven basket behind Nyyub, and from this he took a heavy, brightly-coloured robe—the one item

an initiate was allowed to carry into the woods—and gave it to Carey. He draped it around his shoulders gratefully, waiting while Nyyub gave one to each person. They were of *wirtl* leaves as always, but so closely and heavily woven they were unusually warm.

The sun was rising swiftly, and it was time to be gone. Nyyub paused a last moment, surveying the small group, and said, " You are today children, and you will leave our presence, turn your face to the great woods, the bountiful woods, and in time you will come back, and you will be men and women. A human's strength is in himself, and each person must find his own and put it to use. And so must you, if you would be Controllers, and adults. Now go forth, and wrestle with the spirit that is within you, and come back Controllers."

He lifted a hand in sharp dismissal, then turned and strode away. The group of young people hesitated, collectively, and then turned as one and ran toward the encircling shadow of the deep woods, their feet falling softly in the fluffy snow. At the edge of the trees they began to separate, each going alone into the wilderness.

No tools or weapons of any sort were allowed, but Carey knew that anything available in nature was his to use as he saw fit, and he stopped at the first *wirtl* tree and hastily plucked enough leaves to weave into coverings for his feet. His fingers were numb with cold but he managed fairly well, at least achieving something that would keep the skin of his feet off the snow. The Loafers had no such problems. Their feet had never known shoes, and snow could not hurt them.

The heavy woods of Refuge, mantled in their blanket of snow, lay before him, and out of these woods he must come back a man.

The carnivores who made these woods a terror for humans were largely nocturnal creatures, but this was the winter season and food was scarce. He kept a wary eye overhead as he ran, looking for the dreaded flying cat, but saw nothing. And after a time the cold penetrated his blanket so that he felt a creeping numbness in his limbs and knew it was time to find shelter.

He had been working steadily toward the rocky hills in the East, knowing that his best chance of a warm den lay in the crevices to be found at their base. He was numb and tired when he arrived at the first upthrusting rock, to find it barren of caves, a solid wall of granite rising for a hundred feet out of

the great woods. He ran along the base, keeping an eye out for holes, knowing that his condition was getting serious and that he must find a spot soon or suffer frostbite in his feet and hands.

He finally found a cave, but it was too large for his use, as was the next and the next. The fourth was just a tiny crevice in the rockface, a hole only a few feet deep and so low he could barely squeeze inside. Best of all, there was a large pile of snow caught on a shelf a few feet away.

Working as swiftly as numb hands permitted he closed the edges of the crevice with snow, packing it in hard and fast, leaving only a small hole in the centre. Then he crawled inside and finished his snowwall from there. When his den was airtight he arranged his heavy blanket so that it covered him completely and curled into a tight ball, seeking warmth.

After a time the feeling of coldness began to pass. He lay there and concentrated on being warm, he thought of home and bed and comfort and mother, and finally the numbness disappeared and he knew he was safe.

When the first feeling of hunger came, hours later, he came out of his cocoon sufficiently to reach for his snowbank and eat a mouthful of the dry, powdery snow. He had eaten a good meal that morning, knowing that it would be his last for many days, and now there was nothing but snow to quench his thirst, and no food at all. He was not allowed to eat even the berries which still clung, dry and hard now, to the *kitzl* trees. He had not told his mother the real purpose of the Loafer initiation rites, but it was perfectly true that its most obvious outward characteristic was a strict fast.

That evening he slept, still curled into a warm ball, and when he awoke after dark he was so ravenously hungry he thought he would not be able to endure it. To make matters worse he wasn't sleepy at all.

He made his first tentative efforts, as he had been coached, knowing that it was too soon but having nothing to do but think, and was not surprised when he encountered nothing. And after a long long time of lying motionless in the darkness he slept, and his dreams were distorted and strange.

The next two days passed peacefully. His stomach turned numb and didn't hurt any more, and the first sickness passed. He continued to eat snow regularly, but needed less of it now, and he knew his metabolic rate had slowed and that he could

live for a few weeks before hunger finally killed him. On the fourth day, when the snow before his eyes lightened and became dimly visible, he found that he had slept without a dream for the entire night and knew it was time to try again. *When the time of peaceful sleep at night comes, dream during the day,* had been one of the maxims pounded into his head during the weeks of coaching.

He closed his eyes again and relaxed, letting his mind float in a peaceful vacuum. When he felt ready he concentrated on his first animals. He thought of the barnacles clinging to the rocky shore, thought of their delicate little fans waving in the turbulent water, of the diatoms floating in the bountiful sea which the moving fans swept through the open shell, bringing them the food of life. And dim, faint and unreal, so closely balanced with vision that he could not be certain if it was fact or fancy, he felt the sucking of water on his shell, the pull and tug of the receding sea. And then he was back in the cave, suddenly shivering for the first ime in days, but with a new and growing feeling of awareness.

Tentatively, hesitantly, he tried it again, concentrated on the dim feeling of the pulling sea, the power in the waves, the sensations, poor and faint though they were, in the soft body. And this time he felt his consciousness begin to fade, to expand outward toward the distant shore, felt the strong, elastic link that tied him to his body in the cave, and then found the secret of motion and gained a measure of control. He felt the land slipping along beneath him, knew that he was approaching the seashore, was conscious of the flying spray when he reached it and descended to the dark rocks. He felt the life below him pulsing and glowing with a strange, fiery beauty, and he easily found that life and eased himself into it and became a part of it, and felt with it and lived with it, and was a mollusk.

The creature continued to fan the water running in swift rivulets over the rock on which it was anchored, continued to feed on the invisible particles floating in the sea, and he was one with it, and ate.

When he grew tired at last, and reluctantly left his host and let the elastic string draw him back to his body, he felt that he had full control, that the ability to travel, the first requisite, had come.

When he opened his eyes inside the cave the snow was a dim white wall before him, and he was thirsty. He ate heavily of the snow, feeling with his hands that a hard fall had come during the night and sealed his little hole even tighter in its isolation. When his thirst was quenched he closed his eyes again and concentrated, and this time willed that he would hover in the air outside, and found himself there. After a moment, by some sense other than sight, he found a large animal snug in a bed of leaves in the thick brush. He descended and hovered by it. The dim animal mind sensed his presence and the beast looked about uneasily. Carey opened his sense of perception and let the brute impressions flood in, felt the pangs of an empty belly, the cold of a deep chill that would not be stilled till he rose and fled like a silent shadow through the deep snow. He had found a runner, one of those strange herbivores who ran like maniacs through the deep woods in the midst of winter, running without aim or sense or purpose, while no enemy pursued. And for the first time he understood. The animal's protection against cold was poor, and he kept alive in extremely cold weather by exercise. But exercise called for great quantities of food for strength and energy, and in the winter food was scarce, and many runners froze, to become food for the carnivores.

He tried to enter the beast mind, to impose his will on the slim body, and felt the wild panic that greeted his efforts, the hysteria of a mind that could not understand invasion. He hastily withdrew, and then hovered on the fringes of the creature's consciousness and attempted to influence it by less direct means, sending it images of food and mates, of warmth and comfort, and gradually he found the keys to the animal's conduct, found the urges of nature that drove it, and so gained a measure of control. And now he knew, for the first time, how a Controller worked. The beast minds could not tolerate invasion, went into a wild blind panic if someone attempted to actually take them over. A Controller worked subtly, from just outside the animal's consciousness, influencing, probing, pushing with gentle insistence toward whatever act he desired performed.

When he awoke on his eighth day Carey ate snow out of the centre of his barrier and then enlarged the hole with his hands and crawled out. He was so weak from hunger he could barely stand, but the fresh cold air revived him and he began to

look about for food. A warm spell had come and melted most of the snow lying in the open land. It was thick only in the banks and crevices such as his own.

His body had little internal warmth left. He knew that, like the runner, he must exercise or freeze, and to work he must eat. He found a *kitzl* tree nearby, with a few fruits the greedy fatbirds and other fowl had not eaten, and filled his stomach, eating slowly and masticating thoroughly. When his pinched, shrunken stomach was full he set off through the woods, feeling the numbing cold beginning to creep into his bones. He stepped up the pace, turning his walk into a fast shuffle, working up to a trot and then into an easy, loping run. The cold retreated, and he knew that if his strength lasted he would be all right.

He checked his directions and saw, from familiar landmarks, that he was much closer to home than Loafertown. The wilderness about him was silent, its life quiet in the brightness of day. He ran through the woods, his *wirtl*-clad feet silent on the carpeted floor, and headed home.

He came out of the woods on the edge of the Stevens' place, and decided he felt strong enough to continue on home without assistance. He had no desire to get into explanations with his brother's wife's people.

Carey was approaching the end of his strength when he trotted into the yard from the rear and headed for the back door of the house. As he passed the barn he heard a muffled, grumbling roar that swelled and grew into an angry rumbling, the unmistakable battle-cry of an angry *grogroc.* Over it came the shrill, frightened voice of Uncle Harvey, and he was screaming for help.

His tired legs carried him into the barn and, nerveless, brought him to a halt. The door to the peanut stall was smashed into splinters, some of which clung jaggedly to the neck of the *grogroc,* bringing small amounts of blood to the surface and aggravating its always uncertain temper. Harvey, a pitchfork in hand, was crowded into the open corner where they parked the tractor, and ten tons of hoofed death was advancing steadily toward him, lashing the heavy tail and working himself up into the fury of a charge.

Carey saw what must have occurred. Harvey had been up in the loft when the big beast entered, probably working on the silo chute that needed overhauling, and instead of remaining quietly hidden until the *grogroc* ate his fill and left Harvey had

tried to sneak down and out the back door, intending to get a gun from the house. The creature had seen him, and his always smouldering temper had been aroused.

Carey turned, to get the arc-rifle hanging always ready above the kitchen door, then hesitated. From somewhere he sensed that the *grogroc* was tensing himself to charge, felt the surge of anger and blind, arrogant temper washing over the dull brain, and knew that Harvey would be smashed to a shapeless, bloody pulp before he reached the kitchen.

And with the feeling of awareness came the knowledge of what he must do.

There was no time to think, to feel frightened. He knew that a *grogroc* already angry was hard to control, that only the best and most experienced Controllers even tried. To attempt to calm the great beast would only get himself killed along with Harvey, but he had to try.

Carey walked swiftly toward the *grogroc.* As he strode by the whipping tail he projected himself, and felt the scene before him blur and fade into poor focus. The mind of the great herbivore was a red blur of light in the dimness and he fled to it, hovered just outside the fringe of the beast's awareness, saw the world about him with dim, poor eyes as his body continued walking, and then he was standing by the head of the monster, one hand resting caressingly on the massive shoulder.

The great horned head started to swing as Carey's presence penetrated the fog of anger surrounding the beast, and the disembodied part of Carey thought *peace-empty-belly-ripefruit-peace-calm-sunlight-shade-contentment-peace.*

The shoulder slipped away from his hand, the long horns came sweeping toward him and he knew he had failed. With a wrench that hurt he was back in his body, dodging desperately, and the points of the horns missed him by inches as he sprang to one side. In the seconds before the beast could lunge again he projected himself, plunging directly into the red animal mind before him, battling with frenzied determination for direct control of the great muscles.

There was instant, blind panic. The head stopped swinging and the beast stood quietly, trembling, as he fought this internal battle. With a distant part of his consciousness Carey felt his body walk through a strange, dim world, walk up to Harvey and lead the frightened man out the back door. When it closed behind them he gave up the struggle and retreated to the fringes of the *grogroc's* awareness.

The panic faded. Anger was gone, washed away in the desperation of its struggle for control of self. Hunger pangs returned, and suddenly they were magnified beyond endurance and it must eat or perish. The great beast turned full-length in the barn, smashing an upright post with the swing of its tail, and headed for the peanut stall.

The *grogroc* ate another few hundred pounds of the succulent nuts, enough to stay the hunger pangs for at least an hour, and then he was overwhelmed by a strong, demanding yearning for *waquil* fruit, for the good, dry, filling food, and the peanuts no longer seemed worthwhile. He went out the door, grumbling and grunting, and headed for the large grove at Loafertown.

Harvey came limping from behind the barn, Carey at his side. There was a new respect in the crippled man's eyes as he stared at his husky nephew, now thin and gaunt, clad only in a garment of *wirtl* leaves, for all the world like a Loafer. The boy swayed where he stood, and the vacant look faded from his face ; suddenly he turned white with exhaustion and a deep, underlying fatigue. Harvey stepped swiftly forward, caught him before he fell, and supported him as they walked slowly toward the house.

Maud, just back from a visit to the Roberts, opened the door to her brother and son, and took the fainting boy into her arms. No, boy no longer. Something old and primitive and deep stirred within her, stirred and came briefly to the surface, and she knew that within the circle of her arms she held a man.

Joseph Green

The wildest imaginings of an author's mind will probably turn out to be commonplace given the right alien environment. Whoever heard of a 'wind-seller' for instance ?

PIXY PLANET

by ALAN BURNS

General Perrin Magruder was trying to be severe with Lieutenant Dela Hunslip but found it hard to dampen the enthusiasm of a twenty-year-old female anthropologist with his wisdom of forty years in the Federation Navy.

" But can't I impress upon you the wrongness of this obviously impulsive action, Lieutenant," he asked.

" I'm afraid not, sir," she answered. " Even if marriage with unfederated humans was not approved by the Navy Code Manual I'd still do it."

" We may be the last of the Federation Navy you know," said the General slowly. " We've heard nothing over the transwave for six months, and no ship has put in here for a year. All reports indicated that the Thrag rebellion was well on the way to success."

" And doesn't that bolster my argument, General ?" she asked. " The Federation Council drew up covering rules and put them in the Manual and we all swore in our Navy Service Oath to uphold these rules in all circumstances."

" True," agreed the General, " but I'm going to put an old question to you. What will your colleagues think ?"

" I can give an old answer," she said. " I don't care."

" Very well, then. Your application, let me see, to marry Tass Fowarer, wind-seller of the planet of Foresdel is hereby approved," he signed a form. " Now," he went on, " if you'll just sign to clear the Federation of any responsibility for what may happen to you henceforth then that completes it. When will the wedding be ?"

" Oh I don't know yet," she said, " this is just in the hope that he will marry me."

" You mean you're just acting in case ?" he exploded.

" Foresdelian customs are different from ours," Dela explained. " Here a man never marries a woman just because he likes her, that is considered nothing more than lust. No, a man can be deeply in love with a woman, and she can be crazy over him, but unless she does something publicly to show that she means to help and stand by him then no marriage could ever take place."

" And you think you can do something ?" he asked almost anxiously.

" I want to try," she said. " Tass is a man worth doing something big for."

" And if this marriage is successful ?" he enquired.

" Then all of us on the base ask for acceptance into Foresdel."

" Renounce the Federation ?"

" Yes, at least our Federation. I think that Foresdel will be the heart of a new Federation."

" Why ?" he asked.

" It's obvious. There's a Thrag base on Kwelek, the outermost planet of this system. Why haven't they ever attacked Foresdel, a planet with all the pickings that Thrags like ? There's only one thing that will stop a Thrag attack and that's superior force. They were on Kwelek before our expedition came to Foresdel, so it's reasonable to assume that they tried a probing sally and were thrown out unceremoniously. How, I can't guess, any more than I know why we had no trouble establishing our base. Foresdel has a practically non-scientific economy. I think though, we may see Foresdel in action soon."

" Why ?" asked General Magruder.

" The Thrags will attack us now that we're cut off from all help. Then once they have our base they'll use it as a defence against Foresdelian weapons and gradually spread out."

" Suppose we destroy all our installations ?"

" They could still hold out long enough underground to repair things. I love Tass, but I'm loyal to the Federation principle, and I want to be his wife partly to learn how we can co-operate with Foresdel in the most effective way when the Thrags do attack."

" Which will be as soon as they are reinforced."

" Yes, that doesn't leave me much time."

" I won't keep you then," he said. " but if this all works out I'll see you get— "

" Removed from the records," she interrupted. " Mention Foresdel, but forget me altogether. I've a life to live and I'm entitled to peace."

" All right, Lieutenant," he said, " good luck, and I'll see that the rest don't think of you too badly."

Dela left the office and went to her dormitory for her kit. She had already decided what she would take. Clothes were obtainable outside the base by the goodwill she had accumulated on previous expeditions for research, so she would only take what was unobtainable on Foresdel. A pocket recorder and her collection of ancient song tapes, a transistor public address unit, a medikit, and her guitar.

With her things slung over her shoulder she walked out to the base gates. She sniffed the air, over and above the smells of the base there was the sweet resinous tang from the forests that clothed most of Foresdel's mountains and valleys. She saw a cart standing outside the base, drawn by a shogal, one of the horselike draft animals of Foresdel. Seated in it, his golden hair and beard shining in the sun, was the figure of Tass.

Dela hastened on until one of the soldiers on gate duty came forward to check her identity card and exit permit.

He looked at them and said, "So you're going to marry a wind-seller. Well, after some of the food in our mess maybe I could do a deal with him. But no hard feelings, here, I'll whistle for a wind." He gave a shrill wolf-whistle, and the other soldiers laughed and joined in.

Blushing, Dela hurried on, then she saw Tass raise something to his mouth, and suddenly she jumped as a sound struck her ears almost a physical blow. She turned, the soldiers at the gates were grovelling in the dust, their hands clapped to their ears. Dela had seen the same effect by police

riot sonics, but they were big units needing a lot of power. Foresdelians could evidently get the same effect with the human breath only.

" Hallo, Star-eyes," said Tass as she came up to the cart. " I am glad that you are to make my day. You will come with me to market ?"

" With a light heart," she answered formally. " You have winds to sell ?"

" Yes, but the market is not good. People only buy my winds for practical uses."

" And there are others ?"

" But yes, Star-eyes. There are breezes to caress lovers, balm-laden winds to please the senses, and zephyrs that sing bitter-sweet songs in the trees. All these are cheap, costing only small service obligations. However," he laughed, " who shall say that you may not bring me luck ?"

The markets on Foresdel were not a regular thing, Dela had learnt. It just seemed that everyone with something to sell gathered together by a sort of instinct, and customers followed. Tass drove into the glade set aside for the carts of sellers. Dela helped him to unharness the shogal and assisted him to set up a stall and lay out the bags of small brown seed-like objects which were winds. The market was busy but few customers came to Tass, and quite suddenly Dela knew what she had to do.

She quickly got out her recorder and slipped in a tape, she connected it to the public address unit and set it away. The fast exciting rhythm of a calypso boomed over the market. Dela picked up her guitar and strummed an accompaniment to the tune, then she improvised words extolling the virtues of the winds Tass had for sale. A crowd gathered, first out of curiosity and then they stayed to buy. Tass was soon sold out and had a container full of service obligations. He got nimbly on to the table of his stall and called out over the market.

" People, people, hear me now for a marriage seeking." There was a sudden silence over the market and everyone turned to look at him.

" Yes, there was no need," he went on, " no need for an out-Foresdel girl to favour a poor wind-seller, but she did, and good-sang a big sale. Who denies that rates a marriage seeking ?"

There came a roar of approval from everyone and so hand in hand Dela walked with Tass through the crowd to a little man who had suddenly produced a length of gold thread from a pocket and snapped it into two pieces which he quickly knotted into two loops.

Then as they came to him he cried, " I name myself marriage maker. So do I now make a marriage." Neatly he slipped the loops over their heads and tied the four free ends together, then he announced, "These two good folks be now one."

Everyone crowded round them with congratulations and good wishes. They ritually walked through the market visiting each stall, where they were duly presented with the choicest that the vendor had to offer, in exchange for wishes of good luck from the newly wedded couple. When each stall had been visited they went back to the glade where they found their cart loaded with the gifts they had received and the shogal ready harnessed. With more good wishes they took to the road.

Dela yawned sleepily. For four hours they had driven up into the mountains, stopping only for a meal at the house of a farmer. The green of grass had steadily given way to the white of snowfields and at last Tass stopped the cart. Dela had wondered why the cart had double sides, but she saw their purpose when they dropped down to become runners. The wheels were cranked off the ground and the cart became a sledge. A flick of the whip and the shogal moved on and shortly turned on to a side road at the entrance to which there was a notice saying

FOWARER PROPERTY AND GUEST HOUSE

" I didn't think there were hotels on Foresdel," said Dela.

" And there aren't," answered Tass. " The guest house is for unexpected visitors, they stay there until we can come and get them. We pride ourselves on a good guest house though."

In a few minutes they came to the small cabin. Tass showed Dela over it and explained that uninvited guests could write the purpose of their calling on a piece of thin paper and send it to them by a carrier bird, and the answer could come back by a similar way.

" We've a lot of respect for privacy on Foresdel," explained Tass, " so we don't go anywhere unless we're invited or need something badly. But let's go, I want to make home before dark."

At several points along the road there were well-constructed traps for people who came without invitation and Tass carefully explained how each one worked.

" You see," he told her, " the first step towards a government is invasion of privacy and since the original settlers ran away from the Federation it was ruled that any man could take what steps he chose to keep people away, as long as he gave due warning."

" But I heard you had a government," said Dela, " the Council of Foresdel."

" Yes," he answered, " but look, here we are."

" Home ?" asked Dela, looking at the long low house ahead.

" Yes," he said curiously, " the first you've ever had isn't it?"

They drove into the stables at the end of the house and unharnessed the shogal which promptly went into the one empty stall and was soon contentedly munching like the other five beasts. Dela helped her husband carry the contents of the cart into a big kitchen warmed by a log fire. Seated in a high-backed chair was an old woman, with the sharpest pair of eyes Dela had ever seen.

" Come in child," she called, " I won't curse you, yet."

" This is mother," said Tass, " she's a practising witch. Mother this is your daughter-in-law Dela, she's an anthropologist from the base."

" Ha, an outworlder," said the old lady. " Don't expect to be praised for your good taste Tass. Stop looking like a shogal in sweet grass, tell me what you made this poor child do to help you make a good sale."

" I sang a song," began Dela.

" You'll sing a different enough tune in a few weeks," said her mother-in-law, " but you're welcome under our roof, child, and what happiness there is will be equally shared. Now there's supper in the oven and Tass, you will get a bottle of the best from the cellar. Then while you eat I'll see what rubbish they've given you at the market."

Dela was fascinated by the dishes which were carved out of wood with elaborate decorations. They drank wine out of crystal glasses, and finally the old lady ceased her running commentary about the gifts and their givers and took a seat at the table.

" I see you've finished child," she said to Dela, " now let me read your palm." Interestedly Dela let her mother-in-law take her hand.

" A good strong hand you have, child," she said. " There is much in it that is of interest. Long life and happiness for certain, but there is a division of loyalty that I do not understand. Children of course, of the mind as well as the body. I foresee—well, it doesn't matter, because it cannot be stopped. Now child, tell us why you turned your heart against your government."

" Love is more than government," said Dela, " and I am not certain that my government exists any longer. But as an anthropologist I study man and that includes man's mind, most especially civilised man's mind. We have lost something in our civilisation, something that has been found on Foresdel. We need your help against the Thrags, and against ourselves even more. Does that answer your question ?"

" Who are the Thrags ?" asked the old lady.

" The Holy Rebellion Against the Government," said Dela.

" The Demon-Makers, mother," said Tass.

" You know about them ?" asked Dela eagerly.

" We know about them," agreed her mother-in-law. " My husband was alive then, and Tass was just a child."

" They came to Foresdel ?" asked Dela.

" Yes," said the old lady, " they were looking for demons, the least we could do was to oblige them and loose a few. It seemed to satisfy them and they left."

" But what form were the demons ?" asked Dela. " It's most important because the base—" then she stopped, thinking that she had said too much. But her husband smiled gently.

"If I told you, Dela," he said, " you wouldn't understand. How long does the Federation train the operators of fixed mount disruptors ?"

" A year," she answered.

" To learn about our weapons will take you as long," he said. " But," he went on, " it isn't right for you to think that because you are married to me you must renounce all other loyalties. Some you will renounce, but others will perhaps grow stronger for being seen in a new light. Take this much comfort, that we will respect your interests and look after them always. Now will that do ?"

" It's more than I've a right to expect," she answered.

" Ha," snapped her mother-in-law, " that making up is for the marriage bed so away with you, and don't forget that I expect a hot drink brought to me in the morning, and the kitchen cleaned and ready for me when I get up. Sleep well the pair of you."

In the weeks that followed Dela found her marriage had merely been the exchanging of one sort of labour for another. In the Federation base, labour had been mental, but as wife to Tass her work was physical, done under the penetrating eye of her mother-in-law. As compensation for the initial ches and pains Dela found for the first time in her life the satisfaction of looking after a house truly her own, of having a meal ready for her husband, and certain revolting tasks such as dressing game she looked at as interesting biological work to a very practical end. There were mad and sometimes dangerous days in the forest with Tass hunting the odd plant that contained wind-seeds, and now and then going to market. The Federation had lost something Dela concluded, it had lost her loyalty.

She said as much one evening to Tass and his mother.

" I didn't realise that I have been living an empty fife," she confessed. " I don't want anything that the Federation can offer, if it's still in existence. All I need is here."

" And you feel you don't owe them anything ?" asked her mother-in-law in a deceptively quiet voice.

" I don't think so," answered Dela cautiously.

" Ungrateful child," snapped the old lady. " The Federation was your guardian and tutor as an infant and your employer and protector as an adult, and you say that you have no obligations to it."

Dela saw red. " No ! Not one," she shouted. " Not a thing. And I'm not in the least grateful to them. Born in a septitank, raised in a cubicle and trained at a screen. Owning nothing, posted by aptitude without any choice. What sort of a life was that ? You sit there and tell me I should be full of gratitude, but what do you know about it ?"

" As much as you child," said her mother-in-law getting up from her chair and going to a locked cupboard.

Dela had often wondered about that cupboard, but being brought up in a world of restrictions and classified information she had been content to ask no questions. The old lady produced a key and opened the two doors. Dela got up from

her seat and looked. Hanging there was a space-suit and a scout pilot's uniform.

" You were a scout pilot ?" she asked.

" Yes," said the old lady. " My ship crashed on Foresdel, and fortunately the caller unit was too badly damaged to give my location. Tass' father took to me, I was even younger than you then, young enough to take a course in witchcraft, and in a while I had the privilege of saving my fiance's life from a mountain cat, so we married and settled down. Now, I know exactly how you feel because I went through that stage myself, and I'm going to tell you what my husband told me and you can make what you like of it.

" He said that just because one person ceases to believe in a thing, that thing doesn't cease to exist, and though it may be good for some and bad for others, as long as the good outweighs the bad then it will go on one way or another. The virtue of the Federation was that it made no attempt at tight unification except where it was economic and possible, and that meant you, but the outlying colonies had to shift for themselves, like Foresdel with only the idea to work with. We kicked out the Thrags, but we let the Federation establish its base because we had the idea that we owed it to it. Too late we found that we'd changed and for a time we've played with the idea of destroying the base, if there was some way of saving the lives of those in it.

" If what you've told us about the possibility of the Thrags attacking the base is true it would seem to be just what we've needed to save the staif whilst destroying the installations. For this we'll need the help of the Council of Foresdel, and while I don't like suggesting it, the person that meets them will also have to be within the base to try and enlist the help of the staif."

" I know," said Dela. " I'm the only person who can do it, if it can be done."

" We'll go to the Council tomorrow," said Tass.

" I'll prepare the gifts," said his mother, " so the pair of you can get a good rest, you'll need it. Good night."

When they got up the next day they found that the old lady had been up long before them and cooked breakfast. While they ate she busied herself loading up the cart, and when they went out to it Dela saw that the gifts were the choicest they had.

They were soon ready to go and the old lady said to Dela, " Be careful, won't you, good daughters-in-law don't come every day."

" You'd think I was going to an execution," said Dela, " this Council must be quite something."

" We all have to go to it some time," said Tass and shook the reins They drove off and Dela turned to wave goodbye, and she had never seen her mother-in-law looking so worried.

They took a different track to any they had previously followed and it made a tortuous way up into the mountains. They passed the timberline and only then Dela realised what protection the trees had given. Suddenly the shogal stopped and refused to move; in the middle of the way was a small hummock with a peculiar irridescent glitter.

" This," said Tass, " is your first experience of freeze fungus, fortunately it only occurs where there's extreme cold. This is how you deal with it."

He took a container from his pocket and carefully approached the mound, sprinkling a brown powder in front of him. Suddenly there was a hiss and Dela recognised it as being similar to a kettle when it was just starting to boil. Tass stepped hastily back, for the snow round the hummock was beginning to give off clouds of steam and run away in rivers. Within seconds the carcase of a mountain goat was revealed and the air was full of the smell of charring flesh, as the carcase began to take fire.

" That brown powder was firemould," explained Tass. " It feeds on organic matter and generates heat. The freeze fungus gets its energy from body heat, and when there's no heat it goes dormant. Now the two moulds are both awake and there's quite a battle going on. Eventually everything will be burnt up and nicely sterile, so when you see anything covered in snow it's best to use firemould in case it happens to be a victim of freeze fungus."

At last they came to the entrance to a cave in the mountainside.

" Here we are," said Tass. " We'll leave the gifts in the cart, the Council will send someone out to bring them in."

They walked into the cave which was very warm after the mountain cold. It was apparently pitch dark, but once her eyes became used to the absence of light Dela found that there was a sort of glow from the walls and floor by which she could see.

" Who enters ?" came a whispered voice from behind. Dela turned and screamed with horror, for standing there was a creature like a distorted caricature of a human. It was barely a yard tall, with long arms and short bowed legs, its head had a great lipless slit of a mouth and golden eyes with square pupils. Tass held her to him.

" Don't be afraid Dela," he said, " that's only Yuhin the door-watcher."

" But he, it—oh horrible, horrible," she whispered.

" Like a Thrag ?" asked Tass.

" A Thrag is human, I—oh Tass, Tass, is this Foresdel's secret ?"

" It was no secret to Foresdelians," he said, then he turned to the door-watcher. " I am Tass Fowarer and this is my woman Dela."

" She is afraid and does not like, that is bad," came the whispered answer. Then the little creature disappeared into a side cave.

" You should be interested," said Tass. " Yuhin is a pixy, and there aren't many left. Once they were all over, so almost every planet has legends. They're an old race, and like old races they used to be malicious and cruel, but now they're just plain old. They didn't care until man came to Foresdel and so we could have been two separate races. But we didn't want it that way. Go back to your fairy stories, you had them in the Federation, and remember what they said, particularly about changelings."

" You mean you allowed—"

" It was a high price. It wasn't easy to let a child go and take a pixy, but in time there weren't any more changelings except voluntary ones, and we all became one race more or less. But there's wisdom here, wisdom culled before man was a cell in the sludge of a half-formed planet, and we get it, as and when it's right and necessary. But you showed loathing and fear, and that means you'll have to work it out. How could I have warned you ? Now you know why mother was worried."

" And I go to my execution," she said.

" If you want to. Or I can drive you back to the base."

Dela looked at him, then she said, " How do they execute people here ?"

" There will be a test," he answered, " and I never knew till now how much I would lose if you fail."

" Then I mustn't fail," she smiled faintly.

They went down a maze of passages, and pixies became more and more frequent. Dela became scientifically curious, but before she could form any theories they entered a great hall. Seated at a table were ten pixies and Dela felt that they were looking at her with anticipation.

" You know our custom, Tass Fowarer," said one who was evidently the leader. " There has been injury done and payment must be exacted."

" There was ignorance," said Tass, " now there is knowledge and understanding. If ignorance be penalised why do we suffer any new-born thing to live ?"

" You argue well, but if there was ignorance why was there hate and fear ?"

" To save further argument," said Dela, " I admit to all the charges, and will accept whatever punishment is in store. But this I say, I will not accept tamely, if there is a fight and damage is done, then you, who set the punishment, must accept the blame."

" Such are the conditions," said the leader and called out " Bring Fapela."

" I feared as much," whispered Tass. " Fapela is an expert in illusion, if you have terrors prepare to see them now."

The pixy who came in was obviously female and she looked at Dela in a curious way. One moment Dela saw the hall in front of her, the next she was standing in a cave and there was a furious snarling sound from outside. Suddenly a great reptilian head pushed itself through the entrance. A part of Dela's mind screamed in terror, but the training she had had in anthropology came to her aid and she examined the monster clinically. She had just come to the conclusion that it was a species of extinct dinosaur when it vanished like a puff of smoke.

One terror followed another, and Dela began to resent it, the whole thing was grossly unfair, an old race should be older and wiser than to punish anyone. Dela recalled she had threatened to fight back. She came out of an illusion of being cornered by rats in a cave, and the thought came to her that all the illusions had been in caves. She focussed her mind on the picture of a vast open plain and coming over it was a steel monster on huge caterpillar treads belching flame from projectors, and running from it was Fapela.

Illusion fought illusion, Dela saw it could only end in a stalemate, but she had to have a victory to clinch matters.

Her imagination felt drained, it had nothing more to offer, and desperately she clung to the nothingness. She recalled how she had once volunteered for an experiment where all neural sensations to the mind were cut off, there had been nothingness, no feeling, no contact, everything non-existent. She was reliving the whole shuddering madness of it when dimly she heard a dreadful cry and found herself lying on the floor of the hall and Tass kneeling by her side.

" Fapela," she groaned and turned her head. Like a crumpled doll the pixy lay only a few yards from her. Dela got to her feet and staggered over to her opponent. She saw the horror on the little face, clinically a part of her mind noted that pixies too assumed the foetal position in shock, and very gently she cradled the little head in her arm.

" Fapela," she said, "it wasn't real, it wasn't non-existence, reality is what you make it." Desperately Dela talked and slowly colour came back to the tiny face but there was something missing and suddenly Dela knew what it was.

" Fapela," she said, " be my friend, won't you ?"

" Good friend, Dela," came the little voice. Dela stood up, swaying on her feet.

" Is that the best you can do ?" she said defiantly and collapsed into Tass's arms.

When she recovered Dela found that she was in the cart and they were heading down into the valley where the base was.

" You convinced the Council," said Tass, " very well and very effectively. I won't ask what you did to Fapela, but you have made yourself a very useful friend through just being kind. I wondered what mother meant when she talked about children of the mind, but now I know."

" Sometime I'll go back to the Council," said Dela. " They need a basic course of instruction in ordinary humanity. If we can save the people on the base then we'll have a good start."

" I forgot to say," said Tass, " that the Council have agreed to fight the Thrags, but to do it effectively the base must not attempt to defend itself. If you feel equal to another task then it is for you to convince everyone in the base that to fight the Thrags they'll have to take to the woods."

" That will take some doing," said Dela. " Need we go to the base now ? I need some rest and a little thought."

" Easily done," said Tass. " I've a friend I want to show you off to." She laughed, and leaning her head comfortably on Tass's shoulder she drowsed until it was time to change from runner to wheeled fitting for the cart.

The house they came to as evening was falling didn't look Foresdelian, in that it was built of stone instead of wood, and had what was unmistakably an observatory dome on a flat roof.

" This place belongs to Tober Mitson," said Tass, " he's a renegade Foresdelian, as much as anyone can be."

" Renegade ?" enquired Dela.

" Yes, he looks out instead of in."

Dela found that the Mitson family made books. They had come to Foresdel as immigrants seeking a quiet place to work and had begun the nucleus of a planetary mythology. In the basement of the house they had a printing press worked by Foresdel's only stellar power unit, but Mrs. Mitson also hand-worked books with illuminated pages and exquisite drawings.

Like everything else on Foresdel, the cheaper books were the ones sold, the others were always given away to deserving people. Dela was fascinated by a set of volumes which had been commissioned by the Council of Foresdel, and their host explained that they were the history of the race of pixies but written in a language known only to them. The script was drawn up and Mrs. Mitson worked it into book form.

After the evening meal was finished and the children put to bed they went up to the observatory and Dela was not surprised to see that a ship bearing the cross and star of the Thrags was orbiting the planet.

" In a way," said Tober Mitson as they were seated round the fire later, " I can sympathise with the Thrags, at least in their aims. People are desperate for spiritual ease, that's why the Thrags had their initial successes, but by now I think they have realised that they can't run the Federation unless they use the very things they want so much to do away with—the computer and the power unit—and in the finish they'll end up as another Federation."

" But could you make a Federation of planets like Foresdel?" asked Dela.

" I don't see why not," volunteered Mrs. Mitson. "Granted that federation implies communication, and communication tends to imply a technology, but the crux of the matter is the

nature of the technology, and man is not made for a physical technology. That's shown by the fact that computers have become bigger and bigger in inverse proportion to their efficiency. One random factor is too much for any computer, and man has an almost infinite randomness in his make-up."

" Is there any other sort of technology than a physical one ?" Dela enquired.

" Yes, the Council of Foresdel have used a psychic way for millennia. It ties up with the definition that the aim of all the activities of mankind is the achievement of happiness. Of course this aim more frequently misses the target than it hits, and so man, hurt and puzzled, tries something else. The pixies probably went through all this and at last they achieved a dynamic happiness using purely psychic means. In case you wonder why I said a dynamic happiness, I mean a state where all the faculties are alive and responding, as compared to the static happiness of a person treated by prefrontal lobotomy—"

" Or dead," said her husband.

That night Dela stood with Tass by the open window of their room and looked out on a night full of whispers. It seemed as if the whole forest was stirring and as she turned away she wondered if perhaps some of the whispers were the Council of Foresdel going to work. They slept late, and when they came down to breakfast Tober had already been out in the forest to gather flowers to decorate the table.

" There's been a lot going on through the night," he said. " I found a wind-seed you'd have been interested in Tass, as big as your fist nearly. Naturally I put it back. I've heard that the base has also been busy, putting up extra defences."

" I've got to try and talk them out of it," said Dela.

" I doubt if you will," said Tober.

Tass stopped the cart just short of the boundary of sonic rammed earth encircling the base.

" I'd like to think I'll come out of this all right Tass," said Dela, " but if I don't then I want to thank you for the best time I've ever had."

" Go," he said hoarsely, " go before my heart breaks." He jumped into the cart and sent the shogal thundering away.

Dela looked at the base as she walked towards it. She noticed the reinforcing units being fitted to the screen generators, and the glitter of the reflectors on three new fixed mount

disruptors. General Magruder was determined to make a good showing, she thought, but if the Thrags were reinforced then nothing anyone could do on the base would stop them.

The soldiers on the gate wore partial battle armour. Dela showed her identity card only as a formality, and the sergeant in charge said that General Magruder had left word for her to go straight to see him whenever she arrived. Dela thumbed a lift on a truck and was soon in the Control Building. As she, and an escorting officer entered the passage where the General's office was located they heard the hiss and crackle of a disruptor beam. They rushed into the office, General Magruder was standing there, and lying on the floor was a charred corpse.

" Captain," he said to the officer, " get a couple of men to put these remains out, quietly, in case any other soldier gets the idea of supporting the Thrags."

When the body was removed General Magruder waved Dela to a seat and said, " Welcome back, Dela. How did things work out ?"

" It worked for me as I planned," she said. " Foresdel is a mad world, but when you've lived in it no other place will do. You know what I said about asking for acceptance into Foresdel, I say we must do it now."

" If you'd come back a week ago I might have managed it," he said. " As it is I haven't time to put it to the personnel."

" Then don't," she said. " Wreck the controls and get out. The Thrags can have the base, they won't hold it."

" No," he said, " I suppose it's the easy way, but I've my pride. I heard over the transwave that we're the last of the Federation forces. We were ordered by the Great Priest to let his men in and prepare for a faith testing. I answered that if his men wanted to come in they were welcome, but I wouldn't like to guarantee the form of reception. I'm pretty certain that they will attack tomorrow. You've time to go if you wish."

" I expected you to think better of me, General," she said.

" Good girl," he smiled. " Now get down to Supplies and get kitted out, then attach yourself to Medical."

Dela found that her measurements had changed in a few short weeks. She had put on muscles and her reactions were

faster, but she felt uncomfortable in battle armour after the loose clothes of Foresdel and her bunk was a poor substitute for the beds she had become used to. The other girls naturally asked questions, but Dela felt a curious reticence and she gave a few half-truths and left it at that.

Evening came, and with it a tenseness. Thrags never attacked at night, but nonetheless guards were alert. Dela lay miserably in her bunk, missing Tass, restless, smelling the unfamiliar smells of the base and hating it all. At last the sky paled and she rose quietly and dressed.

In the cool of the dawn she went out of the dormitory building and looked towards the mountains. Her mind sought for the origin of the feeling of wrongness and then she found what it was. The ground ringing the base, hard as stone after having its particles fused together by sonic rammers was cracked and broken, it looked powdery and loose and there was the feeling that something was there and waiting. A crash of martial music wakened the base and as she went in for the morning meal Dela began to scheme out what she had to do.

During the meal the base tannoy announced that the Thrag fleet was approaching Foresdel and that everyone should take up their assigned duties as soon as possible. Dela quietly slipped away and went down into the network of underground passages where the power room and other heavy equipment was installed. When she heard over the tannoy that the Thrags were descending to attack Dela made her way towards the control room. No-one stopped her and she went into the bustle and confusion without question.

On the big screen she saw the glowing walls of the force shield over the base, and noted that the load meter was at zero, things were just right. She drew her disruptor and fired at the shield control. Arcs jumped, the shields vanished and there was a sudden silence.

Almost kindly General Magruder asked, "Why did you do it, Dela ?" As if in answer the voder on the met unit announced "Wind velocity shows an unprecedented increase, velocity now forty kilometres an hour."

" That's why," said Dela, " I warned you. Look at the ground outside the base. It's all broken down and those red flowers appearing are wind flowers, they produce thermals and increase wind velocity—"

" Wind velocity now eighty kilometres an hour," said the met voder. " Danger, repeat danger, all personnel retire to underground, retire to underground."

" But the Thrags—" began an officer.

" I hate to think of landing anything in storm wind," said the General, " safety all." The staff left the control room in an orderly manner. Dela went last with the general.

The underground ways of the base were filled with a mass of personnel.. General Magruder took a relay microphone from his pocket and spoke into it. His voice boomed out through the tunnels, with a curious unreal quality.

" There is only temporary safety here," he said, " an emergency way has been prepared which all personnel will take. There is no light on the way so all personnel will keep together. I will break down the wall."

He drew a disruptor and pointed it at the end of a cul-de-sac. There was a hiss and crackle and with a cloud of dust the wall fell inwards revealing a dark tunnel. There was something strange about it Dela thought. The three thousand people on the base were all used to taking orders without question, they filed in, but Dela waited beside General Magruder. The last stragglers went through and Dela felt a tiny hand in hers.

" Coming, friend Dela ?" asked a little voice. She looked down, General Magruder was gone and Fapela stood there. " The Council see all safe," said Fapela, " then destroy base and demon-makers."

" But the General—" began Dela.

" We take through night, you see. Fapela can make other images, make image of General, take control, drive all like shogals, except friend Dela. Now you come." There was a distant crash, Dela needed no second invitation. As she hurried along the tunnel there were dying sounds as the results of two years effort by the Federation builders was reduced to rubble.

The tunnel ended three miles away, high above the base, and the personnel stood silently on a ledge and watched the roaring vortex of wind boring into the concrete and steel that engineers had planned to be immovable. The tunnels beneath the base had gone long since, all the wind had to work on were the foundations, and those were being rent and split

across. On the far side of the valley lay fifteen objects looking like tin cans trodden on by a great foot, they had once been a Thrag fleet, and no doubt when the wind was blown out Foresdelians would go looking for survivors Dela thought, or perhaps even the pixies, and she shuddered.

The wind died slowly, turning into a thunderstorm with drenching rain that completed the rotting of the last of the wind-flowers. Even without assistance the forest would take over the base in a few years, and in a century the actual location would be in doubt.

A heavy mist settled over the valley, then out of it came the Foresdelians. General Magruder jumped lightly down from the first cart and his presence seemed to cheer the base personnel. He was in good spirits himself, telling, with a smile, how he had awakened to find himself in the house of Tober Mitson, with no idea how he had arrived there. When there was the query as to how he had seemingly been in two places at once General Magruder answered that one day Foresdel

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would doubtless reveal the secret but until then it was the business of everyone to get settled down and become Foresdelians.

So in little groups the people from the base began to go. Some went on foot, others got lifts in carts and at last Dela and General Magruder were left alone. Presently there was the sound of wheels and out of the thinning fog came Tass in his cart. Dela ran to him, hugged him thankfully and then asked why he was late. He explained that he had been making arrangements with his mother for a guest.

To the general he said, "We'd like you to stay with us for a while, sir, at least until you settle into Foresdel. I owe you that much for giving Dela permission to seek my hand in marriage, and for co-operating with us after the destruction of the base. Of course, you'll be welcome anywhere, but we hoped—"

" You've talked me into it," smiled the General. " I've been told, Dela, that you're afflicted with an exceptionally severe mother-in-law, it might be as well if I went along and reasoned with her on your behalf."

Much later that day, high among the snowfields they stopped and watched, as from beyond a mountain ridge, a group of sparks drifted upwards.

" The Council have quite a few techniques," explained Tass, " such as floating rockets into space by the same mechanism that some plants employ to scatter spores. I wouldn't be surprised if those rockets aren't bound for Kwelek to finish off this morning's work."

" The Thrags may return," said Dela.

" I doubt it," said the general. " They've a whole Federation to reorganise. Perhaps one day they may set out to find us."

" In our lifetimes ?" Dela asked Tass.

" No," he said. " We've earned the years ahead to find ourselves. Perhaps when we've done that we may set out to find the Federation, if there is one, but not until."

Alan Burns

EDITORIAL—continued

As I have described it, they were garish and often crude but don't be deceived, they had an atmosphere all their own. In a window or on a bookstall they hit you right between the eyes, you couldn't *miss* an s-f magazine in those days.

Some of the art work, particularly the interior illustrations, were literally inspired and often outclassed the story they were illustrating.

Do not imagine for one minute that I am becoming sentimental about the past. I came across an old magazine (1930 vintage) in a second-hand bookshop the other day and the illustrations had lost none of their magic.

Much as I appreciate the rising costs and change of format, I recall those great illustrations with a touch of sadness. Perhaps they were part of our ' sense of wonder.'

In those days science fiction magazines were large, some of the quarterly editions resembling volumes in a library, the neat pocket-size editions lay far ahead in the future.

But to continue : I read that book from cover to cover and I knew I was ' captured.' From then on I haunted bookstalls, attended jumble sales and badgered friends to turn out their attics. I devoured Jules Verne, I plagued the librarians for H. G. Wells and I gloated over a growing pile of s-f magazines.

The stories of those days, with a few notable exceptions, did not aspire to the high literary standards of today but they were bursting at the seams with new ideas and conceptions. They were almost too generous, the average short story packed enough action, gimmicks and plot material to keep a normal writer going for at least three months.

As for the science side, some of the current publications, particularly the old *Astounding Stories* set very high and almost too complicated standards.

As a schoolboy of thirteen much of the science escaped me but I was captured by the ideas, the magnitude of the conceptions or, if you prefer it, the sense of wonder.

Think about that, please. Since then a major war has come and gone, the standard of education has risen, the nations are technically minded and the world stands on the brink of space.

Yet today I can walk into a public library, take down a volume of science fiction stories by famous authors in the field and the first thing I see is a foreword. The foreword,

usually by the compiler or another famour author, is at pains to *explain* science fiction.

At thirteen years of age no one troubled to explain science fiction to me or give me a lead as to what the authors were trying to say. When I tell you that I was an average schoolboy I border on the edge of self-praise. I was consistently bottom of the class in mathematics and, in one exam, achieved the shameful distinction of having my papers marked *minus ten.* I even had one of the questions wrong. Despite these doubtful qualifications, however, I could understand science fiction.

The publishers of Jules Verne and other great masters deemed it unnecessary to simplify their talents or introduce it—with all the inferences of apology—as an off-beat and slightly suspect form of literature.

A good story captures the imagination and if it is found necessary to explain it there is obviously something wrong. *Good* science fiction can get there under its own power, thank you.

A large number of people, I find, bemoan the passing of our ' sense of wonder.' Is this true ? I maintain it is not, or to put it this way, my own steadfastly refuses to be put to rest.

As you will have gathered, I am an old-timer and my sense of wonder should be a little blunted by now but it obstinately refuses to lie down. Seven times within the last year I have started reading stories I just *could not* put down, my sense of wonder had me in its grip again.

I have avoided personalities for obvious reasons (I admire and would like to congratulate so many) but two authors of the above are definitely worthy of note because they are separated almost by a generation. The first was that old master Theodore Sturgeon and the second, with his first story in *New Worlds Science Fiction,* Colin Kapp.

Gentlemen, I raise my hat to you both. I was not sitting on the edge of my chair, I was sitting in mid-air—the sense of wonder, and the skill to create it, is not dead.

Incidentally, I should like to make it clear that when I used the expression ' foreword ' I was not referring to those delightful aperitifs preceding the stories in *New Worlds Science Fiction* and other magazines. This practise goes back as far as I can remember and I for one would deplore its disappearance.

As a reader of every s-f magazine published in this country, and quite a number which are not, I am struck by the rapidly

widening gap between British and American publications. At one time British magazines were inclined to ape their American cousins, some going so far as to include American idioms and phrases in their stories. Lately, however, British science fiction has struck out vigorously on its own with excellent results and achieved its own independence.

In the United States a large number of stories are now based on the paranormal, or psi. In this country the psi story is unpopular with editors and readers but, (yes, there is a but), I do not think it is a subject we can ignore indefinitely. In my opinion the right type of psi story for British science fiction has yet to be written.

I believe the unpopularity of the psi story in this country is due to the fact that we have been asked to accept its existence whereas its operation should be explained in terms of science. The British reader is, I think, far more orthodox than his American counterpart and demands that psi be interpreted and explained in the same way that gimmicks and weapons are explained. I reserve the right to be challenged on that statement, of course.

To elaborate, a character in the story levitates and floats round the room. There are two explanations for this phenomena, first the scientific (an anti-grav appliance) and secondly, a so called psi faculty which must first be *rationalised.*

Paranormal phenomena is, I believe, unpopular because it remains a mystic subject and as such has no place in science fiction, transform that phenomena into comprehensible laws and it becomes acceptable.

Why am I harping on this subject ? The development of man's mental powers are just as much part of the future as space travel and therefore cannot be dismissed. It is up to the British writer to present this subject in suitable form for the British reader. It has been done (and in *New Worlds)* and will be repeated because it is the science fiction writer's job to report the future.

I have said quite a lot about the British viewpoint but the genre has suffered a great deal in this country. Everyone, I am sure, mourns the passing of *Authentic* and *Nebula.* Their end was not only a blow to British science fiction but, as Editor Carnell so rightly remarked at the time, closed another door on the new writer.

I would like to digress here for the benefit of the new writer. All this has been said before but it won't hurt to say it again. The editor *really reads* every manuscript sent to him and, if you have the gift, he will be the *first* to help you.

I, myself, am deeply indebted to Editor Carnell, E. C. Tubb and Peter Hamilton. But for their genuinely practical help and constructive criticism I might still be papering a small tool shed with rejection sUps. But it means a great deal of hard work and disappointment to begin with. On the other hand, if you have a small tool shed like mine you will save a few shillings on wallpaper. Later, when you've made the grade, you may retire to it to restore your sense of proportion.

Science fiction needs new writers, new ideas and conceptions. Not only will editors welcome you but established authors as well. Every new idea and new approach triggers off our imagination and ideas of our own start fermenting. No, we'll never grab your plots, but both writer and reader like their imaginations stimulated.

I suppose this would be an appropriate time to ask ' what of the future ?' I am, alas, no prophet. (This is strictly psi and I have stuck my neck out once already).

There are, however, a number of indications in the present, which indicate a possible future and upon these I must base my predictions. (Not a psi faculty you will note, but an assessment of given data).

Confound it, this is an opportunity, let us in a minor way, rationalise prophecy. Let us send a volunteer to visit the seer.

According to tradition the prophet will have the necessary trappings and appearance and the volunteer will be shaking in his shoes.

" Ah," says the prophet with a singular lack of feeling, " your days are numbered, ere the first spring flower appears you will have leave to this world."

Our prophet could have qualified his statement, thus : " From long experience I perceive all the outward symptoms of a fatal disease, unless you seek medical aid immediately you will be dead within six months."

Both statements are prophetic but the reason for the latter is made understandable. Have I made my point ?

Ah, you say, but that is not a psi faculty.

Now there is a point, where does one begin and the other start?

Returning to the pseudo-psi, I cannot help thinking that science fiction is on the upward trend. General standards are higher and far more mature. I predict a steady upward climb with vigorous new ideas and much breaking of new ground, but we'll have to wait and see if I'm right.

Before I close, I'd like to pay one tribute but I have to be careful to avoid any suggestion of bias.

This has dealt mostly with writers, now let's have three cheers for the editor. Let us remember he brought *New Worlds Science Fiction* to its present high position and kept it there. Without editors we would have no market for our work, so we can call it a mutual salute. It is his discrimination in the selection of material which keeps the standards high.

Let's leave it at that.

Philip E. High

THE LITERARY LINE-UP

A number of factors are involved in deciding each issue of *New Worlds Science Fiction*—story lengths, type of story, length of serial—plus stories approved but not completed by some of our regular contributors. Sometimes, as happens this month, we are not always sure just how the next issue will finally be completed in time to pass on the information so that it can appear in this section.

While there are many short stories on hand, the final choice has not yet been made. We can only commend the second (and final) part of John Rackham's serial " The Dawson Diaries," an extra long section packed with excitement and drama and one of the strangest themes yet presented in British science fiction.

Story ratings for No. 112 were :

1. Echo . . . . . Lee Harding
2. The Golden Age (Part 1) - - - Rupert Clinton
3. Billenium . . . . . J. G. Ballard
4. The Martian Hunters - - - Philip E. High
5. All Laced Up . . . . . George Whitley

However, the points scored between Nos. 2 to 5 were so close that a few more votes could have changed the positions—or caused them all to tie !

Paperback—American

As though in answer to (among others) Kingsley Amis' lamentation that science fiction is notably deficient in humour and sex, along comes a gem of a new novel in complete refutation. It is an original American paperback and is unlikely to be published here unless (it is to be hoped) as a revised serialisation in these pages. It is an hilarious extravaganza, a political satire, good s-f a la Wyndham, and a first-rate novel rolled into one, and—to misplace a metaphor—it looks sex squarely in the face. It is not written by an American, or even a new author, but by one of our most talented, if a trifle erratic, writers, Brian Aldiss, shown in almost a new literary style. (I say, almost, because his very first book, *The Brightfount Diaries,* revealed his ability as a humourous writer). The title of the book I so thoroughly enjoyed and hope you will share the same enthusiasm for, is The Primal Urge (Ballantine).

The primal urge is the attraction of one person for another of the opposite sex—a happy and natural state of affairs which has always been an important ingredient in the lives of we joyously licentious people, apparently only recently dampened in its public exposition by Victorian middle-class morality and latter day neo-Freudianism. However we British also have an ingrained reticence against invasion of privacy, so when the invention of Emotional Registers (a tell-tale device permanently implanted on the forehead) enables a typically ham-fisted government to foist compulsorily these sexual tilt-signs on a divided British public (like " public erections " complains one character) trouble is inevitable. Just how the trouble spreads, and how it affects the adventures, both amatory and otherwise, of the leading character, is wonderfully told by Mr. Aldiss in an extremely witty and entertaining story.

Leslie Flood

The Silver Eggheads by Fritz Leiber (Ballantine Books, 50 *0).*

Satires being the order of the day, it does not necessarily follow that everyone is first-class. Despite Fritz Leiber's

brilliance as a writer, this one falls into the " does not" class. The micky-taking is against fiction writers in a future world where all writing is done cyberaeticaliy—until the revolt of the rebel machine-tenders, then humans and robots become inexplicably mixed along with a welter of words as the ingredients take on the appearance of a mess of mental porridge.

The Unsleep by Diana and Meir Gillon. Another satire, but this time one well worth reading (it started out as a British book in 1961). A drug, Sta-wake, introduces 24-hour days of work and pleasure ; sleep becomes unnecessary—the permutation of possibilities with a plot like this become endless. Action is naturally centred round the one rebel who refuses to succumb to the new euphoria. His everyday adventures turn to nightmares, often humorous from the reader's viewpoint.

The Wind From Nowhere by J. G. Ballard (Berkley Books,50^)- The first novel from this popular British writer tells of the steady rising winds round the world until civilisation begins to crumble and life is virtually forced underground. One man attempts to defy the elements as nature goes mad. The framework of this story appeared as a two-part serial last year in this magazine (" Storm Wind ") but the new novel is vastly different in almost every respect. Good for a " disaster " story-

John Carnell.