THE MAGAZINE OF

Fantasy AND Science Fiction

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ALL-STAR ISSUE —

JULY

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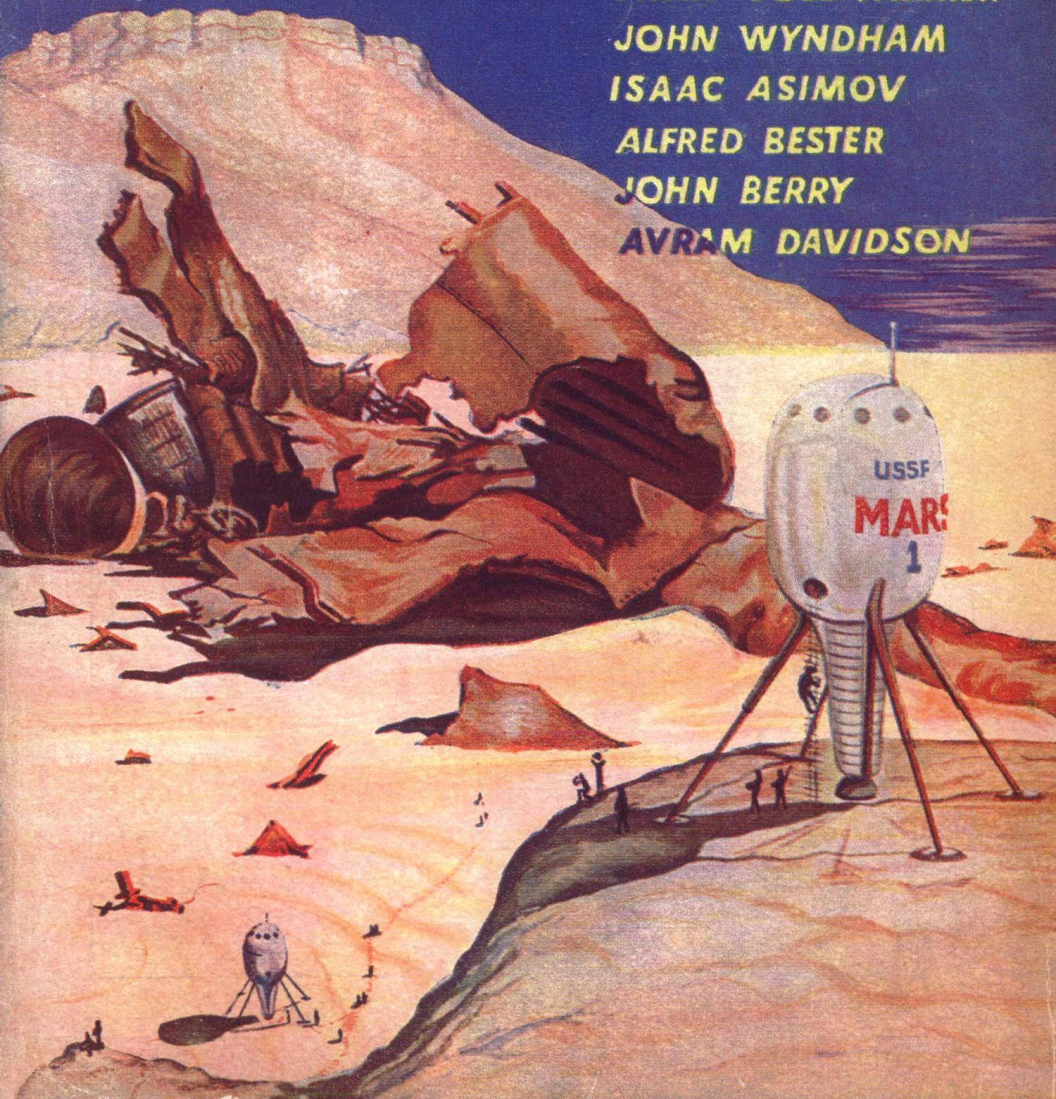

THE MAGAZINE OF

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GORDON R. DICKSON

I WENT INTO A BAR.

'Gimme a drink,' I said to the bartender.

'Brother, don't take that drink,' said a voice at my elbow. I turned and there was a skinny little guy in his fifties. Thin yellow hair and a smile on his face. 'Brother, don't take that drink,' he said.

I shook him off.

'Where'd you come from?' I said. 'You weren't there when I sat down here, one second ago.' He just grinned at me.

'Gimme a drink,' I said to the bartender.

'Not for you,' said the bartender. 'You had enough before you came in here.' A fat bartender polishing shot glasses with his little finger inside a dishtowel. 'Get your friend to take you home.'

'He's no friend of mine,' I said.

'Brother,' said the little man, 'come with me.'

The best young people emigrated to new worlds, which made it tough on those not good enough to make it. In Jack's case, however, failure was due to feeling inferior. At least that's what they told him. Work hard and believe in yourself, and there'll be no limit to what you can do, they said. Of course, what they had in mind was quite different from what Jack was thinking of. . . .

'I want a drink,' I said. An idea struck me. I turned to the little man. 'Let's you and I go someplace else and have a drink,' I said.

After I started to get over it, it wasn't too bad. The first week was bad, but after that it got better. When I found how the little man had trapped me, I tried to get away from the mission or whatever it was he'd taken me to. But after the booze died out I was real weak and sick for a long time. And after that stage was over I got to feeling that maybe I would quit after all. And I started having long talks with the little man. His name was Peer Ambrose.

'How old are you, Jack?' he asked me.

'Twenty-six,' I said.

He looked at me with tight little brown eyes in his leather-face, grinning.

'Can you run an elevator, Jack?'

'I can run any damn thing!' I said, getting mad.

'Can you, Jack?' he said, not turning a hair.

'Whattayou mean, can I run an elevator?' I shouted at him. 'Any flying fool can run an elevator. I can run any damn thing, and you ask me can I run an elevator. Sure I can run an elevator!'

'I have one I'd like you to run for me,' he said.

'Well, all right,' I said. I didn't mean to yell at him. He didn't seem to be a bad little man; but he was always grinning at me.

So I went to work running the elevator. It wasn't bad. It gave me something to do around the mission or whatever it was. But it wasn't enough to do; and I got bored. I never could understand why they didn't have one of the automatics anyway—any elevator with an operator was a museum piece.

But we were only about half a mile from the spaceport and when there wasn't anything doing, I'd take the elevator up to the transparent weather bubble that opened on the roof garden and watch the commuters and the sky with its clouds and the big ships taking off all sharp and black like a black penpoint at the end of a long white cone of exhaust. I didn't do much—just sat and watched them. When the signal rang in the elevator, I'd press the studs and we'd float down the tube to whatever floor wanted an elevator, and that'd be that.

After a few weeks, old Peer rang for me one day on the office level and told me to leave the elevator and come on in to his office.

When I went in with him, there was another man there, a young man with black hair and wearing a business cut on his jacket.

'Jack,' said Peer, 'this is counselor Toby Gregg. Toby, this is Jack Heimelmann. Jack's been with us for over a month now.'

'Is that a fact?' said Toby. 'Well, I'm glad to meet you, Jack.' He put out his hand, but I didn't take it.

'What's this?' I asked, looking at Peer. 'What're you cooking up for me now?'

'Jack,' said Peer, putting his hand on my arm and looking up into my face, 'you need help. You know that. And Toby here has training that'll help give it to you.'

'I don't know about that,' I said.

'Jack,' said Peer. 'Now, you know I wouldn't recommend anything that was bad for you. Now, I'm going to ask you to talk to Gregg. Just talk to him.'

Well, I gave in. Peer said he'd get somebody else for the elevator and I was to come and talk to Gregg three times a week; and meantime, I was given some books to read.

The first time I went to see Gregg in his office on office level, he offered me a drink.

'A drink!' I said. And right away the old thirst came charging up. And then, while I stood there, it faded again, all by itself.

'I guess not,' I said. Then I stared at him. 'What's the idea of offering me a drink?' I asked. 'What're you trying to do?'

'I'm just proving something to you, Jack,' he said. We were sitting in a couple of slope-back easy chairs with a little low table between us that fitted up against one wall of the office. He reached over and pressed a stud on the table and a little panel in the wall above the table opened and a bottle and some glasses slid out on a tray. 'Go ahead, you can have the drink if you want. I'm just showing you that is isn't your drinking that we have to fix, but what's behind it. When we get through with you, you'll be able to take a drink without going out on a bender.'

'I will?' I said. I looked at the tray. 'I still guess I won't have anything.'

'Cigaret?' he said, offering me one.

I took that.

'Tell me, Jack,' he said, when I had the cigaret going between my lips, 'how long have you been smoking, now?'

'Why,' I told him, 'let's see. I was smoking in general prep school when I was twelve. That'd be—let's see—'

'Fourteen years,' he said. 'That's a long time. You started early. You must have had a pretty rough bunch of kids around that general prep.'

'Bunch of damn sissies,' I told him. 'Catch *them* smoking! I bet there isn't a dozen of them that smoke today.'

'Most people don't, you know,' said Gregg.

'My dad started at ten,' I said.

'That was back a few years,' he smiled. 'Habits change with the years, Jack. Most of those kids you were in school with were probably looking forward to jobs where smoking wouldn't be practical.'

'Yeah. Yeah, I bet they were,' I said. 'They sure figured to be big shots.'

'All of them?' he asked.

'Most of them,' I said. This talk was getting on my nerves. I didn't like to talk about general prep school. I had five years of it after I got out of secondary and I was seventeen before I cut loose. And that was plenty.

'Didn't you have a few friends?' he asked.

'Hell, yes!' I said. 'D'you think I was an introvert?'

'No, Jack,' he said, soothingly. 'I can tell by looking at you you're not an introvert. But these friends of yours. Do you ever see any of them any more?'

I jumped up out of the chair.

'Listen, what is this?' I shouted at him. 'What're you getting at? What're you trying to find out? I don't see any sense to this kind of questioning. I don't have to sit and listen to these kind of stupid questions. I'm leaving.'

And I turned and headed toward the office door.

"All right, Jack,' he said behind me, not irritated at all. 'Come back any time you feel like it.'

At the door, I turned once more to look at him. But he had his back to me. He was putting the tray with the bottles and glasses on it, back into the wall.

I told Peer I had changed my mind about the counseling and went back to work on the elevator. The old man didn't seem annoyed at all. And I worked on the elevator for several weeks, riding people

up and down and going up by myself to watch the sky and the people flying around and the ships. But after a while it began to wear on me.

I don't know what actually made me decide to go back to Gregg. I suppose it was because there just wasn't anything else. There was nothing much doing with the elevator; and there wasn't much sense in leaving the place and going back to the old drinking again. I really didn't want to start that all over again; but I knew if I got out by myself I would. Finally I figured I'd go back to Gregg and tell him I'd listen to just enough questions to cure me of my drinking, but nothing else.

When I went back to see him, for the first time, though, he told me that wouldn't work.

'You see, Jack,' he told me, 'to get rid of the drinking, we have to get rid of whatever it is that's making you want to drink. And whatever that is, it's what's causing all your other troubles. So, it's up to you whether you want a complete job done or not.'

I thought for a minute. Somehow talking with him made it seem easy.

'Oh, hell!' I said, finally. 'Let's dig it out. I can't be any worse off, anyway.'

So we went to it. And it was one rough time. Even Gregg said it was rougher than he figured. At first I was always blowing up and stamping out. But I finally got to the point where I could tell him anything. And it came out that I'd started getting a chip on my shoulder back as a kid; because I thought the other kids were better than I was. Actually, Gregg said, it was my adverse environment that was hampering me. My mother was a state ward because of her unstable mental condition; and the only woman we had around the house was the housekeeper Government Service paid for. And my dad was a portable operating-room driver for a country hospital; and he was away from home on calls most of the time. He wanted me to be a driver like him when I got out of school; but by that time they had the automatic routers in, so I didn't.

But Gregg figured out that, even though I never really liked the idea, my dad wanting me to do a manual job had given me an inferiority complex. Like my driving a portable operating room, when all the other kids in school were looking forward to being Earthside deskmen, or professionals, or getting schooled for new-world trades; the sort of work that means learning half a dozen

different lines that'll be needed on a new planet. Gregg figured it started hitting me as soon as I got into prep school and that was why I got into all kinds of trouble with the instructors and ran with a knify bunch and took up smoking and drinking. And he said that my inferiority complex had made me believe that I hated work; while actually, I was just taking out my dislike for my classmates on it. He said it was quite to be expected under those conditions that I would just come out of prep school; and draw my social maintenance year after year without really trying to find anything to do. And then, as time went on, the drink was bound to start to get me.

Anyway we went back over all my life and he started pointing out to me where I had been wrong in thinking I wasn't as good as the other kids; and after a while I began to see it myself. And from that time on I began to change.

It's not easy to explain just what it was like. I had had a basically good schooling as Gregg pointed out; and with the learning techniques used in our modern schools, the knowledge was all there, still. I had just not been using it. Now, as we talked together, he began to remind me of little odds and ends of things. My vocabulary increased and my reading speed picked up. He had me study intensively; and though at some times it was real hard, little by little I began to talk and act like someone of professional, or at least desk level.

'What you need now,' Gregg said to me one day, 'is to decide on some specific plan of action.'

'I beg your pardon?' I said, puzzled.

'A job, or some work you can devote yourself to,' said Gregg. 'You've been refusing to face the fact for years; but in our modern society everyone is busy at their chosen work. Now, what would you like to do?'

I stared at him.

'Have you ever thought of emigrating, for instance?' he went on. 'You're large and young and strong; and—active-natured. The new-world life might suit you.'

I thought about it.

'The new worlds aren't like Earth,' Gregg went on. 'We're overstocked here on second-raters, bogged down in a surplus of inferior talent. All the bright young men and women in each generation graduate and get off planet as quickly as they can. On a newer

world, you'd be freer, Jack. Your social unit would be smaller, and your personal opportunity to develop, greater. It'd mean a lot of hard work, of course.'

'I wouldn't mind that,' I said.

While he talked, I had been thinking. I remembered the teachers teaching about the new worlds in prep school. Hitherto untouched planets, they'd told us, which in every case present a great challenge and offer a great reward to the pioneer. Twenty-four percent of our young people emigrating every year. That meant, of course, the ones who had completed their schooling and passed the physical. The more I thought of it, the better it sounded for me.

'I'd like to leave Earth,' I said. 'There's nothing for me, here.'

'Well, good,' said Gregg. 'If your mind's made up, then you've come a long way from the man I first met. You know you'll have to go back to school and get your certificate?'

'Sure. I know.'

'Fine,' said Gregg. He punched some buttons. 'We'll start you tomorrow. Well, I guess that's enough for today.'

He got up and went with me to the door and out into the main corridor of office level. Coming down the hall was Peer, and he had a little girl with brown hair with him. They stopped to talk with us and I got introduced to the girl. That was the first time I met Leena Tore.

I liked Leena a lot.

I had bumped into a lot of women in the past years; but either they had been no-goods, hitting the alcohol as hard as I was; or else they were stuck up and you couldn't get along with them. I'd see them once or twice; but we wouldn't get along and that would be the limit. They all talked too much and looked down on anybody who wasn't professional level at least.

Leena wasn't like that. She didn't talk too much; and to tell the truth, she wasn't bright at all. In fact, she was stupid. But we got along very well together. She was an orphan, raised under State supervision in a private home. They found a job for her when she got old enough; but she didn't like it and finally went on social maintenance, and didn't do anything but sit around and watch shows all day. And finally Peer heard of her and brought her down to the place.

Gregg was working with her too. But he hadn't been going on

her long enough to make any real difference; and, privately, I didn't think he ever would. She was really too stupid. But she was an easy sort of person to get along with and after a while I began to think of marrying her.

Meanwhile, I was going back to school. It was hard as hell—I'd forgotten how hard it was. But then I hadn't really worked at it before; and I'd been away from the preliminary stuff a long time.

But I'd been through it all once before, as Gregg reminded me—I'd forgotten—which helped; and they really do have good techniques and associative equipment in the schools nowadays. So after a while, I began to know my stuff; and it perked me up. And when I got stuck Gregg would talk to me; and then things would come easy.

I got myself some new clothes and I began to mix with my classmates. Most of them were young kids; but by keeping my mouth shut I got along with them pretty well. And, you know—I began to feel this stuff they talk about, the sense of personal and racial destiny. I'd look around at these tall, good-looking kids talking big about the stars and the future. And then I'd look at myself in in the mirror and say, 'Boy, you're part of all this.' And I began to see what Gregg had said my inferiority complex had cut me off from before.

They said Leena was making progress. She had been going to school too; but she was several classes behind me and she still had some time to go when I graduated. So we talked it over, all four of us, Leena and me, and Peer and Gregg; and we decided I'd go ahead and get cleared and ship out for some world. And then when Leena came along later she could just specify the same destination when she went through emigration.

Leena didn't look too pleased at having to wait. She pouted a bit, then finally gave in. But I was eager to go. These past months had gotten me thoroughly into the mood of emigration; and I was a happy man the day I went down to the big section outside the spaceport where clearing and routing went on for those who went spaceward from our city. Gregg had had a long talk with me; and I felt real good.

There wasn't to be too much to it. I presented my certificate of graduation and my credentials. The deskman glanced them over and asked me if I had any preference about examiners.

'Celt Winter,' I said. This was a man Peer and Gregg had told me

to ask for. They said he was a friend of Gregg's who had heard about me from Gregg and was very interested in me. It seems he didn't have much time off, ordinarily, so he never had any chance to drop around the place; and if I asked for him as my examiner, that would give us a chance to meet before I left.

The deskman ran his finger down his file and pressed a few studs. A message jumped out on the screen set in his desk.

'Celt Winter has just stepped out for a minute,' he said. 'Do you want to wait, or shall I give you someone else?'

I sort of hesitated. I hated to disappoint this Winter; but I was too wound up just to sit and twiddle my thumbs until he got back. I saw the deskman looking at me, waiting for my answer, and I got kind of nervous.

'Oh, anyone'll do,' I said. 'Just give me anybody that's free.'

'Sven Coleman, then,' said the deskman. 'Desk 462.' He gave me a little plastic tab and directed me through a door to his right.

I went through the door and came out into a big hall covered with desks at which examiners sat. Most of them had people sitting with them. I went ahead down a lane between the desks until I reached the four-sixty row; and two places off to my right, I came to a desk where a tall young deskman with black hair and a long, straight nose, waved me to a seat.

I handed him my credentials; my graduation certificate, my government registration card, and my physical O.K. sheet, for I'd taken that exam a couple of days before. He read through them.

'Well, Mr. Heimelmann,' he said, smiling at me, and laying the credentials down. 'You realize this is just a sort of formality. We interviewers are set up here just for the purpose of making sure that those of our people who go out to the new worlds won't want to turn back when they get there. In fact, this is just a last-minute chance for you to change your mind.'

'There's no danger of that,' I said.

He smiled and nodded.

'That's fine,' he said. 'Now perhaps you'd like to tell me, Mr. Heimelmann, what you particularly want to do when you get to your pioneer world and any preferences you might have as to location.'

Gregg had told me that they'd ask me that; and I had my answer ready.

'I'd like to get out on the edge of things,' I said. 'I like singleton

jobs. As for location, any place that's got plenty of outdoors is fine.'

He laughed.

'Well, we can certainly suit those preferences,' he said. 'Most of our prospective emigrants are looking forward to team work in a close colony.'

I laughed, too. I found myself liking this man.

'Probably afraid to get their feet wet,' I said.

His smile went a little puzzled. Then he laughed again.

'I see what you mean,' he said. 'Too much community emphasis is a bad thing, even though the motives are good.'

'Sure,' I said. 'If you like a crowd, you might as well stay here on Earth.'

He looked puzzled again; and then serious. He picked up my credentials and went through them once more.

'You're in your late twenties, aren't you, Mr. Heimelmann?' he said.

'That's right,' I answered.

'But I see that according to your graduation certificate, you just finished your trade learnings.'

'Oh,' I said. 'Well, you see, I fooled around for a few years there. I couldn't seem to make up my mind about what I wanted to do.'

'I see,' he said. He put down my credentials and sat for a moment, tapping the top of the desk with his forefinger and looking as if he was thinking. 'Excuse me a moment, Mr. Heimelmann.'

He got up and left. After a few minutes he was back.

'Will you come with me, please?' he asked.

I wondered a bit; but I got up and followed him. I didn't see any of the other interviewers doing this with the people they had at their desks. But you can't tell what the procedure is in these kind of places by just looking. Sven Coleman took me over to one side of the big room and through a door into an office where a sort of nervous older-looking man got up from a desk to greet us.

'Mr. Heimelmann,' said Coleman. 'This is Mr. Jos Alter. He'd like to talk to you for a moment.'

'Hello,' I said, shaking hands.

'How do you do, Mr. Heimelmann,' answered Alter. 'Sit down beside my desk here, will you? That'll be all, Sven.'

'Yes, sir,' said Coleman and went out. I followed Alter to the desk and sat down. He had two tired lines between his eyes and a little mustache.

'Mr. Heimelmann,' he said. 'I've got a little test here I want you to take. I'm going to give you a tape and I'd like you to take it over to the machine there and put it in. As the questions pop up on the screen, you press either the true stud or the false to register your choice. Will you do that? I've got to step out for a minute, but I'll be right back.'

And he handed me the tape. It all seemed sort of strange to me; but Sven himself said, this business was just a formality. I did what Alter wanted me to.

The questions were easy at first. If I have ten credits and I give two-thirds of them away, how many do I have left? If the main traffic strips are closed to children below the age of responsibility and I have a five-year-old nephew with me, can I send him home alone? But after a while they began to get harder and I was still working when Alter came back. He took the tape and we went back to his desk, where he ran it through a scorer and set it aside. Then he just looked at me.

'Mr. Heimelmann,' he said, finally. 'Where've you spent the last six months or a year?'

'Why, at the place,' I said. 'I mean, the Freeman Independent Foundation Center.'

'I see,' he said. 'And will you tell me briefly how you happened to go there in the first place and what you've been doing while you were there?'

I hesitated. There was something strange about all this. But I had to give him some answer and there was no point in telling him anything but the truth, when he could just press a stud on his desk and call Peer to ask him.

'Well,' I said, squirming some inside, for it isn't easy to admit you've been an alcoholic, 'I was drinking one day in a bar—'

And I went through the whole story for him, down to the present. After I'd finished, he sat for a long while without saying anything. I didn't say anything either. I was feeling pretty low down after admitting what I'd been. Finally he spoke.

'Blast those people!' he said, viciously. 'Blast and damn them!'

I stared at him.

'Who?' I said. 'Who? I don't understand.'

He turned and looked me full in the face.

'Mr. Heimelmann,' he said, 'your friends at the Foundation—' he hesitated. 'Nobody hates to tell you this more than I do; but the fact of the matter is, we can't approve you for emigration.'

'Can't?' I echoed. His words seemed to roar in my ears. The room tilted and I seemed to have a sudden feeling as if I was falling, falling from a great, high place. And all the time I knew I was just sitting beside his desk. I grabbed at the desk to steady myself. I had a terrible feeling then as if everybody was marching away and leaving me—all the tall young people I'd gone to classes and graduated with. But I *had* graduated. My credentials were in order.

'Listen,' I said; and I had to struggle to get the words out. 'I'm qualified.'

'I'm sorry,' he said. And he did look sorry—sorry enough to cry. 'You're not, Mr. Heimelmann. You're totally unfit; and your friends at the Foundation knew it. This isn't the first time they've tried to slip somebody by us, counting on the fact that modern education can get facts into anybody.'

I just looked at him. I tried to say something; but my throat was too tight and the words wouldn't come out.

'Mr. Heimelmann—Jack—' he said. I'll try and explain it to you, though it's not my job and I really don't know how. You see, in many ways, Jack, you're much better off than your ancestors. You're in perfect physical health. You're taller and stronger. You have faster reflexes and better co-ordination. You're much better balanced mentally, so much so, in fact, that it would be almost impossible for you to go insane, or even to develop a severe psychosis, but . . .'

I tasted blood in my mouth, but there was no pain. The room was beginning to haze up around me; and I felt something like a time bomb beginning to swell and tick in the back of my brain. His voice roared at me like out of a hurricane.

'. . . you have an IQ of ninety-two, Jack. Once upon a time this wasn't too bad; but in our increasingly technical civilization—' he spread his hands helplessly.

The hurricane was getting worse. I could hardly hear him now and I could hardly see the room. I felt the time bomb trembling, ready to explode.

'What these people at the Foundation did to you,' he was saying, 'was to use certain psi techniques to excite your own latent psi talents—a procedure which isn't yet illegal, but shortly will be. This way, they were able to sensitize you to amounts and types of knowledge you wouldn't otherwise be able to absorb—in much the

same way we train animals, using these psi techniques, to perform highly complicated actions. Like an animal,—'

The world split wide open. When I could see again, I found little, old, leather-faced Peer had joined us in the room. Alter was slumped in his chair, his eyes closed. Peer crossed over to him, looked him over, then glanced at me with a low whistle.

'Easy, Jack,' he said. 'Easy now—' And I suddenly realized I was trembling like a leaf. But with his words, the tension began to go. Peer was shaking his head at me.

'We got a shield on Alter just in time,' he said. 'He's just going to wake up thinking you left and he dozed off for a while. But you don't realize what kind of a mental punch you've got, Jack. You would have killed him if I hadn't protected him.'

For the first time, that came home to me. My knees weakened.

'No, it's all right. He's just out temporarily,' said Peer. 'Unfreeze yourself, Jack; and we'll teleport out of here. . . . What's the matter?'

'I want to know—' the words came hard from my throat. 'I want to know, right now. What'd you do to me?'

Peer sighed.

'Can't it wait—no, I guess not,' he said, looking at me. 'If you must know, you were an experiment. The first of your particular kind. But there'll be lots like you from now on; we'll see to that. Earth is starving, Jack; starving for the very minds and talents and skills it ships out each year. It's behind the times now and falling further every year, because the first-class all emigrate and the culls are left behind.'

'Thanks!' I said, between my teeth and with my fists clenched. 'Thanks a lot.'

'Why not face facts?' said Peer cheerfully. 'You're a high-grade moron, Jack—no, don't try that on me, what you did on Alter,' he added, as I took a step forward. 'You're not that tough, yet, Jack; though someday we hope you may be. As I was saying, you're a high-grade moron. Me, I've got an aneurism that can't stand any kind of excitement, let alone spaceflight. Gregg, for your information, has a strong manic-depressive pattern—and so on, at the Foundation.'

'I don't know what you mean,' I said, sullenly.

'Of course you don't. But you will, Jack, you will,' said Peer. 'A government of second-raters were afraid to trigger your kind of talent in a high-grade moron, so they passed restrictive laws. We've just proved that triggering your abilities can not only be safe but

practical. More evidence for a change that's coming here on Earth.'

'You lied to me!' I shouted, suddenly. 'All the time you were lying to me! All of you!'

'Well, now, we had to,' Peer said. 'It required a block-buster of an emotional shock to break through all the years of conditioning that told you someone like yourself couldn't compete. You had to be so frustrated on a normal level, you'd go to your abnormal powers in desperation. Your desire to get off Earth to a place where life would be different was real enough. Gregg just built it up to where you couldn't face being turned down. And then we arranged the turn-down.'

I was crying.

'You shouldn't have done it!' I said. 'You shouldn't have! For the first time, I thought I had some friends. For the first time—'

'Who says we're not your friends?' snapped Peer. 'You think we went to all that trouble to break the law and bust you loose without figuring that you could be as close to us as anyone in the world could be? You—well, there's no use trying to explain it to you. You got to be shown. Lock on, gang!'

And suddenly—they did lock on. For a second, I almost fell over, I was so scared. I felt Peer's mind slip into mine, then Toby Gregg's—and, without warning, there too was Leena. And she was not the same Leena I knew at all, but somebody almost as bright as Toby. Only, she was an epileptic.

All of a sudden, I knew too much. I heaved, with all the strength that was in me, trying to break loose. But the three of them held me easily.

'You just want to use me!' I shouted at them—with my mouth and my mind, both. 'You just want me for what I can do for you—like a big, stupid horse.' I was crying again, this time internally as well. 'Just because you're all smarter than I am and you can make me do what you say!'

'Calm down, Jack,' came the thought of Toby. 'You've got the picture all wrong. What kind of a team is that, the three of us riding on your back? What do you think keeps Peer nicely calmed down all the time? And what do you think keeps Leena's attacks under control and me sane? Let me show you something.'

And then he did something which was for me like heaven opening up and showing a rainbow in all its glory to a blind man.

'You want a few extra I.Q. points to think with?' said Toby. 'Take mine!'

The first Martian science fiction story—as far as we know—to find its way to the blue sands of Earth. . . .

HOPSOIL

BY ROBERT F. YOUNG

(TRANSLATOR'S NOTE: *The following story came into my possession through certain hitherto inaccessible channels, the nature of which I am not at liberty to divulge. It is, to the best of my knowledge, the first Martian science fiction story ever to reach Earth, and, while it makes its own point, there are a number of other points that can be inferred from its pages:* (1) *Martians are pretty much like us;* (2) *their civilization is pretty much like our own;* (3) *all the while Earth science fiction writers have been using Mars to mirror the foibles of our society, Martian science fiction writers have been using Earth to mirror the foibles of Martian society;* (4) *the mirror business has been overdone on Mars as well as on Earth, and certain Martian science fiction writers have started parodying other Martian science fiction writers; and* (5) *the story itself falls into this latter category.*)

THE SHIP CAME DOWN OUT OF THE ABYSMAL IMMENSITIES AND settled like a dark and wingless bird on the blue sands of Earth.

Captain Frimpf opened the door. He stepped out into the sparkling sunshine and filled his lungs with the clean sweet air. All around him the blue sands stretched away to the hazy horizon. In the distance the broken buildings of a long-dead city iridesced like upthrust shards of colored glass. High above him fat little clouds played tag on the big blue playground of the sky.

His eyes misted. Earth, he thought. Earth at last!

The three enlisted men, who made up the rest of the historic crew, came out of the ship and stood beside him. They, too, stared at the land with misted eyes.

'Blue,' breathed Birp.

'Blue,' murmured Fardel.

'Blue,' gasped Pempf.

'Well of course, blue,' said the captain gently. 'Haven't our astronomers maintained all along that the blueness of Earth could not be wholly attributable to the light-absorbent properties of its atmosphere? The soil *had* to be blue!'

He knelt down and scooped up a handful of the wondrous substance. It trickled through his fingers like blue mist. 'The blue sands of Earth,' he whispered reverently.

He straightened up and took off his hat and stood in the sparkling sunlight and let the clean Earth wind blow through his hair. In the distance the city tinkled like glass chimes, and the wind wafted the sound across the blue sands to his ears, and he thought of warm Martian summers and long lazy days, and hot afternoons, drinking lemonade on Grandmother Frimpf's front porch.

Presently he became aware that someone was breathing down the back of his neck. He turned irritably. 'What is it, Birp?'

Birp cleared his throat. 'Beg pardon, sir,' he said, 'but don't you think the occasion calls for—I mean to say, sir, that it's been a long voyage, and Pempf and Fardel and myself, we're a little thir—I mean, we're a little tense, and we thought—'

He quailed before the scorn in the captain's eyes. 'Very well,' the captain said coldly. 'Open up a case of the rotgut. But only one, understand? And if I find a single empty bottle defiling this virgin landscape I'll clap every one of you in the brig!'

Birp had started off at a gallop toward the ship. He paused at the captain's admonition. 'But what'll we do with them, sir? If we put them back in the ship, it'll take just that much more fuel to blast off, and we're already short of fuel as it is.'

The captain pondered for a moment. It was not a particularly abtruse problem, and he solved it with a minimum of difficulty. 'Bury them,' he said.

While the crew chug-a-lugged their beer the captain stood a little to one side, staring at the distant city. He pictured himself telling his wife about it when he got back to Mars, and he saw himself sitting at the dinner table, describing the pastel towers and the shining spires and the sad and shattered buildings.

In spite of himself, he saw his wife, too. She was sitting across the table from him, listening and eating. Mostly eating. Why, she was even fatter now than she'd been when he left. For the thousandth time he found himself wondering why wives had to get so

fat—so fat sometimes that their husbands had to wheel them around in wife-barrows. Why couldn't they get up and move around once in a while instead of going in whole-hog for every labor-saving device the hucksters put on the market? Why did they have to eat, eat, eat, all the time?

The captain's face paled at the thought of the grocery bill he would have to pay upon his return, and presently the grocery bill directed his mind to other equally distressing items, such as the national sales tax, the road tax, the tree tax, the gas tax, the grass tax, the air tax, the first world-war tax, the second world-war tax, the third world-war tax and the fourth world-war tax.

He sighed. It was enough to drive a man to drink, paying for wars your father, your grandfather, your great-grandfather and your great-great-grandfather had fought in! He looked enviously at Birp and Pempf and Fardel. *They* weren't worried about *their* taxes. *They* weren't worried about anything. They were dancing around the empty beer case like a trio of barbarians, and already they had made up a dirty song about the blue sands of Earth.

Captain Frimpf listened to the words. His ears grew warm, then hot. 'All right, men, that's enough!' he said abruptly. 'Bury your bottles, burn the case and turn in. We've got a hard day ahead of us tomorrow.'

Obediently, Birp and Pempf and Fardel dug four rows of little holes in the blue soil and covered up their dead soldiers on by one. Then, after burning the case and saying good night to the captain, they went back into the ship.

The captain lingered outside. The moon was rising, and such a moon! Its magic radiance turned the plain into a vast midnight-blue tablecloth and transformed the city into a silvery candelabra. He was captivated all over again.

The mystery of those distant empty buildings and silent forsaken streets crept across the plain and touched his marrow. What had happened to the inhabitants? he wondered. What had happened to the inhabitants of the other broken cities he had seen while the ship was orbiting in?

He shook his head. He did not know, and probably he never would. His ignorance saddened him, and suddenly he could no longer endure the poignancy of the plain and the uninterrupted silence of the night, and he crept into the ship and closed the door behind him. For a long time he lay in the darkness of his stateroom,

thinking of the people of Earth; of the noble civilization that had come and gone its way and had left nothing behind it but a handful of crystal memories. Finally he slept.

When he went outside the next morning there were twenty-four beer trees growing in front of the ship.

The classification had leaped automatically into Captain Frimpf's mind. He had never seen beer trees before, in fact he had never even heard of them; but what better name could you give to a group of large woody plants with bottles of amber fluid hanging from their branches like fruit ready to be plucked?

Some of the fruit had already been plucked, and there was a party in progress in the young orchard. Moreover, judging from the row of little hummocks along the orchard's edge, more seed had been planted.

The captain was dumbfounded. How could any kind of soil—even Earth soil—grow beer trees overnight from empty bottles? He began to have a glimmering of what might have happened to the people of Earth.

Pempf came up to him, a bottle in each hand. 'Here, try some, sir,' he said enthusiastically. 'You never tasted anything like it!'

The captain put him in his place with a scathing glance. 'I'm an officer, Pempf. Officers don't drink *beer*!'

'Oh. I—I forgot, sir. Sorry.'

'You should be sorry. You and those other two! Who gave you permission to eat—I mean to drink—Earth fruit?'

Pempf hung his head just enough to show that he was repentant, but not any more repentant than his inferior status demanded. 'No one, sir. I—I guess we kind of got carried away.'

'Aren't you even curious about how these trees happened to come up? You're the expedition's chemist—why aren't you testing the soil?'

'There wouldn't be any point in testing it, sir. A topsoil with properties in it capable of growing trees like this out of empty beer bottles is the product of a science a million years ahead of our own. Besides, sir, I don't think it's the soil alone that's responsible. I think that the sunlight striking on the surface of the moon combines with certain lunar radiations and gives the resultant moonlight the ability to replenish and to multiply anything planted on the planet.'

The captain looked at him. '*Anything*, you say?'

'Why not sir? We planted empty beer bottles and got beer trees, didn't we?'

'H'm'm,' the captain said.

He turned abruptly and re-entered the ship. He spent the day in his stateroom, lost in thought, the busy schedule he had mapped out for the day completely forgotten. After the sun had set, he went outside and buried all the credit notes he had brought with him in back of the ship. He regretted that he hadn't had more to bring, but it didn't make any difference really, because as soon as the credit trees bloomed he would have all the seed he needed.

That night, for the first time in years, he slept without dreaming about his grocery bill and his taxes.

But the next morning when he hurried outside and ran around the ship he found no credit trees blooming in the sunlight. He found nothing but the little hummocks he himself had made the night before.

At first his disappointment stunned him. And then he thought, *Perhaps with money it takes longer. Money is probably as hard to grow as it is to get.* He walked back around the ship and looked at the orchard. It was three times its former size and fronted the ship like a young forest. Wonderingly he walked through the sun-dappled aisles, staring enviously at the clusters of amber fruit.

A trail of beer-bottle caps led him to a little glade where a new party was in progress. Perhaps whingding would have been a better word. Pempf and Fardel and Birp were dancing around in a circle like three bearded woodland nymphs, waving bottles and singing at the top of their voices. The dirty song about the blue sands of Earth now had a second verse.

They came to a startled stop when they saw him; then, after regarding him blearily for a moment, they resumed festivities again. Abruptly Captain Frimpf wondered if they had gone to bed at all last night. He was inclined to doubt it, but whether they had or hadn't, it was painfully clear that discipline was deteriorating rapidly. If he wanted to save the expedition he would have to act quickly.

But for some reason his initiative seemed to have deserted him. The thought of saving the expedition made him think of going back to Mars, and the thought of going back to Mars made him think of his fat wife, and the thought of his fat wife made him think

of the grocery bill, and the thought of the grocery bill made him think of his taxes, and for some unfathomable reason the thought of his taxes made him think of the liquor cabinet in his stateroom and of the unopened bottle of bourbon that stood all alone on its single shelf.

He decided to put off reprimanding the crew till tomorrow. Surely, by then, his credit trees would have broken through the soil, thereby giving him some idea of how long he would have to wait before he could harvest his first crop and plant his second. Once his fortune was assured he would be able to cope more competently with the beer-tree problem.

But in the morning the little hummocks behind the ship were still barren. The beer orchard, on the other hand, was a phenomenon to behold. It stretched halfway across the plain in the direction of the dead city, and the sound of the wind in its fruit-laden branches brought to mind a bottling works at capacity production.

There was little doubt in Captain Frimpf's mind now as to the fate that had overtaken the people of Earth. But what, he asked himself, had happened to the trees *they* had planted? He was not an obtuse man, and the answer came presently: The people of Earth had performed a function similar to that performed by the bees on Mars. In drinking the fluid fruit they had in effect pollinated the crystal seed-shells that enclosed it, and it was the pollinating as well as the planting of the shells that had caused new trees to grow.

It must have been a pleasant ecology while it lasted, the captain reflected. But like all good things it had been run into the ground. One by one the people had become heavy pollinators, and finally they had pollinated themselves to death, and the trees, unable any longer to reproduce themselves, had become extinct.

A tragic fate, certainly. But was it any more tragic than being taxed to death?

The captain spent the day in his stateroom trying to figure out a way to pollinate money, his eyes straying, with increasing frequency, to the little paneled door of his liquor cabinet. Towards sunset Birp and Fardel and Pempf appeared and asked for an audience with him.

Fardel was spokesman. 'Shir,' he said, 'we've made up our minds. We aren't going to go back to Marsh.'

The captain wasn't surprised, but for some reason he was

annoyed. 'Oh go on back to your damned orchard and stop bothering me!' he said, turning away from them.

After they left he went over to his liquor cabinet and opened the paneled door. He picked up the forlorn bottle sitting on the shelf. Its two empty companions had long ago gone down the disposal tube and were somewhere in orbit between Earth and Mars.

'Good thing I saved one,' the captain said. He opened it up and pollinated it; then he staggered outside and buried it behind the ship and sat down to watch it grow.

Maybe his credit trees would come up and maybe they wouldn't. If they didn't he was damned if he was going back to Mars, either. He was sick of his fat wife and he was sick of the grocery bill and he was sick of the national sales tax, the road tax, the tree tax, the gas tax, the grass tax, the air tax, the first world-war tax, the second world-war tax, the third world-war tax and the fourth world-war tax. Most of all he was sick of being a self-righteous martinet with a parched tongue.

Presently the moon came up and he watched delightedly while the first shoot of his whiskey tree broke the surface of the blue sands of Earth.

IN THIS ISSUE

THIS issue contains 'Prometheus,' a new novelet about Father John Carmody by Philip Jose Farmer. However, if series characters are less usual than they used to be years ago, their quality is unquestionably higher . . . one indication of that is the large percentage which winds up in book form nowadays. For example, a collection of the People stories by Zenna Henderson, tied together in novel form, is due out this year, and Mr. Farmer proposes to go on from this second adventure of Father John Carmody en route to Wildenwooly with another novelet or two which will round out a book-length tale. . . . We'd be glad to hear what you think—do you like the idea of series characters showing up here occasionally . . . regular . . . never? Your opinions will be much appreciated.

U.S. EDITOR

YO-HO, AND UP

by AVRAM DAVIDSON

IT WAS PAST TWO, STARS SHARP AND SHINING IN THE COLD SKY, but Andy couldn't wait till morning. He had seen the light in Hank's backyard, and as soon as he had parked the car, that's where he went. Hank was crouched, rasping a hinge with a file. His face was frowning, intent.

'Greetings, Earthman,' said Andy. One side of Hank's face quirked, but he kept on at his job. The latest fad; all the 12 to 16 set was working overtime at it. But Andy was past that age. 'Hey!' he yipped, eagerly. 'Aren't you going to *ask* me—?'

Hank looked puzzled. Then his face changed. 'Oh,' he said. 'Yeah. You and Bitsy-Lee. . . . Well—how did you make out?'

Andy told him, in great detail, his voice gloating. 'When you're a little bit older,' he said, at last, 'maybe I can fix you up. She's got this friend, see—' Hank nodded slowly, the file drooping in his hand, as if it were very heavy. Far-off, a light toiled through the sky, was gone.

'And her *father*!' Andy triumphed. '—Almost didn't let us out of the house! I thought I'd—' Another light: meteor. '—or turn *green*! "Never before have our youths matured so early," he was yacking, "—voices changing sooner, and so on," he said; "and never has it taken so long for them to fill their own niches in society." Bla-bla-bla. "Military service, college, post-graduate, high cost of living, anxieties and tensions—" Oh, well, hell with *him*. *She*—'

Hank put the file in the tool-box. 'No, go on,' he said. 'What else did he—'

'*Pol*tergeists, is what he was talking about! "Wherever there's a poltergeist, there's a child emerging from puberty." Hoo, boy! "Raw, fresh, sexual energy is being produced earlier, narrowed and channelized in its effect by the circumstances of our society—" And so on. "Like a blast furnace!" the old man said. —Boy, we did some blasting ourselves, Bitsy-Lee and me,' he muttered. 'We—'

He stopped. The tool-box moved across the yard all by itself. His eyes, wild, met Hank's. 'You can do it,' the kid said. 'Try. *Try!*' Something stirred in Andy: suddenly he knew he could, had known for

some time. *It was easy!* Then he groaned. No use. The night and its new-found pleasures had drained him forever. The night—now full of shooting-stars . . . but meteors went *down,* not *up*!

The tool-box fell with a crash. 'Don't strain your milk, Dad, Hank said, mockingly. There was a roar and a burst of light from not far away. Another—and another. 'We're off,' Hank said. 'Boys and girls together.' He waved his hand widely. '*This*—it's all yours. But don't try to come after us. Where we're going, we don't want—' His last words were drowned out as he stepped into his home-made 'spaceship' and slammed the door. An instant later Andy lay stunned on his back. *He's only a kid!* he thought, wildly; *he never even made out!* But the stars burned and beckoned even after the other lights had vanished.

Through Time And Space With Ferdinand Feghoot

IN 2927, Ferdinand Feghoot rescued Vaila, a minor planet in the Hebridean System, from a plague of rats who had left a doomed Cassiopeian freighter. On Vaila, no cat could live, so nothing threatened them. 'What can we do, sir?' asked the Laird.

'You can make robot cats,' Feghoot answered. He designed them, and the natives began turning them out. They killed rat after rat; and the sight of them, in their plastic, striped-tabby skins, cheered everyone up. Success was in sight, and a great celebration was being prepared, when word came of a frightening mutation—a pair of huge rats who were devouring the cats.

'They will reproduce!' moaned the Laird. 'We are lost!'

'Not at all,' Feghoot said; and he built one last cat. It had no sleek plastic coat. Instead, it was covered with a poor grade of enamel, like an old chamber-pot. Almost at once, a mutant rat saw it and caught it. It was tough, but the rat chewed and chewed. Finally it swallowed—and huge, jagged fragments of the shoddy enamel came loose in its stomach. Soon it died in great agony.

'Wonderful!' cried the overjoyed Laird. 'But what happened?'

'He strained at a cat, and swallowed enamel,' said Ferdinand Feghoot.

GRENDEL BRIARTON
(*with thanks to Edward Truscoe*)

The English author of THE DAY OF THE TRIFFIDS *and* THE MIDWICH CUCKOO, *and a quiet tale with a haunting sort of twist. . . .*

STITCH IN TIME

JOHN WYNDHAM

ON THE SHELTERED SIDE OF THE HOUSE THE SUN WAS HOT. Just inside the open french windows Mrs. Dolderson moved her chair a few inches so that her head would remain in the shade while the warmth would comfort the rest of her. Then she leaned her head back on the cushion, looking out.

The scene was, for her, timeless.

Across the smooth lawn the cedar stood as it had always stood. Its flat spread boughs must, she supposed, reach a little further now than they had when she was a child, but it was hard to tell; the tree had seemed huge then, it seemed huge now. Further on, the boundary hedge was just as trim and neat as it had always been. The gate into the spinney was still flanked by the two unidentifiable topiary birds, Cocky and Olly—wonderful that they should still be there, even though Olly's tail feathers had become a bit twiggy with age.

The flower-bed on the left, in front of the shrubbery, was as full of color as ever—well, perhaps a little brighter; one had a feeling that flowers had become a trifle more strident than they used to be, but delightful nevertheless. The spinney beyond the hedge,

however, had changed a little; more young trees, some of the larger ones gone. Between the branches one had two glimpses of pink roof where there had been no neighbors in the old days. Except for that one could almost, for a moment, forget a whole lifetime.

The afternoon drowsing while the birds rested, the bees humming, the leaves gently stirring, the bonk-bonk from the tennis court round the corner, with an occasional voice giving the score. It might have been any sunny afternoon out of fifty, or sixty, summers.

Mrs. Dolderson smiled upon it, and loved it all; she had loved it when she was a girl, she loved it even more now.

In this house she had been born; she had grown up in it, married from it, come back to it after her father died, brought up her own two children in it, grown old in it. . . . Some years after the second war she had come very near to losing it—but not quite; and here she was still. . . .

It was Harold who had made it possible. A clever boy, and a wonderful son. . . . When it had become quite clear she could no longer afford to keep the house up, that it would have to be sold, it was Harold who had persuaded his firm to buy it. Their interest, he had told her, lay not in the house, but in the site—as would any buyer's. The house itself was almost without value now, but the position was convenient. As a condition of sale, four rooms on the south side had been converted into a flat which was to be hers for life. The rest of the house had become a hostel housing some twenty young people who worked in the laboratories and offices which had been built on the north side, on the site of the stables and part of the paddock.

One day, she knew, the old house would come down, she had seen the plans, but for the present, for her time, both it and the garden to the south and west could remain untouched. Harold had assured her that they would not be required for fifteen or twenty years yet—much longer than she would know the need of them. . . .

Nor, Mrs. Dolderson thought calmly, would she really be sorry to go. One became useless, and, now that she must have a wheel-chair, a burden to others. There was a feeling, too, that she no longer belonged—that she had become a stranger in another people's world. It had all altered so much; first changing into a place that was difficult to understand, then growing so much more complex that one gave up trying to understand. No wonder, she thought, that the old become possessive about *things*; cling to objects which link them with world that they *could* understand. . . .

Harold was a dear boy, and for his sake she did her best not to appear too stupid—but, often, it was difficult. Today, at lunch, for instance, he had been so excited about some experiment that was to take place this afternoon. He had *had* to talk about it, even though he must know that practically nothing of what he said was comprehensible to her.

Something about dimensions again—she had grasped that much, but she had only nodded, and not attempted to go further. Last time the subject had cropped up, she had observed that in her youth there had been only three, and she did not see how even all this progress in the world could have added more. This had set him off on a dissertation about the mathematician's view of the world through which it was, apparently, possible to perceive the existence of a series of dimensions. Even the moment of existence in relation to time was, it seemed, some kind of dimension. Philosophically, Harold had begun to explain—but there, and at once, she had lost him. He led straight into confusion. She felt sure that when she was young, philosophy, mathematics, and metaphysics had all been quite separate studies—nowadays they seemed to have quite incomprehensibly run together.

So this time she had listened quietly, making small, encouraging sounds from time to time, until at the end he had smiled ruefully, and told her she was a dear to be so patient with him. Then he had come round the table and kissed her cheek gently as he put his hand over hers, and she had wished him the best of luck with the afternoon's mysterious experiment. Then Jenny had come in to clear the table, and wheel her closer to the window. . . .

The warmth of the slumbrous afternoon carried her into a half-dream, took her back fifty years to just such an afternoon when she had sat here in this very window—though certainly with no thought of a wheelchair in those days—waiting for Arthur . . . waiting with an ache in her heart for Arthur . . . and Arthur had never come. . . .

Strange, it was, the way things fell out. If Arthur had come that day she would almost certainly have married him. And then Harold and Cynthia would never have existed. She would have had children, of course, but they would not have been Harold and Cynthia. . . . What a curious, haphazard thing one's existence was. Just by saying 'no' to one man, and 'yes' to another a woman might bring into existence a potential archbishop, or a potential murderer. How foolish they all were nowadays—trying to tidy everything up, make

life secure, while behind, back in everyone's past, stretched the chance-studded line of women who had said 'yes' or 'no' as the fancy took them.

Curious that she should remember Arthur now. It must be years since she thought of him. . . .

She had been quite sure that he would propose that afternoon. It was before she had even heard of Colin Dolderson. And she would have agreed. Oh yes, she would have accepted him.

There had never been any explanation. She had never known *why* he did not come then—or any more. He had never written to her. Ten days, perhaps a fortnight later there had been a somewhat impersonal note from his mother telling her that he had been ill, and the doctor had advised sending him abroad. But after that, nothing at all—until the day she had seen his name in a newspaper, more than two years later. . . .

She had been angry of course—a girl owed that to her pride—and hurt, too, for a time. Yet how could one know that it had not been for the best, in the end? Would his children have been as dear to her, or as kind, and as clever as Harold and Cynthia. . . ?

Such an infinity of chances . . . all those genes and things they talked about nowadays. . . .

The thump of tennis balls had ceased, and the players had gone, returned, presumably, to their recondite work. Bees continued to hum purposefully among the flowers; half a dozen butterflies were visiting there too, though in a dilettante, unairworthy-looking way. The further trees shimmered in the rising heat. The afternoon's drowsiness became irresistible. Mrs. Dolderson did not oppose it. She leaned her head back, half aware that somewhere another humming sound, higher in pitch than the bees', had started, but it was not loud enough to be disturbing. She let her eyelids drop. . . .

Suddenly, only a few yards away, but out of sight as she sat, there were feet on the path. The sound of them began quite abruptly, as if someone had just stepped from the grass on to the path—only she would have seen anyone crossing the grass. Simultaneously there was the sound of a baritone voice, singing cheerfully but not loudly to itself. It too began quite suddenly; in the middle of a word in fact:

' "—rybody's doin' it, doin' it, doin' it.
See that rag—" '

The voice cut off suddenly. The footsteps, too, came to a dead stop.

Mrs. Dolderson's eyes were open now—very wide open. Her thin hands gripped the arms of her chair. She recollected the tune: more than that, she was even certain of the voice—after all these years. . . . A silly dream, she told herself. She had been remembering him only a few moments before she closed her eyes . . . how foolish!

And yet it was curiously undreamlike. Everything was so sharp and clear, so familiarly reasonable . . . the arms of the chair quite solid under her fingers. . . .

Another idea leaped into her mind. She had died. That was why it was not like an ordinary dream. Sitting here in the sun, she must have quietly died. The doctor had said it might happen quite unexpectedly . . . and now it had! She had a swift moment of relief —not that she had felt any great fear of death, but there had been that sense of ordeal ahead. Now it was over—and with no ordeal. As simple as falling asleep. She felt suddenly happy about it; quite exhilarated. Though it was odd that she still seemed to be tied to her chair. . . .

The gravel crunched under shifting feet. A bewildered voice said:

'That's rum! Dashed queer! What the devil's happened?'

Mrs. Dolderson sat motionless in her chair. There was no doubt whatever about the voice.

A pause. The feet shifted, as if uncertain. Then they came on, but slowly now, hesitantly. They brought a young man into her view. Oh, such a very young man, he looked. She felt a little catch at her heart.

He was dressed in a striped club-blazer, the white flannel trousers. There was a silk scarf round his neck, and, tilted back off his forehead, a straw hat with a colored band. His hands were in his trousers' pockets, and he carried a tennis racquet under his left arm.

She saw him first in profile, and not quite at his best, for his expression was bewildered, and his mouth slightly open, as he stared toward the spinney.

'Arthur,' Mrs. Dolderson said gently.

He was startled. The racquet slipped, and clattered on the path. He attempted to pick it up, take off his hat, and recover his composure, all at the same time, not very successfully. When he straightened his face was pink, and its expression still confused.

He looked at the old lady in the chair, her knees hidden by a rug, her thin, delicate hands gripping the arms. His gaze went beyond her, into the room. His confusion increased, with a touch of alarm added. His eyes went back to the old lady. She was regarding him intently. He could not recall ever having seen her before, did not know who she could be—yet in her eyes there seemed to be something faintly not unfamiliar.

She dropped her gaze to her right hand. She studied it for a moment as though it puzzled her a little, then she raised her eyes again to his.

'You don't know me, Arthur?' she asked quietly.

There was a note of sadness in her voice that he took for disappointment, tinged with reproof. He did his best to pull himself together.

'I—I'm afraid not,' he confessed. 'You see I—er—you—er—' He stuck, and then went on desperately: 'You must be Thelma's —Miss Kilder's—aunt?'

She looked at him steadily for some moments. He did not understand her expression, but then she told him:

'No. I am not Thelma's aunt.'

Again his gaze went into the room behind her. This time he shook his head in bewilderment.

'It's all different—no, sort of half-different,' he said, in distress. 'I say, I can't have come to the wrong—' He broke off, and turned to look at the garden again. 'No, it certainly isn't that,' he answered himself decisively. 'But what—what *has* happened?'

His amazement was no longer simple; he was looking badly shaken. His bewildered eyes came back to her again.

'Please—I don't understand—*how* did you know me?' he asked.

His increasing distress troubled her, and made her careful.

'I recognized you, Arthur. We have met before, you know?'

'Have we? I can't remember—I'm terribly sorry . . .'

'You're looking unwell, Arthur. Draw up that chair, and rest a little.'

'Thank you Mrs.—er—Mrs.—?'

'Dolderson,' she told him.

'Thank you, Mrs. Dolderson,' he said, frowning a little, trying to place the name.

She watched him pull the chair closer. Every movement, every

line familiar, even to the lock of his fair hair that always fell forward when he stooped. He sat down and remained silent for some moments, staring under a frown, across the garden.

Mrs. Dolderson sat still too. She was scarcely less bewildered than he, though she did not reveal it. Clearly the thought that she was dead had been quite silly. She was just as usual, still in her chair, still aware of the ache in her back, still able to grip the arms of the chair and feel them. It was not a dream—everything was too textured, too solid, too real in a way that dream things never were. Was it just a simple hallucination, a trick of her mind imposing Arthur's face on an entirely different young man? She glanced at him. No, that would not do—he had answered to Arthur's name. Indubitably he was Arthur, and wearing Arthur's blazer, too. They did not cut them that way nowadays, and it was years and years since she had seen a young man wearing a straw hat.

A kind of ghost . . .? But no, he was quite solid; the chair had creaked as he sat down, his shoes had crunched on the gravel. Besides, whoever heard of a ghost in the form of a thoroughly bewildered young man, and one, moreover, who had recently nicked himself in shaving?

He cut her thoughts short by turning his head.

'I thought Thelma would be here,' he told her. 'She *said* she'd be here. Please tell me, where is she?'

Like a frightened little boy, she thought. She wanted to comfort him, not to frighten him more. But she could think of nothing to say beyond:

'Thelma isn't far away.'

'I must find her. She'll be able to tell me what's happened.' He made to get up.

She laid a hand on his arm, and pressed down gently.

'Wait a minute,' she told him. 'What is it that seems to have happened? What is it that worries you so much?'

'This,' he said, waving a hand to include everything about them. 'It's all different—and yet the same—and yet not. I feel as if—as if I'd gone a little mad.'

She looked at him steadily, and then shook her head.

'I don't think you have. Tell me, what is it that's wrong?'

'I was coming here to play tennis—well, to see Thelma, really,' he amended. 'Everything was all right then, just as usual. I rode up the drive and leaned my bike against the big fir tree where the

path begins. I started to come along the path and then, just when I reached the corner of the house, everything went funny. . . .'

'Went funny?' Mrs. Dolderson inquired. 'What—went funny?'

'Well, nearly everything. The sun seemed to jerk in the sky. The trees suddenly looked bigger, and not quite the same. The flowers in the bed over there went quite a different color. The creeper was all over the wall, and then was suddenly only halfway up—and it looks like a different *kind* of creeper. And there are houses over there. I never saw them before—it's just an open field beyond the spinney. Even the gravel on the path looks more yellow than I thought. And this room . . . it *is* the same room. I know that desk, and the fireplace—and those two pictures. But the paper is quite different. I've never seen that before—but it isn't new, either. . . . Please tell me where Thelma is—I want her to explain it. I *must* have gone a bit mad. . . .'

She put her hand on his, firmly.

'No,' she said decisively. 'Whatever it is, I'm quite sure it's not that.'

'Then what—' He broke off abruptly, and listened, his head a little on one side. The sound grew. 'What is it?' he asked, anxiously.

Mrs. Dolderson tightened her hand over his.

'It's all right,' she said, as if to a child. 'It's all right, Arthur.'

She could feel him grow tenser as the sound increased. It passed right overhead at less than a thousand feet, jets shrieking, leaving the buffeted air behind it rumbling back and forth, shuddering gradually back to peace.

Arthur saw it. Watched it disappear. His face when he turned it back to her was white and frightened. In a queer voice he asked:

'What—what was that?'

Quietly, as if to force calm upon him, she said:

'Just an aeroplane, Arthur. Such horrid, noisy things they are.'

He gazed where it had vanished, and shook his head.

'But I've *seen* an aeroplane, and *heard* it. It isn't like that. It makes a noise like a motor-bike, only louder. This was terrible! I don't understand—I don't understand what's happened. . . .' His voice was pathetic.

Mrs. Dolderson made as if to reply, and then checked at a thought, a sudden sharp recollection of Harold talking about dimensions, of shifting them into different planes, speaking of time as though it were simply another dimension. . . . With a kind of

shock of intuition she understood—no, understood was too firm a word—she perceived. But, perceiving she found herself at a loss. She looked again at the young man. He was still tense, trembling slightly. He was wondering whether he was going out of his mind. She must stop that. There was no kind way—but how to be least unkind?

'Arthur,' she said, abruptly.

He turned a dazed look on her.

Deliberately she made her voice brisk.

'You'll find a bottle of brandy in that cupboard. Please fetch it—and two glasses,' she ordered.

With a kind of sleep-walking movement he obeyed. She filled a third of a tumbler with brandy for him, and poured a little for herself.

'Drink that,' she told him. He hesitated. 'Go on,' she commanded. 'You've had a shock. It will do you good. I want to talk to you, and I can't talk to you while you're knocked half-silly.'

He drank, and coughed a little, and sat down again.

'Finish it,' she told him firmly. He finished it. Presently she inquired:

'Feeling better now?'

He nodded, but said nothing. She made up her mind, and drew breath carefully. Dropping the brisk tone altogether, she asked:

'Arthur. Tell me, what day is it today?'

'Day?' he said, in surprise. 'Why, it's Friday. It's the—er—twenty-seventh of June.'

'But the year, Arthur. What year?'

He turned his face fully toward her.

'I'm not really mad, you know. I know who I am, and where I am—I think. It's *things* that have gone wrong, not me. I can tell you—'

'What I want you to tell me, Arthur, is the year.' The peremptory note was back in her voice again.

He kept his eyes steadily on hers as he spoke.

'Nineteen-Thirteen, of course,' he said.

Mrs. Dolderson's gaze went back to the lawn and the flowers. She nodded gently. That was the year—and it had been a Friday; odd that she should remember that. It might well have been the twenty-seventh of June. But certainly it was a Friday in the summer of 1913 that he had not come. All so long, long ago. . . .

His voice recalled her. It was unsteady with anxiety.

'Why do you ask me that—about the year, I mean?'

His brow was so creased, his eyes so anxious. He was very young. Her heart ached for him. She put her thin fragile hand on his strong one again.

'I—I think I know,' he said shakily. 'It's—I don't see how, but you wouldn't have asked that unless. . . . That's the queer thing that's happened, isn't it? Somehow it isn't Nineteen-Thirteen any longer—that's what you mean? The way the trees grew . . . that aeroplane . . .' He stopped, staring at her with wide eyes. 'You must tell me. Please, please, what's happened to me? Where am I now? Where *is* this?'

'My poor boy,' she murmured.

'Oh, please—'

The Times, with the crossword partly done, was pushed down into the chair beside her. She pulled it out half-reluctantly. Then she folded it over and held it toward him. His hand shook as he took it.

'London, Monday, the first of July,' he read. And then, in an incredulous whisper: *'Nineteen-Sixty-Three!'*

He lowered the page, looked at her imploringly.

She nodded twice, slowly.

They sat staring at one another without a word. Gradually his expression changed. His brows came together, as though with pain. He looked round jerkily, his eyes darting here and there as if for an escape. Then they came back to her. He screwed them shut for a moment. Then opened them again, full of hurt—and fear.

'Oh, no—no! No! You're not . . . you can't be. You—you told me . . . you're Mrs. Dolderson, aren't you? You said you were. You can't—you can't be—Thelma?'

Mrs. Dolderson said nothing. They gazed at one another. His face creased up like a small child's.

'Oh, God! Oh—oh!' he cried, and hid his face in his hands.

Mrs. Dolderson's eyes closed for a moment. When they opened she had control of herself again. Sadly she looked on the shaking shoulders. Her thin, blue-veined left hand reached out toward the bowed head, and stroked the fair hair, gently.

Her right hand found the bell-push on the table beside her. She pressed it, and kept her finger upon it. . . .

At the sound of movement her eyes opened. The venetian blind shaded the room but let in light enough for her to see Harold standing beside her bed.

'I didn't mean to wake you, Mother,' he said.

'You didn't wake me, Harold. I was dreaming, but I was not asleep. Sit down, my dear. I want to talk to you.'

'You mustn't tire yourself, Mother. You've had a bit of a relapse, you know.'

'I daresay, but I find it more tiring to wonder than to know. I shan't keep you long.'

'Very well, Mother.' He pulled up a chair close to the bedside and sat down, taking her hand in his. She looked at his face in the dimness.

'It was you who did it, wasn't it, Harold? It was that experiment of yours that brought poor Arthur here?'

'It was an accident, Mother.'

'Tell me.'

'We were trying it out. Just a preliminary test. We knew it was theoretically possible. We had shown that if we could—oh, it's so difficult to explain in words—if we could, well, twist a dimension, kind of fold it back on itself, then two points that are normally apart must coincide. I'm afraid that's not very clear. . . .'

'Never mind, dear. Go on.'

'Well, when we had our field-distortion-generator fixed up, we set it to bring together two points that are normally fifty years apart. Think of folding over a long strip of paper that has two marks on it, so that the marks are brought together.'

'Yes?'

'It was quite arbitrary. We might have chosen ten years, or a hundred, but we just picked fifty. And we got astonishingly close, too, Mother, quite remarkably close. Only a four-day calendar error in fifty years. It's staggered us. The thing we've got to do now is to find out that source of error, but if you'd asked any of us to bet—'

'Yes, dear, I'm sure it was quite wonderful. But what *happened*?'

'Oh, sorry. Well, as I said, it was an accident. We only had the thing switched on for three or four seconds—and he must have walked slap into the field of coincidence right then. A millions-to-one chance. I wish it had not happened, but we couldn't possibly know . . .'

She turned her head on the pillow.

'No. You couldn't know,' she agreed. 'And then?'

'Nothing, really. We didn't know until Jenny answered your bell and found you in a faint, and this chap, Arthur, all gone to pieces, and sent for me.

'One of the girls helped to get you to bed. Doctor Sole arrived and took a look at you. Then he pumped some kind of tranquillizer into this Arthur. The poor fellow needed it, too—one hell of a thing to happen when all you were expecting was a game of tennis with your best girl.

'When he'd quietened down a bit, he told us who he was, and where he'd come from. Well, there was a thing for you! Accidental living proof at the first shot.

'But all he wanted, poor devil, was to get back just as soon as he could. He was very distressed—quite a painful business. Doctor Sole wanted to put him right under to stop him cracking altogether. It looked that way, too—and it didn't look as if he'd be any better when he came round again, either.

'We didn't know if we *could* send him back. Transference "forward," to put it crudely, can be regarded as an infinite acceleration of a natural progression, but the idea of transference "back" is full of the most disconcerting implications once you start thinking about it. There was quite a bit of argument, but Doctor Sole clinched it. If there was a fair chance, he said, the chap had a right to try, and we had an obligation to try to undo what we'd done to him. Apart from that, if we did not try we should certainly have to explain to someone how we came to have a raving loony on our hands, and fifty years off course, so to speak.

'We tried to make it clear to this Arthur that we couldn't be sure that it would work in reverse—and that anyway there was this four-day calendar error, so at best it wouldn't be exact. I don't think he really grasped that. The poor fellow was in a wretched state; all he wanted was just a chance—any kind of chance—to get out of here. He was simply one-track.

'So we decided to take the risk—after all, if it turned out not to be possible he'd—well, he'd know nothing about it, or nothing would happen at all. . . .

'The generator was still on the same setting. We put one fellow on to that, took this Arthur back to the path by your room, and got him lined up there.

' "Now walk forward," we told him. "Just as you were walking

when it happened." And we gave the switch-on signal. What with the doctor's dope and one thing and another he was pretty groggy, but he did his best to pull himself together. He went forward at a kind of stagger. Literal-minded fellow; he was half-crying, but in a queer sort of voice he was trying to sing: "Everybody's doin' it, do—"

'And then he disappeared—just vanished completely.' He paused, and added regretfully: 'All the evidence we have now is not very convincing—one tennis racquet, practically new, but vintage; and one straw hat, ditto.'

Mrs. Dolderson lay without speaking. He said:

'We did our best, Mother. We could only try.'

'Of course you did, dear. And you succeeded. It wasn't your fault that you couldn't undo what you'd done. No, I was just wondering what would have happened if it had been a few minutes earlier, or later, that you had switched your machine on. But I don't suppose that *could* have happened, or you wouldn't have been you at all.'

He looked at her a little uneasily.

'What *do* you mean, Mother?' he asked.

'Never mind, dear. You did *your* best—and I expect it was *the* best. . . .'

'He was much too distressed for us to try to keep him here. He'd have gone all to pieces. What else could we have done?'

'I don't know—nothing, I think. It was written, I suppose. . . .'

'What makes you think we succeeded in getting him back, Mother?'

'I *know* you did, dear.' She paused, then, in a quiet flat voice, as if quoting, she said:

' "Arthur Waring Batley. Second Lieutenant, of wounds received in action in France. Third of November, Nineteen-Fifteen." '

She closed her eyes. A tear escaped, and ran slowly down her cheek. Harold pulled out his handkerchief to wipe it away. She pressed his hand, but did not speak. Hight above the house the whine of a jet plane swelled and died away.

Mrs. Dolderson said:

'I shan't be sorry to go. It will hurt to leave you, Harold, my dear, but that's all I shall really mind when the time comes. Perhaps I'm a little like poor Arthur; I don't much like your world—nor the things it learns to do.'

Hand me, said the Good Doctor, a one-half piece of chalk, and I'll hand you the square-root-of-minus-one pieces of chalk. . . .

The Imaginary That Isn't

BY ISAAC ASIMOV

WHEN I WAS A MERE SLIP OF A LAD and attended college, I had a friend with whom I ate lunch every day. His 11 A.M. class was in sociology, which I absolutely refused to take, and my 11 A.M. class was calculus which he as steadfastly refused to take—so we had to separate at 11 and meet at 12.

As it happened, his sociology professor was a scholar who did things in the grand manner, holding court after class was over. The more eager students gathered close and listened to him pontificate for an additional fifteen minutes, while they threw in an occasional log in the form of a question to feed the flame of oracle.

Consequently, when my calculus lecture was over, I had to enter the sociology room and wait patiently for court to conclude.

Once I walked in when the professor was listing on the board his classification of mankind into the two groups of mystics and realists, and under mystics he had included the mathematicians along with the poets and theologians. One student wanted to know why.

'Mathematicians,' said the professor, 'are mystics because they believe in numbers that have no reality.'

Now ordinarily, as a non-member of the class, I sat in the corner, suffering in silent boredom, but now I rose convulsively, and said, 'What numbers?'

The professor looked in my direction and said, 'The square root of minus one. It has no existence. Mathematicians call it imaginary. But they believe it has some kind of existence in a mystical way.'

'There's nothing mystical about it,' I said, angrily. 'The square root of minus one is just as real as any other number.'

The professor smiled, feeling he had a live one on whom he could now proceed to display his superiority of intellect. (I have since had classes of my own and I know exactly how he felt.) He said, silkily, 'We have a young mathematician here who wants to prove the reality of the square root of minus one. Come, young man, hand me the square root of minus one pieces of chalk!'

I reddened. 'Well, now, wait—'

'That's all,' he said, waving his hand. Mission, he imagined, accomplished, both neatly and sweetly.

But I raised my voice. 'I'll do it. I'll do it. I'll hand you the square root of minus one pieces of chalk, if you hand me a one-half piece of chalk.'

The professor smiled again, and said, 'Very well,' broke a fresh piece of chalk in half, and handed me one of the halves. 'Now for your end of the bargain.'

'Ah, but wait,' I said, 'you haven't fulfilled your end. This is one piece of chalk you've handed me, not one-half piece.' I held it up for the others to see. 'Wouldn't you all say this was one piece of chalk? It certainly isn't two or three.'

Now the professor wasn't smiling. 'Hold it. One piece of chalk is a piece of regulation length. You have one that's half the regulation length.'

I said, 'Now you're springing an arbitrary definition on me. But even if I accept it, are you willing to maitain that this is a one-half piece of chalk and not a 0.48 piece or a 0.52 piece? And can you really consider yourself qualified to discuss the square root of minus one, when you're a little hazy on the meaning of one-half?'

But by now the professor had lost his equanimity altogether and his final argument was unanswerable. He said, 'Get the hell out of here!'

I left (laughing) and thereafter waited for my friend in the corridor.

Twenty years have passed since then and I suppose I ought to finish the argument. . . .

Let's start with a simple algebraic equation such as $x+3=5$. The expression, x, represents some number which, when substituted for x makes the expression a true equality. In this particular case x must equal 2, since $2+3=5$, and so we have 'solved for x.'

The interesting thing about this solution is that it is the *only* solution. There is no number but 2 which will give 5 when 3 is added to it.

This is true of any equation of this sort, which is called a 'linear equation' (because in geometry it can be represented as a straight line) or 'a polynomial equation of the first degree.' No polynomial equation of the first degree can ever have more than one solution for x.

There are other equations, however, which *can* have more than one solution. Here's an example: $x^2 - 5x + 6 = 0$, where x^2 ('x square') represents x times x. This is called a 'quadratic equation' from a Latin word for 'square' because it involves x square. It is also called 'a polynominal equation of the second degree' because of the little ^{2} in x^2. As for x itself, that could be written x^1, except that the ^{1} is always omitted and taken for granted, and that is why $x + 3 = 5$ is an equation of the first degree.

If we take the equation $x^2 - 5x + 6 = 0$, and substitute 2 for x, then x^2 is 4, while $5x$ is 10, so that the equation becomes $4 - 10 + 6 = 0$, which is correct, making 2 a solution of the equation.

However, if we substitute 3 for x, then x^2 is 9 and $5x$ is 15, so that the equation becomes $9 - 15 + 6 = 0$, which is also correct, making 3 a second solution of the equation.

Now no equation of the second degree has ever been found which has more than two solutions, but what about polynomial equations of the third degree? These are equations containing x^3 (x cube), which are therefore also called 'cubic equations.' The expression x^3 represents x times x times x.

The equation, $x^3 - 6x^2 + 11x - 6 = 0$, has three solutions, since you can substitute 1, 2, or 3 for x in this equation and come up with a true equality in each case. No cubic equation has ever been found with more than three solutions, however.

In the same way polynomial equations of the fourth degree can be constructed which have four solutions but no more; polynomial equations of the fifth degree which have five solutions but no more and so on. You might say, then, that a polynomial equation of the nth degree can have as many n solutions, but never more than n.

Mathematicians craved something even prettier than that and by about 1800 found it. At that time, the German mathematician, Carl Friedrich Gauss, showed that every equation of the nth degree had exactly n solutions; not only no more, but also no less. Such

is the theoretical importance of this that it is called 'the fundamental theorem of algebra.'

However, in order to make the fundamental theorem true, our notion of what constitutes a solution to an algebraic equation must be drastically enlarged.

To begin with, men accept the 'natural numbers' only: 1, 2, 3, and so on. This is adequate for counting objects that are considered only as units. You can have 2 children, 5 cows or 8 pots; while to have $2\frac{1}{2}$ children, $5\frac{1}{4}$ cows or $8\frac{1}{3}$ pots does not make much sense.

In measuring continuous quantities such as lengths or weights, however, fractions become essential. The Egyptians and Babylonians managed to work out methods of handling fractions, though these were not very efficient by our own standards; and no doubt conservative scholars among them sneered at the mystical mathematicians who believed in a number like $5\frac{1}{2}$ which was neither 5 nor 6.

Such fractions are really ratios of whole numbers. To say a plank of wood was $2\frac{5}{8}$ yards long, for instance, is to say that the length of the plank is to the length of a standard yardstick as 21 is to 8. The Greeks, however, discovered that there were definite quantities which could not be expressed as ratios of whole numbers. The first to be discovered was the square root of 2, commonly written as $\sqrt{2}$, which is that number which, when multiplied by itself, gives 2. There is such a number but it cannot be expressed as a ratio; hence, it is an 'irrational number.'

Only thus far did the notion of number extend before modern times. Thus, the Greeks accepted no number smaller than zero. How can there be less than nothing? To them, consequently, the equation $x+5=3$ had no solution. How can you add 5 to any number and have 3 as a result? Even if you added 5 to the smallest number (that is, zero), you would have 5 as the sum, and if you added 5 to any other number (which would have to be larger than zero) you would have a sum greater than 5.

The first mathematician to break this taboo and make systematic use of numbers less than zero was the Italian, Girolamo Cardano. After all, there *can* be less than nothing. A debt is less than nothing.

If all you own in the world is a two dollar debt, you have two dollars less than nothing. If you are then given five dollars, you end with three dollars of your own (assuming you are an honorable man who pays his debts). Consequently, in the equation $x+5=3$,

x can be set equal to -2, where the minus sign indicates a number less than zero.

Such numbers are called 'negative numbers' from a Latin word meaning 'to deny' so that the very name carries the traces of the Greek denial of the existence of such numbers. Numbers greater than zero are 'positive numbers' and these can be written $+1$, $+2$, $+3$, and so on.

From a practical standpoint, extending the number system by including negative numbers simplifies all sorts of computations, as, for example, those in bookkeeping.

From a theoretical standpoint, the use of negative numbers means that every equation of the first degree has exactly one solution. No more; no less.

If we pass on to the equations of the second degree, we find that the Greeks would agree with us that the equation $x^2-5x+6=0$ has two solutions, 2 and 3. They would say, however, that the equation $x^2+4x-5=0$ has only one solution, 1. Substitute 1 for x and x^2 is 1, while $4x$ is 4, so that the equation becomes $1+4-5=0$. No other number will serve as a solution, as long as you restrict yourself to positive numbers.

However, the number -5 is a solution, if we consider a few rules that are worked out in connection with the multiplication of negative numbers. In order to achieve consistent results, mathematicians have decided that the multiplication of a negative number by a positive number yields a negative product, while the multiplication of a negative number by a negative number yields a positive product.

If, in the equation, $x^2+4x-5=0$, -5, is substituted for x, then x^2 becomes -5 times -5, or $+25$, while $4x$ becomes $+4$ times -5, or -20. The equation becomes $25-20-5=0$, which is true. We would say, then, that there are two solutions to this equation, $+1$ and -5.

Sometimes, a quadratic equation does indeed seem to have but a single root, as for example, $x^2-6x+9-0$, which will be a true equality if and only if the number $+3$ is substituted for x. However, the mechanics of solution of the equation shows that there are actually two solutions, which happen to be identical. The two solutions of this equation are $+3$ and $+3$. (Perhaps you think this is mystical. Well, it isn't, but I lack the space to show it by means of analytical geometry, and the Kindly Editor would slaughter me

in most unKindly fashion, if I even made a motion as though to draw a graph.)

Allowing for occasional duplicate solutions, are we ready to say then that all second degree equations can be shown to have exactly two solutions if negative numbers are included in the number system?

Alas, no! For what about the equation $x^2+1=0$. To begin with, x^2 must be -1, since substituting -1 for x^2 makes the equation $-1+1=0$ which is correct enough.

But if x^2 is -1, then x must be the famous square root of minus one, ($\sqrt{-1}$) which occasioned the set-to between the sociology professor and myself. The square root of minus one is that number which when multiplied by itself will give -1. But there is no such number in the set of positive and negative quantities, and that is the reason the sociology professor scorned it. First, $+1$ times $+1$ is $+1$; secondly, -1 times -1 is $+1$.

To allow any solution at all for the equation $x^2+1=0$, let alone two solutions, it is necessary to get past this roadblock. If no positive number will do and no negative one, either, it is absolutely essential to define a completely new kind of number; an imaginary number, if you like; one with its square equal to -1.

We could, if we wished, give the new kind of number a special sign. The plus sign does for positives and the minus sign for negatives; so we could use an asterisk for the new numbers and say that *1 ('star one') times *1 was equal to -1.

Howevqer, this was not done. Instead, the symbol i (for 'imaginary') was introduced by the Swiss mathematician Leonhard Euler in 1777 and was thereafter generally adopted. So we can write $i=\sqrt{-1}$ or $i^2=-1$

Having defined i in this fashion, we can express the square root of any negative number. For instance, $\sqrt{-4}$ can be written $\sqrt{4}$ times $\sqrt{-1}$, or $2i$. In general any square root of a negative number, $\sqrt{-n}$, can be written as the square root of the equivalent positive number times the square root of minus one; that is $\sqrt{-n}=\sqrt{n}i$.

In this way, we can picture a whole series of imaginary numbers exactly analogous to the series of ordinary or 'real numbers.' For 1, 2, 3, 4 . . . , we would have i, $2i$, $3i$, $4i$. . . . This would include fractions, for 2/3 would be matched by $2i/3$; 15/7 by $15i/17$ and so on. It would also include irrationals, for $\sqrt{2}$ would be matched by $\sqrt{2}\,i$ and even a number like π (pi) would be matched by πi.

These are all comparisons of positive numbers with imaginary numbers. What about negative numbers? Well, why not negative imaginaries, too? For -1, -2, -3, -4 . . . there would be $-i$, $-2i$, $-3i$, $-4i$. . . .

So now we have four classes of numbers, 1) positive real numbers, 2) negative real numbers, 3) positive imaginary numbers, 4) negative imaginary numbers. (When a negative imaginary is multiplied by a negative imaginary, the product is negative.)

Using this further extension of the number system, we can find the necessary two solutions for the equation $x^2+1=0$. They are $+i$ and $-i$. First $+i$ times $+i$ equals -1, and secondly $-i$ times $-i$ equals -1, so that in either case, the equation becomes $-1+1=0$, which is a true equality.

In fact, you can use the same extension of the number system to find all four solutions for an equation such as $x^4-1=0$. The solutions are $+1$, -1, $+i$ and $-i$. To show this, we must remember that any number raised to the fourth power is equal to the square of that number multiplied by itself. That is, n^4 equals n^2 times n^2. Now let's substitute each of the suggested solutions into the equations so that x^4 becomes sucessively $(+1)^4$, $(-1)^4$, $(+i)^4$, and $(-i)^4$.

First, $(+1)^4$ equals $(+1)^2$ times $(+1)^2$, and since $(+1)^2$ equals -1, that becomes $+1$ times $+1$, which is $+1$.

Second, $(-1)^4$ equals $(-1)^2$ times $(-1)^2$ and since $(-1)^2$ also equals $+1$, the expression is again $+1$ times $+1$, or $+1$.

Third, $(+i)^4$ equals $(+i)^2$ times $(+i)^2$ and since $(+i)^2$ equals -1, the expression becomes -1 times -1 or $+1$.

Fourth, $(-i)^4$ equals $(-i)^2$ times $(-i)^2$ which is also -1 times -1, or $+1$.

All four suggested solutions when substituted into the equation, $x^4-1=0$, give the expression $+1-1=0$, which is correct.

It might seem all very well to talk about imaginary numbers—for a mathematician. As long as some defined quantity can be made subject to rules of manipulation that do not contradict anything else in the mathematical system, the mathematician is happy. He doesn't really care what it 'means.'

Ordinary people do, though, and that's where my sociologist's charge of mysticism against mathematicians arises.

And yet it is the easiest thing in the world to supply the so-called 'imaginary' numbers with a perfectly real and concrete significance. Just imagine a horizontal line crossed by a vertical line and call

the point of intersection zero. Now you have four lines radiating out at mutual right angles from that zero point. You can equate those lines with the four kinds of numbers.

If the line radiating out to the right is marked off at equal intervals, the marks can be numbered $+1$, $+2$, $+3$, . . . and so on for as long as we wish, if we only make the line long enough. Between the markings are all the fractions and irrational numbers. In fact, it can be shown that to every point on such a line there corresponds one and only one positive real number, and for every positive real number there is one and only one point on the line.

The line radiating out to the left can be similarly marked off with the negative real numbers, so that the horizontal line can be considered the 'real number axis,' including both positives and negatives.

Similarly, the line radiating upward can be marked off with the positive imaginary numbers and the one radiating downward with the negative imaginary numbers. The vertical line is then the imaginary number axis.

Suppose we label the different numbers not by the usual signs and symbols, but by the directions in which the lines point. The rightward line of positive real numbers can be called EAST because that would be its direction of extension on a conventional map. The leftward line of negative real numbers would be WEST, the upward line of positive imaginaries would be NORTH and the downward line of negative imaginaries would be SOUTH.

Now if we agree that $+1$ times $+1$ equals $+1$, and if we concentrate on the compass signs as I have defined them, we are saying that EAST times EAST equals EAST. Again since -1 times -1 also equals $+1$, WEST times WEST equals EAST. Then, since $+i$ times $+i$ equals $-i$, and so does $-i$ times $-i$, then NORTH times NORTH equals WEST and so does SOUTH times SOUTH.

We can also make other combinations such as -1 times $+i$, which equals $-i$ (since positive times negative yields a negative product even when imaginaries are involved) so that WEST times NORTH equals SOUTH. If we list all the possible combinations as compass points, abbreviating those points by initial letters, we can set up the following system:

E × E = E	E × S = S	E × W = W	E × N = N
S × E = S	S × S = W	S × W = N	S × N = E
W × E = W	W × S = N	W × W = E	W × N = S
N × E = N	N × S = E	N × W = S	N × N = W

There is a very orderly pattern here. Any compass point multiplied by EAST is left unchanged, so that EAST as a multiplier represents a rotation of 0°. On the other hand, any compass point multiplied by WEST is rotated through 180° ('about-face'). NORTH and SOUTH represent right-angle turns. Multiplication by SOUTH results in a 90° clockwise turn ('right-face'); while multiplication by NORTH results in a 90° counter-clockwise turn ('left-face').

Now it so happens that an unchanging direction is the simplest arrangement, so EAST (the positive real numbers) are easier to handle and more comforting to the soul than any of the others. WEST (the negative real numbers) which produces an about-face, but leaves one on the same line at least, is less comforting, but not too bad. NORTH and SOUTH (the imaginary numbers) which send you off in a new direction altogether are least comfortable.

But viewed as compass points, you can see that no set of numbers is more 'imaginary' or more 'real' than any other.

Now consider how useful the existence of two number axes can be. As long as we deal with real numbers only, we can move along the real number axis, backward and forward, one-dimensionally. The same would be true if we use only the imaginary number axis.

Using both, we can define a point as so far right or left on the real number axis and so far up or down on the imaginary number axis. This will place the point somewhere in one of the quadrants formed by the two axes. This is analogous to the manner in which points are located on the earth's surface by means of latitude and longitude.

We can speak of a number such as $+5+5i$, which would represent the point reached when you marked off 5 units EAST followed by 5 units NORTH. Or you can have $-7+6i$ or $+0.5432-9.115i$ or $\sqrt{2}+\sqrt{3}i$.

Such numbers, combining real and imaginary units are called 'complex numbers.'

Using both axes, any point in a plane (and not merely on a line) can be made to correspond to one and only one complex number. Again every conceivable complex number can be made to correspond to one and only one point on a plane.

In fact, the real numbers themselves are only special cases of the complex numbers and so, for that matter, are the imaginary numbers. If you represent complex numbers as all numbers of the form $+a+bi$, then the real numbers are all those complex numbers in which b happens to be equal to zero. And imaginary numbers

are all the complex numbers in which a happens to be equal to zero.

The use of the plane of complex numbers, instead of the lines of real numbers only, has been of inestimable use to the mathematician.

For instance, the fundamental theorem of algebra holds true only if complex numbers are considered as solutions, rather than merely real numbers and imaginary numbers. For instance the two solutions of $x^2-1=0$ are $+1$ and -1, which can be written as $+1+0i$ and $-1+0i$. The two solutions of $x^2+1=0$ are $+i$ and $-i$, or $0+i$ and $0-i$. The four solutions of $x^4-1=0$ are all four complex numbers just listed.

In all these very simple cases, the complex numbers contain zeroes and boil down to either real numbers or to imaginary numbers. This, nevertheless, is not always so. In the equation $x^3-1=0$, one solution, to be sure is $+1+0i$ (which can be written simply as $+1$) but the other two solutions, however, are $-\frac{1}{2}+\frac{1}{2}\sqrt{3}\,i$ and $\frac{1}{2}-\frac{1}{2}\sqrt{3}\,i$.

The Gentle Reader with ambition can take the cube of either of these expressions (if he remembers how to multiply polynomials algebraically) and satisfy himself that it will come out $+1$.

Complex numbers are of practical importance too. Many familiar measurements involve 'scalar quantities' which differ only in magnitude. One volume is greater or less than another; one weight is greater or less than another; one density is greater or less than another. For all such measurements, the real numbers, either positive or negative, suffice.

However, there are also 'vector quantities' which possess both magnitude and direction. A velocity may differ from another velocity not only in being greater or less, but in being in another direction. This holds true for forces, accelerations and so on.

For such vector quantities, complex numbers are necessary to the mathematical treatment, since complex numbers include both magnitude and direction (which was my reason for making the analogy between the four types of numbers and the compass points).

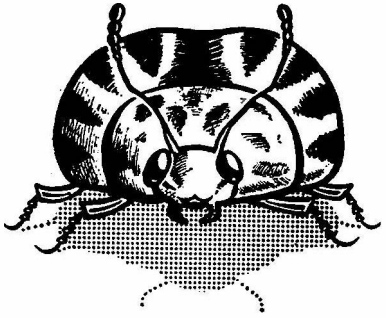
Now when my sociology professor demanded 'the square root of minus one pieces of chalk' he was speaking of a scalar phenomenon for which the real numbers were sufficient.

On the other hand, had he asked me how to get from his room

to a certain spot on the campus, he would probably have been angered if I had said, 'Go 200 yards.' He would have asked, with asperity, 'In which direction?'

Now, you see, he would be dealing with a vector quantity for which real numbers are insufficient. I would satisfy him by saying, 'Go 200 yards northeast,' which is equivalent to saying, 'Go 200 plus 200*i* yards.'

Surely it is as ridiculous to consider the square root of minus one 'imaginary' because you can't use it to count pieces of chalk as to consider the number 200 as 'imaginary' because by itself it cannot express the location of one point with reference to another.



THE BEETLE

Fulton was reasonably sure that he had not really meant to kill Ledyard, and that the fall was an accident. At the same time, Fulton knew now that he was capable of murder, and that his thoughts of violence were not idle.

JAY WILLIAMS

FULTON SAT ALONE IN THE LIVING-ROOM listening to noises of the house. There was a faint clink as ice melted in his glass, the whirr of the refrigerator in the kitchen, the humming of the pump in the cellar, the low crack of an expanding board. Now and then something banged against the window screens, a night-flying June bug perhaps. It was a hot night and the sweat ran down Fulton's face although he wasn't moving. He was thinking about Ledyard again, not with remorse but simply because whenever he was alone he could not get the man out of his mind.

Upstairs, Ellis called, 'I want a drink of water, Donald.'

Fulton ignored him, except to let himself think, in passing, that the boy had never learned to call him 'Daddy' although he had been married to Eliza for two years.

He sipped his drink. Ledyard, he thought. I'll bet the kid would've called *him* Daddy. The kid had liked Ledyard. Too bad about Ledyard. But it had been suicide; nobody had questioned that. And the better man had won.

He remembered that night. He and Ledyard on the balcony in Ledyard's apartment.. He had said, 'Get wise to yourself, Ledyard. Just stay away from Eliza.'

Ledyard had said, 'Don't push me, Fulton,' but there had been no menace in his voice, no aggressiveness. It was mild, like the rest of him, soft, small, with mild eyes behind large spectacles. He

was as inoffensive and helpless, Fulton thought, as a worm or a bug under one's foot—and as repulsive, too. Perhaps it was that which made him hate the man so, almost unreasonably, for Fulton was a strong man and hated all things that crept and crawled.

Fulton had said, 'Well, just get it through your head. She's my type. Don't bust in, that's all.'

That had been unfair, considering that Ledyard had known Eliza for years. He had seen her through her divorce, had even taken Ellis, then two years old, to live with him during the moving. He had always loved Eliza; he had hoped to marry her, until Fulton, the better man, the stronger man, had come along.

To emphasize what he said, Fulton had pushed him again, harder this time. Ledyard had staggered back and hit the low railing. It had happened quickly, unexpectedly. Suddenly Fulton had seen Ledyard's wide eyes behind the glasses, and wide open mouth like a square, both reversed, his legs in the air, and then he was gone. Irrevocably gone.

Fulton shook himself, but he could not rid himself of the memory. There had been a scream, too. Or had there? No, no scream, that was what had made it so bad. It had been soundless with the sense of falling, like a dream. He had run to the railing and looked, and two or three people had gathered around, far below, so that it looked like ants around a dead bug. He had gotten out of Ledyard's apartment, and walked all the way downstairs. It didn't take much to lose yourself in a crowd. Nobody knew him, no one had seen him. And everyone had agreed that Ledyard had killed himself because of Fulton and Eliza.

Ellis called again, chanting monotonously, 'Dri-i-i-nk a wa-a-a-ater.'

'Damn brat,' Fulton said, without emotion, without moving. If Eliza were out of the way he could get rid of the boy. Send him to a school. Best thing in the world for him. Make a man of him.

It was not the first time he had gone from thoughts of Ledyard's death to thoughts of his wife's death. It had not been a happy marriage; he had been somewhat more attracted to her money than to her pale beauty, for Fulton was as he expressed it, a man who liked to live high but not dry, and who had no patience with sitting around a house in Connecticut every evening and looking at the pictures on the walls. There was the boy, too. Ellis had never liked him, although for a few weeks Fulton had put himself out to be pleasant and fatherly. 'That's how it is,' he thought to himself, 'you

knock yourself out trying to be nice to people and they kick you in the teeth.'

Not that it would be difficult to get rid of Eliza. He did not think of himself as a murderer, not any more than any man does, and even the happiest of men sometimes finds himself contemplating methods of doing away with his wife. But he knew, in an inner, secret core that he was capable of it; he had been hardened by Ledyard's death. Sometimes, thinking about that smaller man, he was able to make himself believe that he had deliberately pushed the man to his death. Indeed, when he was not touched by the vertigo that came with remembering the fall, he felt a little proud; there were not many people who had done in a rival and gotten away with it.

Utterly capable of it . . . of something clever in which his hand would not show. That was the trouble, he must run no risk. Then the house, the stocks, the cars, the property would be his for the taking. He thought of cunningly elaborate devices, of wiring a bomb to the engine of her car, of high-tension cables mysteriously parting, of falls down long flights of stairs.

He took another drink, and suddenly he sat upright, full of a new idea. It might be very easy, much easier than any of those notions. She was out tonight at one of her customary civic duties, the P.T.A. or the League of Women Voters, or one of those crackpot things he had never suspected her of liking when he had first known her . . . but that was how it was with these pale, tall women —they quickly become exhausted with pleasure and made up for it by trying to take the place of men. He grinned mirthlessly, and went back to his idea. She might fall in with some teen-age thug on the way home, or with a mugger; the papers were full of stories of women who were attacked, raped, and killed in deserted places. He could, for instance, slip out of the house and meet her at the cross road near Cowbridge Lane. It was quiet there, quiet and lonely and wooded, not a house in sight. She would see him and stop the car, unsuspecting, thinking maybe that something was wrong with Ellis. Then, at about one o'clock he could call the police: 'Have you had any reports of accidents? You see, my wife hasn't come home yet and I'm a little worried,' he could say. But he would remember to wear gloves.

Ellis yelled, 'Donald! I'm awful thirsty, Donald!'

'Shut up!' Fulton said. He could never do anything while the

kid was awake. His pulse began to hammer, he felt a surge of choking anger and of excitement, as well, in his throat. 'I'll bring you some water,' he shouted, menacingly.

He went into the kitchen and got a glass and filled it, not bothering to let the water run, so that it was lukewarm. He climbed the stairs, taking some satisfaction in tramping as heavily as he could. Ellis's room was always cluttered with toys that he had forgotten to put away; and his boxes, and paint sets, and automobiles, and animals overflowed into the hall, and there was a fire-engine loaded with marbles and blocks at the head of the stairs. Fulton savagely kicked the thing aside and went into the bedroom. He tripped on a corner of the rug which Ellis had turned up for a secret hiding place, and staggered. A blot of water jerked from the glass and spilled on his shoes.

'Now see what you made me do,' he snarled.

The boy was sitting up in bed. He said, 'Where's my mummy?'

'She's out,' said Fulton. 'You know she's out. Drink this damn water and go to sleep. You hear me?'

Ellis drank, looking at him over the rim of the glass. 'Are you my father?' he said.

'Shut up,' said Fulton. 'And tomorrow I want you to pick up these toys. You hear?' He tapped with his toe at some marbles on the floor. 'Somebody'll trip over them. Maybe it'll be you and you'll break your neck. Serve you right, too.'

One of the marbles detached itself and moved away. It was a beetle of some sort. Fulton did not know of what sort, nor did he think of that; he stamped down at the thing automatically. It had run along the baseboard, however, where his shoe could not touch it. It darted into the hall.

'A bug,' Ellis said. 'That was a bug.'

'You shut up and go to sleep.'

Fulton got one of the child's building blocks, a flat one about two feet long and an inch thick. Without turning off the light he stepped into the hall. There was a pale tan carpet running the length of the hall, and on it he saw the beetle. He raised the block and at the same moment the insect lifted its wing-cases and with a buzz flew toward him. Involuntarily, he ducked his head. The beetle vanished.

He hesitated, searching about for the thing. The fact that it had made him dodge he counted as its victory; it made him hate the

creature. 'No damn bug,' he said to himself, 'is going to make me jump.'

He thought he heard it buzz again, in his bedroom at the end of the hall. He went to the door and listened. Something certainly went 'tick!' inside, as if the insect had knocked against a lamp shade. He reached inside and snapped on the light. At that, the beetle rose from his trousers where it had been clinging all the while, and flew at the light. It closed its wing-cases again and fell to the floor. He saw it scuttle under the bureau.

Fulton wiped his face with his sleeve. Keeping his eye on the bureau, he took a newspaper from the magazine rack beside the chair and rolled it up tightly. With that in one hand and the block in the other, he got down on hands and knees and peered under the bureau. He swished the rolled paper back and forth, holding the block ready. It seemed to him that he felt something, and he jammed the newspaper in hard against the wall, grinding it around until it split and broke. He withdrew it and bent down to look. Something tickled his hand. He glanced sideways. The beetle had run out over his hand, across his wrist, and was making for the door of the bathroom.

Quivering with fury and revulsion, Fulton sprang up and hurled the block at it. It changed direction and vanished under the bed.

He wiped his hand on his trousers. He got the flashlight from the drawer of the night-table. He said, 'No you don't. Oh, no, Buster,' biting his lower lip. He took the broken roll of newspaper and stuffed it in the crack under the bathroom door. 'You won't get away in there,' he said. He picked up the block again and got on his knees; sweeping the beam back and forth he searched beneath the bed. He could see nothing but curls of dust.

Then he noticed that the baseboard where it ran along the wall under the bed, was raised a trifle from the floor and he fancied he saw in that minute space, as in a cave, the glint of tiny eyes.

It was obvious that he could not reach it with the block. He thought for a moment, and then he said, 'I'll fix you. Wait right there a minute. Don't go away.' That amused him, and he chuckled. Getting to his feet, he found a long sharp nail file on the dresser and went back to the bed. He lay down flat and crawled under a little way. Holding the flashlight with one hand he stabbed the nail file into the crack. A kind of vicious frenzy seized him; he gutted the crack, slashing the file back and forth. Dust flew out and made him sneeze.

He wriggled backwards and stood up. 'Good-bye, bug,' he said. He went into the bathroom and washed his hands. His face was red, and his shirt stuck to his body; his hair was full of wisps of fluff. 'God,' he said to his reflection, 'how about that? Chasing a bug. Reminded me of Ledyard, didn't it? Same bug-eyes. Do beetles wear glasses?'

He laughed again, and came out of the bathroom. Cataclysmically, the beetle sprang up from the bedspread and flew out of the room.

Fulton snatched up the block. He rushed into the hall. He spied the thing resting on the rug near the other end, and ran, and struck at it. It scurried along the floor, its antennae quivering. It made for the guest room. Fulton tried to hit it but missed, and it disappeared into the shadows of the room.

'You won't make out in there, Ledyard,' Fulton said, without thinking, and only when he heard the sound of his own words, realized what he had said.

'Of course,' he said, standing in the dim hall, swinging the block, staring into the dark guest room. 'It's Ledyard. He's wise to me. He was always a wise guy.' Curiously, he felt like giggling. He put his hand out and felt cautiously along the wall of the guest room until he found the light switch. 'O.K., Ledyard,' he said, snapping it on. O.K. You want to play games, eh? Just wait.'

He edged into the room and stood in the corner, looking. He muttered, 'A damned beetle. How about that? Eh? How about it?'

The beetle was clinging to wall at the level of his shoulder. It was a handsome insect, nearly two inches long, with a glossy brown-blue back and long jointed antennae. He could see one eye clearly, a round lustrous black bead that seemed to regard him over a shoulder, as it were; he fancied the thing was grinning at him. He raised the block slowly, and slowly brought it forward. No hurrying, this time. It would crunch.

But before he could touch it, the beetle dropped off the wall. It darted to the rug and stopped. Fulton swung round to look for it, and suddenly he had the feeling that it was he who had been backed into a corner, that the beetle was chasing *him.*

He sprang forward, stamping his foot down. He was too late again. It was gone. He could hear a scratching sound somewhere, but he could see nothing.

The block was a poor weapon, it was too unwieldy. He dropped it, deciding to rely on his feet or even his fists, although the thought

of touching the thing filled him with loathing. He began to stoop, to look under the bed, and saw, with no more than a corner of his eye, what appeared to be a faint black shadow whisk out of the room. He flung open the door. He began advancing up the hall very deliberately, inspecting every foot.

He came to the stairs and stopped. With his toe, he carefully moved a couple of comic books, and rolled the toy fire-engine aside. He grunted, straightening; his back hurt, for he had been going along half stooped. Then he saw it again.

It was perched on the top step, quietly regarding him, its antennae motionless. He took a single long step and this time trod heavily on it.

It was one of Ellis's marbles.

His foot shot out from under him. He grabbed for the bannister, missed, and pitched down the stairs. His head came against the steps with a solid crack, and when he got to the bottom he lay for quite a while making a hoarse sound, and then he died.

The beetle flew down from the ceiling and fastidiously, like a man buttoning his coat, tucked its wings under their cases. It ran along the floor back into Ellis's room. The boy was still sitting up in bed, the light on, listening to all the noise

'Hello, Mr. Ledyard,' he said.

A tale of the Himalayas, of 'the terrifying being who lives in the snows,' of a priest who disappeared, and of an abbot prepared to go to extremes in defense of his own 'truths.'

THE ONE WHO RETURNS

by John Berry

FATHER RYAN HAD DISAPPEARED completely and mysteriously about two months before my arrival at the hill station of Rampoche on April 25, 1952. He had left the monastery in company with four other European priests and was hiking in the Himalayas somewhere near the Nepal frontier. A botanist of sorts, he had strayed a few steps away from his party, with the intention of identifying a certain tree. His companions never saw him again, although they searched for him all the rest of that day. Sherpas, Lepchas, Tibetans, Nepalese, and several companies of Indian soldiers combed the whole area for a week, in vain.

It surprised me, rather, that a mysterious disappearance should make much of an impression on Rampoche. The town was surrounded by deep gorges and forests where I once saw a python lower ten feet of itself out of a tree to pull up a yelling thing that looked like a large sloth.

And there were the Yetis, the half-legendary, hairy, man-like creatures who, I am now convinced, do really inhabit the upper slopes of the Himalayas. So far as I can recall, there is nothing funny about the Yeti except the English translation of the Tibetan word—which, if the truth be told, is not even Yeti—made by a charming man whose native tongue is not English. 'The terrifying being who lives in the snows' thus becomes the Abominable Snow Man'—a name that was quickly seized upon, not by true skeptics but by those who were determined not to believe; however, these were mere outsiders.

The people of the mountains knew better. They evince a polite

curiosity at the many photographs which have now been amassed, showing the huge footprints of the Yetis in the snow. These are common Yetis, though it is doubtful that the outsider will ever lay eyes on them, for they are masters of privacy. There are other Yetis who are far advanced in the ways of yoga.

And there is the Great Yeti, who is Illumined. His name must not be mentioned.

The story was told to me gradually, over a period of time, in several languages of men and of events; often imperceptibly: a word here or there, perhaps unnoticed at the time, dropped casually by some villager, shopkeeper, porter, or passing lama. For it was only the outsider, like myself, who did not already know the truth.

One morning, not very early, but before the sun had hurdled the Himalayas, I was out splitting wood beside my cabin on the mountainside above Rampoche. A Tibetan lama in purple rags and a tall, peaked cap came down the path. Standing before me and smiling, he began to jingle a little bell with one hand. With the other, he twirled a small drum on a handle, so that it was beaten by two dangling weights, one on each side. Then he sang. I remember the song perfectly, from that one hearing, but having tried once to sing it, I know that the song is his alone—perhaps because he possesses nothing in this world.

When he had sung, he blessed me until I felt blessed.

We squatted on the ground, not quite looking at each other, not able to concentrate on nor to ignore the perpetual snows of Kinchinjunga, now suddenly kindled into flaming colors by the rising sun. My smile and his smile were the same. They did not belong to either of us. I experienced freedom and contentment, the invisible commodities of this wandering mendicant.

During a fit of madness brought on by dysentery, sentimentality and the study of Sanskrit grammar, I had once insulted a Tibetan lama who came to me begging a bit too boisterously. I pushed him, I shouted curses at him, I threatened and nearly struck him with my brass opium pipe. And he laughed! Backing away in mock terror, the gigantic simpleton—the fool of God—thanked me for the experience. He walked away chortling, happier, if possible, than when he had first come.

Feelings of guilt now made me gauge my present lama's happiness by that of the former one. They seemed about the same, although I had given insults to the other one, and this Lama-ji

was sharing my breakfast. Evidently I could have no effect upon either.

Lama-ji stirred butter into his tea and drank it with respect, crinkling his eyes at me.

'The Flat Land must be a very interesting place,' he ventured.

I mentioned oceans, deserts and peoples, and improvements in methods of transportation, communication and government. However, he came to the point:

'Your Grand Lama is called a 'Pope,' is he not? Doubtless he is of a very high spiritual attainment?'

I told him that that was certainly the case, but that he had many troubles on account of the sin that is prevalent in the Flat Land.

Lama-ji murmured sympathetically.

'It is true,' he said. 'Father Ryan showed me a picture of the Pope Lama, and also one of the Illumed Jesus as a young man.

We changed the subject several times and then were silent. In this silence, all at once, I remembered that Father Ryan was the priest who had disappeared.

'Father Ryan,' I said.

'We met on a hill before dawn,' Lama-ji said, and I felt, looking at him, that he might be speaking metaphorically.

I continued to look at him.

'It was seven days before he was taken,' he added.

I said: 'I am ignorant. Please tell me what happened to him.'

Lama-ji looked at me with surprise, then he said softly:

'The Great Yeti took him—Yeti Guru.'

I presumed that the Yeti had eaten Father Ryan.

Lama-ji laughed merrily.

'You are thinking of the big footprints in the snow,' he said. 'They are different. No, the Great Yeti is a spirit.'

'Incarnated?'

'Yes, but he has no need to eat. Father Ryan is still alive.'

'What is the Yeti like?'

'He is like a good and great yogi, but he is a Boddhisattva, much bigger than men. He lives in a cave, high, very high up in the snows.'

'Why has he taken Father Ryan?'

Lama-ji became very serious. With an awed expression he said:

'Sometimes the Great Yeti comes down from the snows to look at people. Usually he returns alone. But if he finds a human with a pure soul, he will take that person with him. There in the cave

Yeti Guru teaches the man and the man receives Ilumination.'

'But the man does not return to the world?'

'At the end of six months he appears again among human beings in order to teach them. He has one month to do this, and at the end of that time—if he lives that long—he dies quickly and turns to dust. In that month he must stay in dark places, for he casts no shadow, and human beings are afraid at the approach of the Illumined One—and indeed he does make a great deal of trouble for them.'

'What kind of trouble?' I asked.

'Ah,' said Lama-ji sadly. 'Men are provoked by the truth—as in your country they were provoked by the Illumined Jesus before he became a Boddhisattva. Did they not burn him to ashes?'

'No,' I said. 'They crucified him.'

'That is not fatal to One Who Returns,' Lama-ji said. 'Everyone knows that he must be burned to ashes, like a scroll. Otherwise he goes on teaching and disturbing people. You will see what happens when Father Ryan-Boddhisettva comes down from the snows.'

Lama-ji's face was now serene, but with a suggestion of inward irony, a baffling combination of naïveté and sophistication.

'And whose side are you on?' I asked with some asperity.

Lama-ji quaked with suppressed laughter.

'My son,' he said, 'there are no sides. All is ritual.'

At the end of June, I went down to the Gangetic Plains. It was not until the following April that I returned to Rampoche to escape the heat. This time I made the acquaintance of Joan Venkataramanan, a handsome, learned and courageous Englishwoman who had married an Indian. Daily she assaulted the Everest of her existence, and neither she nor it could ever admit defeat.

She and I and her two children were hiking along a mountain trail late one afternoon, when we stopped to sit on some boulders, to catch our breath. Joan was not a compulsive talker, but she talked steadily to me on that day, for the simple reason that she had stored up so much that had to be told and could not be told—except to another inward sort of outsider. We sat there gazing out across immense depths and heights and distances of an indescribable grandeur. A black spot at the base of a mountain to our left loomed up curiously. I seemed to recall a white building—

The children—a boy of seven and a girl of about ten—were

scampering up the mountainside in back of us. Joan was talking about Freedom. It might be a good thing, she said, to be a nun for the sake of the *esprit de corps*—only she was afraid of finding herself stuck without much *esprit* and no *corps* at all.

'I once knew an Irish priest who was a free spirit,' Joan said. 'He lived in a monastery that used to be down there, where you see that black spot—it burned down last October, with the Abbot inside, and possibly someone else. The others were Belgians and a couple of Poles. Father Ryan—'

I suppose I looked intense, for Joan at once concentrated on this subject in order to remove any pretext I might have for interfering with her oblique confession. And indeed I did not wish to intrude. She was creating a world out of words. It was like the falling of snow.

Under it lay Everest.

'The Abbot,' Joan was saying, 'was a formidable man. I went to see him about the children's education and we had a bit of a row. He was one of those granite-faced Walloons—a convert himself, I suspect. They always go to extremes to make up for their heretical past, you know.'

Father Ryan, on the other hand, seemed to have been a good-hearted sort of fellow. He had given the children lessons in natural science until his superior, who may have feared Joan's possible influence on the teacher, forbade him to continue his friendship with them.

Then Father Ryan had disappeared on that hiking expedition. . . .

And the monastery?

'Last October,' Joan said, 'the Abbot did a terrible and heroic thing—I've been ashamed of myself ever since for having quarreled with him. Just after nightfall a fire broke out in the monastery. It must have been in the Abbot's cell, because he was the only one who was aware of it.

'He rang the big bell—we heard it for miles around, wild and defiant—and he ordered everyone out of the monastery. Then he locked the gates to keep anyone from coming back in. He stayed in there alone to fight the fire, and he died in there. It was foolish of him—with help he might have put out the fire—but he wouldn't risk the lives of the others. I can hardly understand such absolute courage, can you? Within an hour the place was in ashes.

'Of course, you know how people like to embroider simple

events. Some of the monks claimed to have seen a shadowy figure at nightfall moving majestically out of the forest, into the monastery, and up to the Abbot's room, which was in a sort of tower. That was just before the fire started.

'Then there was that unstable Polish monk, a sort of menial. When the flames were at their height, he saw in them a vision of Christ—smiling ever so slightly, seated in the *padmasana* or lotus posture, His hands raised in the *mudra* of Divine Teaching.'

The children were coming down the mountain toward us. I began to convey to Joan, by gestures, a certain restlessness that had taken hold of me. It was getting late, and after nightfall the trails in those precipitous mountains are not altogether safe, especially for the outsider whose gaze may be momentarily distracted by the sight of moonlight on snow over a considerable area and at some height.

COMING NEXT MONTH

ANOTHER Brian W. Aldiss novelet, following up 'Hothouse' (June F&SF), offered on the assumption that most of you do like at least an occasional series approach. Titled 'Nomansland,' it too tells of a time in the future when plant life has become dominant in the world, and the comparatively few human beings, shrunk to one-fifth their previous size, are joined in constant battle with a hostile environment. . .

THE ALL-STAR SF AUTHOR

by Alfred Bester

Readers complain rather bitterly about the poor quality of contemporary science fiction and its authors. So we would like to take advantage of this month's All-Star Issue by putting together a composite All-Star Author out of the colleagues we admire most. Unfortunately, space limits us to a selection of seven, but we beg you (and the authors who must be omitted) to remember that our admiration includes far more than that number.

Big Daddy of them all is the Old Pro, Robert A. Heinlein. Mr. Heinlein brings to his stories an attack and a pace that have the onslaught of an avalanche. His characters do not vary much . . . he seems to draw on a limited cast . . . but they are delineated with vigor. His blacks are ebony, his whites are pristine, he doesn't waste time on delicate shadings. His themes are similarly forthright, and often give the impression that his stories are being told by extrapolated bankers and engineers; that is to say, by men who are both pragmatic and parochial.

We have always thought of Mr. Heinlein as the Kipling of science fiction. This is high praise, for Kipling was the finest prose craftsman of the XIXth and early XXth centuries. Unfortunately, Mr. Heinlein also shares Kipling's annoying faults. Kipling's appraisal of life was often over-simplified to the point of childishness. He suffered from acute Xenophobia, and his excessive virility colored most of his work with a cocksure, know-it-all attitude.

Despite these flaws, Mr. Heinlein remains the most powerful and original force in science fiction today; an author always to be

reckoned with, never ignored. In fact, the latter would be quite impossible. Mr. Heinlein reaches out, takes the reader by the scruff of the neck, and doesn't let go until he's shaken the wits out of him. Some day we hope Mr. Heinlein will use his talent to shake a little wit into the reader.

Although there has been a falling off in the quality of Theodore Sturgeon's work in recent years (no doubt the result of middle-aged spread, which can be cured by a stringent phsyical and mental regimen) he is still the most perceptive, the most sensitive, and the most adult of science fiction authors.

No one in the field can touch on the emotional relationships of human beings as delicately and yet as sharply as Mr. Sturgeon. If Mr. Heinlein's work can be described as massive black and white lithography, then Mr. Sturgeon's is the exquisite Japanese print. He turns every reader into a sympathetic psychoanalyst, but never permits his characters to become analysands; they remain understandably yet mysteriously human.

Mr. Sturgeon comes closest to the ideal science fiction author because he is not preoccupied with the gadgetry of science; he prefers to extrapolate the human being rather than the test tube. This trips him up occasionally, for sometimes he becomes so involved with the nuances of behavior that he bogs down, and the action of his story is forced to mark time. But despite this he is a superb craftsman, and when his material lies just right, he invariably produces a gem.

Robert Sheckley is possibly the most polished of the science fiction authors. This manifests itself in his approach to a story; with the choice of a dozen different treatments, he always selects the wittiest and most original. His ideas are engaging; his dialogue is crisp and pointed with humor. He understands the secret of economy, and knows how to distill an idea down to essentials, and then extract every possible variation and development.

Mr. Sheckley, however, runs a grave risk of becoming monotonous. Early success with a particular story pattern has, we feel, seduced him into repeating this pattern over and over again. He confronts one or two characters with a fantastic and fascinating problem. In the end, the protagonists solve the problem, almost invariably with an ingenious surprise.

This is to say that most of his stories resolve themselves into

running duologues. We look forward to the time when Mr. Sheckley will break away from this formula and try his hand at other story forms. His talent is too keen to be wasted entirely on success.

James Blish, to our mind, represents the greatness and the weakness of contemporary science fiction. Mr. Blish is a dedicated craftsman with a deep philosophic bias. He's a dispassionate theoretician at heart, and this is his strength. His weakness lies in the fact that he finds theories dramatic in themselves, and cares less about the drama of the human beings involved with them.

This, we believe, is an aspect of youth . . . youth which is so fascinated by the enigmas of the physical universe that it has little time left over for concern about the inhabitants. But those of us who are older have played with the physical mysteries and speculated about them; now we've become aware of one of the most amazing mysteries of all . . . man, and we want to know more about him. Here, Mr. Blish and science fiction let us down.

But in all fairness we should point out that young fans often confide that they prefer their science fiction pure; that is, with a minimum of human characters in it. So, while Mr. Blish may occasionally fail to satisfy his older readers, he has generations of young enthusiasts, presently struggling through primers, who will graduate into ardent devotees of his work.

It is the misfortune of Isaac Asimov that his greatest story was his first; and that was a classic which any of us would have been proud to have written. Ever since, Mr. Asimov has turned out a steady stream of science fiction, all competently planned and worked out, very little inspired. He has not grown in stature; he's levelled off into the solid wheelhorse of science fiction.

There is a coldness about Mr. Asimov's work that must be distinguished from the icy clarity of Mr. Blish's. Whereas Mr. Blish deliberately sets his limits, and uses his characters to illustrate his theories, Mr. Asimov is cold out of a lack of a sense of drama. He has tremendous enthusiasm, but seems to lack empathy. He is not a real fiction writer.

Proof of this is the fact that Mr. Asimov is superb in his science articles. When his material does not require life to be breathed into characters, his wit, wisdom, and enthusiasm, plus his wonderfully lucid organization produce fact pieces that are a joy to read, and are often far more entertaining than the works of fiction in the

same magazine. After all, fiction is only one of many forms of writing, and it may well be that Mr. Asimov is an essayist who has finally found his way.

Writers are a lazy lot; we write what is convenient, comfortable, and profitable. We are past masters of the art of rationalizing cowardice. When we are inspired by a theme which may trigger off a family feud (if we express ourselves frankly and honestly) we can always find a valid excuse for evading the issue. If we catch hold of an idea which requires rigorous speculation to bring it to maturity, we can improvise a dozen devices to dodge the work. All this is by way of paying homage to that most courageous of science fiction authors, Phillip José Farmer.

Extrapolation is an ideal which science fiction extolls but rarely practises in depth. Mr. Farmer is possibly the only author who genuinely, with discipline, extrapolates. He is the one man capable of pursuing an idea to its logical end, no matter what the conclusion may involve; and it is Mr. Farmer's greatness that he is unafraid of of the most repellent conclusions.

We spoke before of Robert Heinlein's virility. In the light of Mr. Farmer's courage, Mr. Heinlein's aggressiveness becomes mere belligerence. Mr. Heinlein often dares to advocate a reactionary point of view in the face of a progressive milieu, and this is often taken as a sign of courage. We argue that it is merely hopping on an unpopular bandwagon. Mr. Farmer's is the true courage, for he has the strength to project into the dark where no pre-formed attitudes wait to support him. In other words, Mr. Heinlein deliberately shocks for the sake of dramatic values; Mr. Farmer often shocks because he has had the courage to extrapolate a harmless idea to its terrible conclusion.

Mr. Farmer's weakness is the fact that he is not a genius. (This department knows only too well what an absurd yet agonizing comment that is.) Neither he nor any author writing today is capable of smelting his powerful extrapolations into a bigger-than-life story. To quote an old expression: Mr. Farmer has too much engine for his rear axle. We believe the same is true of most science fiction.

We will never forget the electrifying effect of the first stories of Ray Bradbury. They swept over science fiction a generation ago, and transformed it from gadgetry into art. This must not be taken

as a denigration of the gadgetry of the times which was, indeed, of amazing ingenuity and power. In those days almost every story was an eye-opener; but Mr. Bradbury opened our eyes to new vistas.

His theme is protest; the protest of man against the tools which will enable him to control his enviroment, but which threaten to destroy man himself. To put it another way, Mr. Bradbury is for the simple life. He does not balk at the big issues; rather, he seizes upon a very small point . . . the right to take a walk in the rain, the right to read a book . . . and develops it with masterly style into a telling incident.

Incident, not drama, is Mr. Bradbury's forte; incident and exquisite tone control. If Theodore Sturgeon's work is the Japanese print, then Mr. Bradbury's may be likened to that most difficult of art forms, the watercolor. It is the crux of the watercolor that the tints must be of transparent purity, and flowed on with a courageous full brush. This is the essence of Mr. Bradbury's art.

It is also the danger of Mr. Bradbury's art, for it is so special in its perfection that a very little goes a long way. Mr. Bradbury cannot be read too often. When he is collected in one volume it is virtually impossible to read all his stories in a single sitting. One becomes quickly surfeited with the subtle nuance, and begins to require more robust fare.

There are many more fine practising craftsmen whom space will not permit us to discuss: Brian Aldiss, Algis Budrys, Arthur Clarke, Damon Knight, Fritz Leiber, and others. Each makes a vital contribution to science fiction; all are colleagues whom we are proud to admire. But we must limit ourselves to the seven artists under consideration here.

Our All-Star Author, then, would be made up of the dramatic virility of Robert Heinlein, the humanity of Theodore Sheckley, the dispassion of James Blish, the encyclopaedic enthusiasm of Isaac Asimov, the courage of Phillip Farmer, and the high style of Ray Bradbury. He would be edited with the technical acumen of John W. Campbell, Jr., the psychoanalytic perception of Horace Gold, and the sparkling sophistication of the Boucher-McComas team. And publishers would beat a pathway to his door.

—Alfred Bester

A NEW JOHN CARMODY STORY—

PROMETHEUS

by Philip José Farmer

THE MAN WITH THE EGG GROWING ON HIS CHEST stepped out of the spaceship.

In the light of dawn the veldt of Feral looked superficially like an African plain before the coming of the white man. It was covered with a foot-high brown grass. Here and there were tall thick-trunked trees standing alone or in groves of from five to thirty. Everywhere were herds of animals. These were cropping the grass or else drinking from a waterhole a quarter of a mile away. At this distance, some resembled antelopes, gnus, giraffes, pigs, and elephants. There were other creatures that looked as if they had come out of Earth's Pliocene. And others that had no Terrestrial parallels.

'No mammals,' said a voice behind the man with the egg attached to his chest. 'They're warm-blooded descendants of reptiles. But not mammals.'

The speaker walked around John Carmody. He was Doctor Holmyard, sapientologist, zoologist, chief of the expedition. A tall man of about sixty with a lean body and leaner face and brown hair that had once been a bright red.

'The two previous studies established that mammals either never developed or were wiped out early. Apparently, the reptiles and birds jumped the gun in the evolutionary race. But they have filled

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In 'A Few Miles' (F&SF, February), Philip José Farmer told of John Carmody—adventurer-turned-monk—and a minor misadventure in a local zoo with an imported horowitz. The great bird, in fact, laid an egg on our friend John—an egg which attached itself to John's chest. In the present adventure, John goes to Feral, planet of the horowitzes, to see what can be done about that egg . . . .

the ecological niche the mammals occupied on Earth.'

Carmody was a short rolypoly man with a big head and a long sharp nose. His left eye had a lid that tended to droop. Before he had gotten off the ship he had been wearing a monk's robe.

Holmyard pointed at a clump of trees due north and a mile away. 'There is your future home until the egg hatches,' he said. 'And if you want to stay after that, we'll be very happy.'

He gestured at two men who had followed him out of the ship, and they approached Carmody. They removed his kilt and fastened a transparent belt around his protruding stomach. Then they attached it to a sporran of feathers, barred red and white. Over his shaven head went a wig with a tall crest of red and white feathers. Next, a false beak edged with teeth was fitted over his nose. His mouth, however, was left free. Then, a bustle from which projected a tail of red and white plumage was fitted to the belt.

Holmyard walked around Carmody. He shook his head. 'These birds—if they are birds—won't be fooled one bit when they get a close look at you. On the other hand, your general silhouette is convincing enough to allow you to get fairly close to them before they decide you're a fake. By then, they may be curious enough to permit you to join them.'

'And if they attack?' said Carmody. Despite the seriousness of what might happen, he was grinning. He felt such a fool, togged out like a man going to a masquerade party as a big rooster.

'We've already implanted the mike into your throat,' said Holmyard. 'The transceiver is flat, fitted to curve with your skull. You can holler for help, and we'll come running. Don't forget to turn the transceiver off when you're not using it. The charge won't last for more than fifty operational hours. But you can renew the charge at the cache.'

'And you'll move camp to a place five miles due south of here?' said Carmody. 'Then the ship takes off?'

'Yes. Don't forget. If—after—you've established yourself, come back to the cache and get the cameras. You can put them in the best locations for taking films of the horowitzes.'

'I like that *if*,' said Carmody. He looked across the plains at his destination, then shook hands with the others.

'God be with you,' said the little monk.

'And with you, too,' said Holmyard, warmly pumping his hand. 'You're doing a great service for science, John. Perhaps for mankind. And for the horowitzes, too. Don't forget what I've told you.'

'Among my many failings, a bad memory is not numbered,' said John Carmody. He turned and began walking off across the veldt. A few minutes later, the great vessel lifted silently to a height of twenty feet, then shot off toward the south.

A lonely little man, ridiculous in his borrowed feathers, looking less like a man than a rooster that had lost a fight, and feeling like one at the moment, John Carmody set off through the grass. He was wearing transparent shoes, so the occasional rocks he stepped on did not hurt his feet.

A herd of equine creatures stopped feeding to look at him, to sniff the air. They were about the size of zebras and completely hairless, having a smooth yellowish skin mottled with squares of a pale red. Lacking tails, they had no weapons of defense against the flies that swarmed around them, but their long nonreptilian tongues slid out and licked the flies off each other's flanks. They gave horsy snorts and whinnied. After watching Carmody for about sixty seconds, they suddenly broke and fled to a position about a hundred yards away. Then, they wheeled almost as a unit and faced him again. He decided that it must be his strange odor that had spooked them, and he hoped that the horowitzes would not also be offended.

At that moment, he was beginning to think that he had been foolish to volunteer for this job. Especially, when a huge creature, lacking only long tusks to resemble an elephant, lifted its trunk and trumpeted at him. However, the creature immediately began pulling down fruit from a tree and paid no more attention to him.

Carmody walked on, not without many sidewise glances to make sure it was keeping its air of indifference. By now, however, his characteristic optimism had reasserted itself. And he was telling himself that he had been guided to this planet for a very definite purpose. What the purpose was, he didn't know. But he was certain of Who had sent him.

The chain of events that had dragged him here was made of too strange a series of links to be only coincidences. Or so, at least, he believed. Only a month ago he had been fairly happy to be a simple monk working in the garden of the monastery of the Order of St. Jairus in the city of Fourth of July, Arizona, North American Department. Then his abbot had told that he was to transfer to a parish on the planet of Wildenwooly. And his troubles had begun.

First, he was given no money with which to buy a ticket for passage on a spaceship, no letters of introduction or identification

or any detailed orders at all. He was just told to leave at once. He did not even have enough money to buy a bus ticket which would take him to the spaceport outside the domed city. He began walking and, as seemed to be his fate wherever he was, he got into one trouble after another. He finally found himself in the city park, where he was thrown by a hoodlum into a moat in the city zoo. Here a female horowitz, a giant bird of the planet Feral, had leaped into the moat and, holding him down with one foot, proceeded to lay her egg on his chest. Later, Carmody had escaped from the moat, only to find that the egg had put out tendrils of flesh and attached itself permanently to his chest.

When the zoo authorities located Carmody, they told him that the female horowitz, when she had no available male or other female on whom to attach her eggs, would attach it to a host animal. Carmody had been unlucky enough—or, from the viewpoint of the zoologists, lucky enough—to be a host. Lucky because now they would have an opportunity to study closely the development of the embryo in the egg and the manner in which it drew sustenance from its host. Moreover, if Carmody would go to Feral and attempt to pass as a horowitz, he would be the means for furnishing the zoologists with invaluable data about these birds. The zoologists believed the horowitzes to be the Galaxy's most intelligent nonsentient beings. There was even speculation they might be advanced enough to have a language. Would Carmody work with the zoologists if they paid for his trip to Wildenwooly after the study was made?

So, the lonely little man walked across the veldt with a leathery-skinned egg attached to his bloodstream. He was filled with apprehension which even his prayers did little to still.

Flocks of thousands of birds flew overhead. A creature large as an elephant, but with a long neck and four knobbly horns on its muzzle, browsed off the leaves of a tree. It paid no attention to him, so Carmody did not veer away but walked in a straight line which took him only fifty yards from it.

Then, out of a tall clump of grass stepped an animal which he knew at once was one of the great carnivores. It was lion-colored, lion-sized, and was built much like a lion. However it was hairless. Its feline face wrinkled in a silent snarl. Carmody stopped and made a half-turn to face it. His hand slid among his tailfeathers and closed around the butt of the gun hidden there.

He had been warned about this type of meat-eater.

'Only if they're very hungry or too old to catch fleeter prey will they attack you,' Holmyard had said.

This creature didn't look old, and its sides were sleek. But Carmody thought that if its temperament was as catlike as it looks, it might attack just because it was annoyed.

The leonoid blinked at him and yawned. Carmody began to breathe a trifle easier. The creature sat down on its haunches and gazed at him for all the world like a curious, but oversize, pussycat. Slowly, Carmody edged away.

The leonoid made no move to follow. Carmody was congratulating himself, when, on his left, a creature burst loose from a clump of grass.

He saw that it was a half-grown horowitz, but he had no more time to look at it. The leonoid, as startled as Carmody, leaped forward in pursuit of the runner. The horowitz cried in fear. The leonoid roared. Its pace increased.

Suddenly, out of the same clump from which the young bird had run, an adult darted. This one held a club in its hand. Though it was no match for the carnivore, it ran toward it, waving its club in its humanlike hand and yelling.

By then Carmody had drawn the pistol from its holster, and he directed the stream of bullets at the leonoid. The first missile exploded in the ground a few feet ahead of the creature; the remainder raked its side. Over and over the animal turned, and then it fell.

The adult horowitz dropped the club, scooped up the young bird in its arms, and began running toward the grove of trees about a half a mile ahead, its home.

Carmody shrugged, reloaded the gun, and resumed his walk.

'Perhaps, I can put this incident to good use,' he said aloud to himself. 'If they are capable of gratitude, I should be received with open arms. On the other hand, they may fear me so much they might launch a mass attack. Well, we shall see.'

By the time he had neared the grove, the branches of the trees were alive with the females and the young. And the males had gathered to make a stand outside the grove. One, evidently a leader, stood ahead of the group. Carmody was not sure, but he thought that this was the one who had run with the child.

The leader was armed with a stick. He walked stiff-leggedly and slowly toward him. Carmody stopped and began talking. The leader

also stopped and bent his head to one side to listen in a very bird-like gesture. He was like the rest of his species, though larger—almost seven feet tall. His feet were three-toed, his legs thick to bear his weight, his body superficially like an ostrich's. But he had no wings, rudimentary or otherwise. He had well-developed arms and five-fingered hands, though the fingers were much longer in proportion than a man's. His neck was thick, and the head was large with a well-developed braincase. The brown eyes were set in the front of his broad head like a man's; the corvine beak was small, lined with sharp teeth, and black. His body was naked of plumage except for red-and-white-barred feathers in the loin region, on the back, and on the head. There a tall crest of feathers bristled, and around his ears were stiff feathers, like a horned owl's, designed to focus sound.

Carmody listened for a minute to the sounds of the leader's voice and those behind him. He could make out no definite pattern of speech, no distinguishing rythm, no repetition of words. Yet, they were uttering definite syllables, and there was something familiar about their speaking.

After a minute, he recognized its similarity, and he was startled. They were talking like a baby when he is at the stage of babbling. They were running the scale of potential phonemes, up and down, at random, sometimes repeating, more often not.

Carmody reached up slowly to his scalp so he wouldn't alarm them with a sudden movement. He slid the panel-switch on the skull-fitting transceiver under his crest, thus allowing the zoologists at the camp to tune in.

Carmody spoke in a low tone, knowing that the microphone implanted in his throat would clearly reproduce his voice to the listeners at the camp. He described his situation and then said, 'I'm going to walk into their home. If you hear a loud crack, it'll be a club breaking my skull. Or vice versa.'

He began walking, not directly toward the leader but to one side. The big horowitz turned as the man went by, but he made no threatening move with his club. Carmody went on by, though he felt his back prickle when he could no longer see the leader. Then he had walked straight at the mob, and he saw them step to one side, their heads cocked to one side, their sharp-toothed bills emitting the infantile babblings.

He passed safely through them to the middle of the grove of

cottonwoodlike trees. Here the females and young looked down at him. The females resembled the males in many respects, but they were smaller and their crests were brown. Almost all of them were carrying eggs on their chests or else held the very young in their arms. These were covered from head to thigh with a golden-brown chicklike fuzz. The older children, however, had lost the down. The female adults looked as puzzled as the males, but the children seemed to have only curiosity. The older children climbed out on the branches above him and looked down at him. And they, too, babbled like babies.

Presently, a half-grown horowitz, a female by her all-brown crest, climbed down and slowly approached him. Carmody reached into the pouch in his tailfeathers, and he brought out a lump of sugar. This he tasted himself to show her it wasn't poisonous, and then he held it out in his hand and made coaxing sounds. The young girl—he was already thinking of these beings as human—snatched the cube from his hand and ran back to the trunk of the tree. Here she turned the sugar lump over and over, felt its texture with the tips of her fingers, and then barely touched the cube with the tip of her long broad tongue.

She looked pleased. This surprised Carmody, for he had not thought of the possibility that humanoid expressions could take place on such an avian face. But the face was broad and flat and well-equipped with muscles and able as a man's to depict emotion.

The girl put all of the cube in her bill, and she looked ecstatic. Then she turned to the big horowitz—who had neared the two—and uttered a series of syllables. There was evident pleasure in her voice.

Carmondy held out another lump of sugar to the leader, who took it and popped it into his bill. And over his face spread pleasure.

Carmody spoke out loud for the benefit of the men in the camp. 'Put a good supply of sugar in the cache,' he said, 'plus some salt. I think it's likely that these people may be salt-starved, too.'

'People!' exploded the ghostly voice in his ear. 'Carmody, don't start making anthropocentric errors regarding these creatures.'

'You've not met them,' said Carmody. 'Perhaps you could maintain a zoologist's detachment. But I can't. Human is as human does.'

'O.K., John. But when you report, just give a description, and never mind your interpretations. After all, I'm human, and, therefore, open to suggestion.'

Carmody grinned and said, 'O.K. Oh, they're starting to dance now. I don't know what the dance means, whether it's something instinctive or something they've created.'

While Carmody had been talking, the females and the young had climbed down out of the trees. They formed a semicircle and began clapping their hands together in rhythm. The males had gathered before them and were now hopping, jumping, spinning, bowing, waddling bent-kneed like ducks. They gave weird cries and occasionally flapped their arms and leaped into the air as if simulating the flight of birds. After about five minutes, the dance suddenly ceased, and the horowitzes formed a single-file line. Their leader, at the head of the line, walked toward Carmody.

'Oh, oh,' said Carmody. 'I think we're seeing the formation of the first breadline in the non-history of these people. Only it's sugar, not bread, that they want.'

'How many are there?' said Holmyard.

'About twenty-five.'

'Got enough sugar?'

'Only if I break up the cubes and give each a slight taste.'

'Try that, John. While you're doing that, we'll rush more sugar to the cache on a jeep. Then you can lead them there after we leave.'

'Maybe I'll take them there. Just now I'm worried about their reaction if they don't get a complete lump.

He began to break up the cubes into very small pieces and to put one into each extended hand. Every time, he said, 'Sugar.' By the time the last one in line—a mother with a fuzzy infant in her arms—had stuck out her hand, he had only one fragment left.

'It's a miracle,' he said, sighing with relief. 'Came out just right. They've gone back to what I presume are their normal occupations. Except for their chief and some of the children. These, as you can hear, are babbling like mad at me.'

'We're recording their sounds,' said Holmyard. 'We'll make an attempt to analyze them later, find out if they've a speech.'

'I know you have to be scientific,' replied Carmody. 'But I have a very perceptive ear, like all people who run off at the mouth, and I can tell you now they don't have a language. Not in the sense we think of, anyway.'

A few minutes later, he said, 'Correction. They at least have the beginning of a language. One of the little girls just came up and

held out her hand and said, 'Sugar.' Perfect reproduction of English speech, if you ignore the fact that it couldn't have come from a human mouth. Sounded like a parrot or crow.'

'I heard her! That's significant as hell, Carmody! If she could make the correlation so quickly, she must be capable of symbolic thinking.' He added, in a more moderate tone, 'Unless it was accidental, of course.'

'No accident. Did you hear the other child also ask for it?'

'Faintly. While you're observing them, try to give them a few more words to learn.'

Carmody sat down at the base of a thick treetrunk in the shade of branches, for the sun was beginning to turn the air hot. The tree had thick corrugated bark like a cottonwood, but it bore fruit. This grew high up on the branches and looked from a distance like a banana. The young girl brought him one and held it out to him, saying at the same time, 'Sugar?'

Carmody wanted to taste the fruit, but he didn't think it would be fair to receive it without giving her what she wanted. He shook his head no, though he didn't expect her to interpret the gesture. She cocked her head to one side, and her face registered disappointment. Nevertheless, she did not withdraw the fruit. And, after making sure she knew he was out of sugar, he took the gift. The shell had to be rapped against the side of the tree to be broken, and it came apart in the middle, where it creased. He took a small bite from the interior and reported to Holmyard that it tasted like a combination of apple and cherry.

'They not only feed on this fruit,' he said. 'They're eating the tender shoots of a plant that resembles bamboo. I also saw one catch and eat a small rodentlike animal which ran out from under a rock she turned over. And they pick lice off each other and eat insects they find around the roots of the grass. I saw one try to catch a bird that was eating the bamboo shoots.

'Oh, the leader is pounding a club on the ground. They're dropping whatever they're doing and clustering around him. Looks as if they're getting ready to go some place. The females and young are forming a group. The males, all armed with clubs, are surrounding them. I think I'll join them.'

Their destination, he was to find out, was a waterhole about a mile and a half away. It was a shallow depression about twenty feet across filled with muddy water. There were animals gathered

about it: gazellelike creatures, a giant porcine with armor like an armadillo, several birds that seemed at first glance and far off to be horowitzes. But when Carmody got closer, he saw they were only about two and a half feet high, their arms were much longer, and their foreheads slanted back. Perhaps, these filled the ecological niche here that monkeys did on Earth.

The animals fled at the approach of the horowitzes. These established guards, one at each cardinal point of the compass, and the rest drank their fill. The young jumped into the water and splashed around, throwing water in each other's face and screaming with delight. Then they were hauled out, protesting, by their mothers. The guards drank their fill, and the group prepared to march back to their home, the grove.

Carmody was thirsty, but he didn't like the looks or odor of the water, which smelled as if something had died in it. He looked around and saw that the dozen trees around the waterhole were a different type. These were fifty-feet high slim plants with a smooth light brown bark and only a few branches, which grew near the top. Clusters of gourds also grew among the branches. At the bottom of the trees lay empty gourds. He picked up one, broke in the narrow end, and dipped it in the water. Then he dropped in the water an antibiotic pill which he took from the bustle under his tailfeathers. He drank, making a face at the taste. The young girl who had first asked him for sugar approached, and he showed her how to drink from the gourd. She laughed a quite human-sounding laugh and poured the water down her open beak.

Carmody took advantage of the curiosity of the others to show them that they, too, could fill their gourds and transport water back to the grove.

Thus, the first artifact was invented—or given—on Feral. In a short time, everyone had gourds and filled them. And the group, babbling like babies, began the march back to home.

'I don't know if they're intelligent enough to learn a language yet,' said Carmody to Holmyard. 'It seems to me that if they were, they'd have created one. But they are the most intelligent animal I've yet encountered. Far superior to the chimpanzee or porpoise. Unless they just have a remarkable mimetic ability.'

'We've run off samples of their speech in the analyzer,' said Holmyard. 'And there's no distribution to indicate a well-organized language. Or even an incipient language.'

'I'll tell you one thing,' replied Carmody. 'They at least have

identifying sounds for each other. I've noticed that when they want the leader's attention, they say, 'Whoot!' and he responds. Also, this girl who asked for sugar responds to the call of Tutu. So, I'm identifying them as such.'

The rest of the day Carmody spent observing the horowitzes and reporting to Holmyard. He said that, during times of danger or during a joint undertaking such as going for water, the group acted as a whole. But most of the time they seemed to operate in small family units. The average family consisted of a male, the children, and anywhere from one to three females. Most of the females had eggs attached to their chests or bellies. He was able to settle for Holmyard the question of whether, generally, the females laid their eggs on each other, and so raised fosterfamilies, or transferred the eggs to their own skin immediately after laying. Towards dusk he saw a female deposit an egg and then hold it against the chest of another female. In a few minutes, little tendrils crept forth from the leathery-skinned ovum and inserted themselves into the bloodstream of the hostess.

'That, I would take it, is the general course of action,' Carmody said. 'But there is one male here who, like me, carries an egg. I don't know why he was singled out. But I would say that, at the time the egg was produced, the female and her mate were separated from the others. So the female took the lesser alternative. Don't ask me why the females just don't attach the eggs to their own bodies. Maybe there's a chemical factor that prevents the egg from attaching itself to its own mother. Perhaps some sort of antibody setup. I don't know. But there is some reason which, up to now, only the Creator of the horowitzes knows.'

'It's not a general pattern for all the birds of this planet,' said Holmyard. 'There are oviparous, oviviparous, and viviparous species. But the order of birds of which the horowitzes are the highest in development, the order of Aviprimates, all have this feature. From highest to lowest, they lay their eggs and then attach them to a host.'

'I wonder why this particular line of creatures didn't develop viviparism?' said Carmody. 'It seems obvious that it's the best method for protecting the unborn.'

'Who knows?' said Holmyard, and Carmody, mentally, could see him shrugging. 'That's a question that may or may not be answered during this study. After all, this planet is new to us. It's not had a thorough study. It was only by a lucky accident that

Horowitz discovered these birds during his brief stay here. Or that we were able to get a grant to finance us.'

'One reason for this externalism may be that even if the embryo is injured or killed, the hostess is not,' said Carmody. 'If the embryo of a viviparous mother is destroyed, then the mother usually is, too. But here, I imagine, though the embryo may be more susceptible to death and injury, the bearer of the unborn is relatively unaffected by the wound.'

'Maybe,' said Holmyard. 'Nature is an experimenter. Perhaps, she's trying this method on this planet.'

He is, you mean, thought Carmody, but he said nothing. The gender of the Creator did not matter. Both he and the zoologist were talking about the same entity.

Carmody continued to give his observations. The mothers fed the very young in the traditional manner of birds, by regurgitating food.

'That seemed probable,' said Holmyard. 'The reptiles developed a class of warmblooded animals, but none of these have hair or even rudimentary mammaries. The horowitz, as I told you, evolved from a very primitive bird which took up arboreal life at the time its cousins were learning to glide. The fleshy fold of skin hanging down between arm and rib is a vestige of that brief period when it had begun to glide and then changed its mind and decided to become a lemuroid-type.

'Or so it seems to us. Actually, we haven't unearthed enough fossils to speak authoritatively.'

'They do have certain cries which can be interpreted by the others. Such as a cry for help, a cry for pick-my-fleas, a rallying cry, and so on. But that's all. Except that some of the children now know the word for sugar and water. And they identify each other. Would you say that that is the first step in creating a language?'

'No, I wouldn't,' said Holmyard firmly. 'But if you can teach them to take an assemblage of independent words and string them together into an intelligible sentence, and if they become capable of reassembling these words in different patterns and for different situations, then I'd say they are in a definite lingual stage. But your chance for doing that is very remote. After all, they might be in a prelingual stage, just on the verge of becoming capable of verbal symbolism. But it might take another ten thousand years, maybe fifty thousand, before their kind develop that ability. Before they take the step from animal to human being.'

'And maybe I can give them the nudge,' said Carmody. Maybe . . .'

'Maybe what?' said Holmyard after Carmody had been silent for several minutes.

'I'm confronted with the theological question the Church raised some centuries before interstellar travel became possible,' said Carmody. 'At what moment did the ape become a man? At what moment did the ape possess a soul, and . . .'

'Jesus Christ!' said Holmyard. 'I know you're a monk, Carmody! And it's only natural you should be interested in such a question! But, I beg of you, don't start muddling around with something as divorced from reality as the exact moment when a soul is inserted into an animal! Don't let this—this how-many-angels-on-a-pinpoint absurdity begin to color your reports. Please try to keep a strictly objective and scientific viewpoint. Just describe what you see; no more!'

'Take it easy, Doc. That's all I intend to do. But you can't blame me for being interested. However, it's not for me to decide such a question. I leave that up to my superiors. My order, that of St. Jairus, does not do much theological speculation; we are primarily men of action.'

'O.K., O.K.,' said Holmyard. 'Just so we understand each other. Now, do you intend to introduce fire to the horowitzes tonight?'

'Just as soon as dusk falls.'

Carmody spent the rest of the day in teaching little Tutu the word for tree, egg, gourd, a few verbs which he acted out for her, and the pronouns. She caught on quickly. He was sure that it was not the purely mimetic speech ability of a parrot. To test her, he asked her a question.

'You see the tree?' he said, pointing at a large sycamore-like fruit tree.

She nodded, a gesture she had learned from him, and she replied in her strange birdlike voice, 'Yes. Tutu see the tree.'

Then, before he could frame another question, she said, pointing at the chief, 'You see Whoot? Tutu see Whoot. Him horowitz. Me horowitz. You . . . ?'

For a moment Carmody was speechless, and Holmyard's voice screeched thinly, 'John, did you hear her? She can speak and understand English! And in such a short time, too! John, these people must have been ready for speech! We gave it to them! We gave it to them!'

Carmody could hear Holmyard's heavy breathing as if the man stood next to him. He said, 'Calm down, my good friend. Though I don't blame you for being excited.'

Tutu cocked her head to one side and said, 'You talk to . . . ?'

'Me a man,' said Carmody, replying to her previous question. 'Man, man. And me talk to a man . . . not me. The man far away.' Then, realizing she didn't know the meaning of the words *far away,* he indicated distance with a sweep of his arm and a finger pointing off across the veldt.

'You talk to . . . a man . . . far away?'

'Yes,' said Carmody, wishing to get off that subject. She wasn't ready to understand any explanation he could give her for his ability to communicate across long distances, so he said, 'Me tell you some time . . .' And he stopped again, for he didn't have enough words with which to explain time. That would have to come later.

'Me make fire,' he said.

Tutu continued to look puzzled, as she understood only the first word of his sentence. 'Me show you,' he said, and he proceeded to gather long dried grasses and punk from a dead tree. These he piled together, and then tore off some twigs and smaller dead branches, which he laid by the first pile. By this time many of the children and some of the adults had collected around him.

He pulled from his bustle under the tailfeathers a flint and a piece of iron pyrite. These he had brought from the spaceship because the zoologists had told him this area was poor in both minerals. He showed the two pieces to them and then, after six tries, struck a spark. The spark fell on the grass but did not set fire to it. He tried three more times before a spark took root. In the next few seconds he had enough of a fire going to be able to throw on twigs and then branches.

When the first jet of flame arose, the wide-eyed assembly gasped. But they did not run, as he had feared. Instead, they made sounds which attracted the others. Shortly, the entire tribe was gathered around him.

Tutu, saying, 'Au! Au!'—which Carmody interpreted as a sound of amazement or of delight in beauty—put out her hand to seize the flame. Carmody opened his mouth to say, 'No! Fire bad!' But he closed his lips. How to tell her that something could be very harmful and at the same time be a great good?

He looked around and saw that one of the youngsters standing at the back of the crowd was holding a mouse-sized rodent in her hand. So fascinated was she by the fire that she had not yet popped the living animal into her beak. Carmody went to her and pulled her close to the fire, where everybody could see her. Then, not without having to overcome the reluctance of the child with many reassuring gestures, he got her to give him the rodent. Distastefully, he dashed its life out by snapping its head against a rock. He took his knife and skinned and gutted and decapitated the creature. Then he sharpened a long stick and stuck it through the rodent. After which, he took Tutu by her slender elbow and guided her close to the fire. When she felt its intense heat, she drew back. He allowed her to do so, saying, 'Fire hot! Burn! Burn!'

She looked at him with wide eyes, and he smiled and patted her feathery top. Then he proceeded to roast the mouse. Afterwards, he cut it in three parts, allowed the bits to cool, and gave one to the girl from whom he had taken the mouse, one to Tutu, and one to the chief. All three gingerly tasted it and at the same time breathed ecstasy, 'Ah!'

Carmody didn't get much sleep that night. He kept the fire going while the whole tribe sat around the flames and admired them. Several times, some large animals, attracted by the brightness, came close enough for him to see their eyes glowing. But they made no attempt to get closer.

In the morning, Carmody talked to Holmyard. 'At least five of the children are only a step behind Tutu in learning English,' he said. 'So far, none of the adults has shown any inclination to repeat any of the words. But their habit patterns may be too rigid for them to learn. I don't know. I'll work on the chief and some others today. Oh, yes, when you drop off some ammunition at the cache, would you leave me a holster and ammo belt for my gun? I don't think they'll find it strange. Apparently, they know I'm not a true horowitz. But it doesn't seem to matter to them.

'I'm going to kill an atelope today and show them how to cook meat on a big scale. But they'll be handicapped unless they can find some flint or chert with which to fashion knives. I've been thinking that I ought to lead them to a site where they can find some. Do you know of any?'

'We'll go out in the jeep and look for some,' said Holmyard.

'You're right. Even if they are capable of learning to make tools and pottery, they're not in an area suited to develop that ability.'

'Why didn't you pick a group which lived near a flint-rich area?'

'Mainly, because it was in this area that Horowitz discovered these creatures. We scientists are just as apt to get into a rut as anybody, so we didn't look into the future. Besides, we had no idea these animals—uh—people, if they do deserve that term—were so full of potential.'

Just then Tutu, holding a mouse-sized grasshopper in her hand, came up to Carmody.

'This . . . ?'

'This is a grasshopper,' said Carmody.

'You burn . . . the fire.'

'Yes. Me burn *in* fire. No, not burn. Me cook *in* fire.'

'You cook in the fire,' she said. 'You give to me. Me eat; you eat.'

'She's now learned two prepositions—I think,' said Carmody.

'John, why this pidgin English?' said Holmyard. 'Why the avoidance of *is* and the substitution of the nominative case for the objective with the personal pronouns?'

'Because *is* isn't necessary,' replied Carmody. 'Many languages get along without it, as you well know. Moreover, there's a recent tendancy in English to drop it in conversational speech, and I'm just anticipating what may become a general development.

'As for teaching them lower-class English, I'm doing that because I think that the language of the illiterates will triumph. You know how hard the teachers in our schools have to struggle to overcome the tendency of their high-class students to use button-pusher's jargon.'

'O.K.,' said Holmyard. 'It doesn't matter, anyway. The horowitzes have no conception—as far as I know—of the difference. Thank God, you're not teaching them Latin!'

'Say!' said Carmody. 'I didn't think of that! Why not? If the horowitzes ever become civilized enough to have interstellar travel, they'd always be able to talk to priests, no matter where they went.'

'Carmody!'

Carmody chuckled and said, 'Just teasing, Doctor. But I do have a serious proposition. If other groups should show themselves as capable of linguistic learning, why not teach each group a different language? Just as an experiment? This group would be our

Indo-European school; another, Sinitic; another, our Amerindian; still another, Bantu. It would be interesting to see how the various groups developed socially, technologically, and philosophically. Would each group follow the general lines of social evolution that their prototypes did on Earth? Would the particular type of language a group used place it on a particular path during its climb uphill to civilization?'

'A tempting idea,' said Holmyard. 'But I'm against it. Sentient beings have enough barriers to understanding each other without placing additional obstacles of differing languages in their way. No, I think that all should be taught English. A single speech will give them at least one unifying element. Though, God knows, their tongues will begin splitting into dialects soon enough.'

'Bird-English I'll teach them,' said Carmody.

One of the first things he had to do was straighten out Tutu concerning the word *tree*. She was teaching some of the younger horowitzes what language she'd mastered so far and was pointing to a cottonwood and calling out, 'Tree! Tree!'

Then she pointed to another cottonwood, and she became silent. Wonderingly, she looked at Carmody, and he knew in that moment that she thought of that cottowood as tree. But that word to her meant an individual entity or thing. She had no generic concept of tree.

Carmody tried by illustration to show her. He pointed at the second cottonwood and said, 'Tree.' Then he pointed at one of the tall thin trees and repeated the word.

Tutu cocked her head to one side, and an obvious puzzlement settled on her face.

Carmody further confused her by indicating the two cottonwoods and giving each their name. Then, on the spot, he made up a name for the tall thin trees and said, 'Tumtum.'

'Tumtum,' said Tutu.

'Tumtumtree,' said Carmody. He pointed at the cottonwood. 'Cottonwoodtree.' He pointed out across the veldt. 'Thorntree.' He made an all-inclusive gesture. 'All tree.'

The youngsters around Tutu did not seem to grasp his meaning, but she laughed—as a crow laughs—and said, 'Tumtum. Cottonwood. Thorn. All tree.'

Carmody wasn't sure whether she grasped what he'd said or was just mimicking him. Then she said, swiftly—perhaps she was able

to interpret his look of fustration—'Tumtumtree. Cottonwoodtree. Thorntree.'

She held up three fingers and made a sweeping gesture with the other hand. 'All tree.'

Carmody was pleased, for he was fairly certain she now knew tree as not only an individual but a generic term. But he didn't know how to tell her that the last-named was not a thorn but was a thorntree. He decided that it didn't matter. Not for the time being, at least. But when the time came to name a thorn as such, he would have to give the thorn another nomenclature. No use confusing them.

'You seem to be doing famously,' said Holmyard's voice. 'What's next on the agenda?'

'I'm going to try to sneak away to the cache and pick up some more ammo and sugar,' said Carmody. 'Before I do, could you drop off a blackboard and some paper and pencils?'

'You won't have to take notes,' said Holmyard. 'Everything you say is being recorded, as I think I once told you,' he added impatiently.

'I'm not thinking of making memos,' said Carmody. 'I intend to start teaching them how to read and write.'

There was silence for several seconds, then, *'What?'*

'Why not?' replied Carmody. 'Even at this point, I'm not absolutely certain they really understand speech. Ninety-nine percent sure, yes. But I want to be one-hundred percent certain. And if they can understand written speech, then there's no doubt.

'Besides, why wait until later? If they can't learn now, we can try later. If they do catch on now, we've not wasted any time.'

'I must apologize,' said Holmyard. 'I lacked imagination. I should have thought of that step. You know, John, I resented the fact that you had, through pure accident, been chosen to make this first venture among the horowitzes. I thought a trained scientist, preferably myself, should have been the contact man. But I see now that having you out there isn't a mistake. You have what we professionals too often too quickly lose: the enthusiastic imagination of the amateur. Knowing the difficulties or even the improbabilities, we allow ourselves to be too cautious.'

'Oh, oh!' said Carmody. 'Excuse me, but it looks as if the chief is organizing everybody for some big move. He's running around, gabbling his nonsense syllables like mad and pointing to the north.

He's also pointing at the branches of the trees. Oh, I see what he's getting at. Almost all of the fruit is eaten. And he wants us to follow him.'

'Which direction?'

'South. Toward you.'

'John, there's a nice valley about a thousand miles north of here. We found it during the last expedition and noted it because it's higher, cooler, much better watered. And it not only contains flint but iron ores.'

'Yes, but the chief evidently wants us to go in the opposite direction.'

There was a pause. Finally, Carmody sighed and said, 'I get the message. You want me to lead them north. Well, you know what that means.'

'I'm sorry, John. I know it means conflict. And I can't order you to fight the chief. That is, if it's necessary for you to fight.'

'I rather think it will be. Too bad, too; I wouldn't exactly call this Eden, but at least no blood had been shed among these people. And now, because we want to plumb their potentiality, lead them on to higher things . . .'

'You don't have to, John. Nor will I hold it against you if you just tag along and study them wherever they go. After all, we've gotten far more data than I ever dreamed possible. But . . .'

'But if I don't try to take over the reins of leadership, these beings may remain at a low level for a long long time. Besides, we have to determine if they are capable of any technology. So . . . the end justifies the means. Or so say the Jesuits. I am not a Jesuit, but I can justify the premise on which we're basing the logic of this argument.'

Carmody did not say another word to Holmyard. He marched up to the big leader, took a stand before him, and, shaking his head fiercely and pointing to the north, he shouted, 'Us go this way! No go that way!'

The chief stopped his gabbling and cocked his head to one side and looked at Carmody. His face, bare of feathers, became red. Carmody could not tell, of course, if it was the red of embarrassment or of rage. So far as he could determine, his position in this society had been a very peculiar one—from the society's viewpoint. It had not taken him long to see that a definite peck-order existed here. The big horowitz could bully anyone he wanted to. The male

just below him in this unspoken hierarchy could not—or would not—resist the chief's authority. But he could bully everybody below him. And so forth. All males, with the exception of one weak character, could push the females around. And the females had their own system, similar to the males, except that it seemed to be more complex. The top female in the peck-order system could lord it over all but one female, and yet this female was subject to the authority of at least half the other females. And there were other cases whose intricacy defied Carmody's power of analysis.

One thing he had noticed, though, and that was that the young were all treated with kindness and affection. They were, in fact, very much the spoiled brats. Yet, they had their own give-and-take-orders organization.

Carmody had up to this time held no position in the social scale. They seemed to regard him as something apart, a *rara avis,* an unknown quantity. The chief had made no move to establish Carmody's place here, so the others had not dared to try. And, probably, the chief had not dared because he had been witness to Carmody's killing of the leonoid.

But now the stranger had placed him in such a position that he must fight or else step down. And he must have been the top brass too long to endure that idea. Even if he knew Carmody's destructive potential, he did not intend to submit meekly.

So Carmody guessed from the reddened skin, the swelling chest, the veins standing out on his forehead, the glaring eyes, the snapping beak, the clenched fists, the sudden heavy breathing.

The chief, Whoot, was impressive. He stood a foot and a half taller than the man, his arms were long and muscular, his chest huge, and his beak with its sharp meat-eater's teeth and his three-toed legs with their sharp talons looked as if they could tear the heart out of Carmody.

But the little man knew that the horowitz didn't weigh as much as a man his height, for his bones were the half-hollow bones of a bird. Moreover, though the chief was undoubtedly a capable and vicious fighter, and intelligent, he did not have at his command the sophisticated knowledge of infighting of a dozen worlds. Carmody was as deadly with his hands and feet as any man alive; many times, he had killed and crippled.

The fight was sharp but short. Carmody used a mélange of all his skills and very quickly had the chief reeling, bloody-beaked,

and glassy-eyed. He gave the *coup de grâce* by chopping with the edge of his palm against the side of the thick neck. He stood over the unconscious body of Whoot, breathing heavily, bleeding from three wounds delivered by the point of the beak and pointed teeth and suffering from a blow of a fist against his ribs.

He waited until the big horowitz had opened his eyes and staggered to his feet. Then, pointing north, he shouted, 'Follow me!'

In a short time, they were walking after him as he headed for a grove of trees about two miles away. Whoot walked along in the rear of the group, his head hung low. But after a while he regained some of his spirit. And, when a large male tried to make him carry some of the water gourds, he jumped on the male and knocked him to the ground. That re-established his position in the group. He was below Carmody but still higher than the rest.

Carmody was glad, for the little Tutu was Whoot's child. He had been afraid that his defeat of her father might make her hostile to him. Apparently, the change in authority had made no difference, unless it was that she stayed even more by his side. While they walked together, Carmody pointed out more animals and plants, naming them. She repeated the words, sound-perfect, after him. By now she had even adopted his style of speaking, his individual rhythm pattern, his manner of saying, 'Heh?' when a strong thought seized him, his habit of talking to himself.

And she imitated his laugh. He pointed out a thin, shabby-looking bird with its feathers sticking out all round and looking like a live mop.

'That a borogove.'

'That a borogrove,' she repeated.

Suddenly, he laughed, and she laughed, too. But he could not share the source of his mirth with her. How could he explain *Alice in Wonderland* to her? How could he tell her that he had wondered what Lewis Carroll would think if he could see his fictional creation come to life on a strange planet circling around a strange star and centuries after he had died? Or know that his works were still alive and bearing fruit, even if weird fruit? Perhaps, Carroll would approve. For he had been a strange little man—like Carmody, thought Carmody—and he would consider the naming of this bird the apex of congruous incongruity.

He sobered immediately, for a huge animal resembling a green rhinoceros with three knobbed horns trotted thunderingly toward

them. Carmody took his pistol out from his bustle, causing Tutu's eyes to widen even more than at the sight of the tricorn. But, after stopping only a few feet from the group and sniffing the wind, the tricorn trotted slowly away. Carmody replaced the pistol, and he called Holmyard.

'You'll have to forget about caching the stuff I ordered in that tree,' he said. 'I'm leading them on the exodus as of now. I'll build a fire tonight and you can relocate about five miles behind us. I'm going to try to get them to walk past this grove ahead, go on to another. I plan to lead them on a two mile and a half trek every day. I think that's about as far as I can push them. We should reach the valley of milk and honey you described in nine months. By then, my child,' he tapped the egg on his chest, 'should be hatched. And my contract with you will be terminated.'

He had less trouble than he thought he would. Though the group scattered as soon as they reached the grove, they reassembled at his insistence and left the tempting fresh fruits and the many rodents to be found under the rocks. They did not murmur while he led them another mile to another grove. Here he decided they'd camp for the rest of the day and night.

After dusk fell, and he had supervised Tutu's building of a fire, he sneaked away into the darkness. Not without some apprehension, for more carnivores prowled under the two small moons than in the light of the sun. Nevertheless, he walked without incident for a mile and there met Doctor Holmyard, waiting in a jeep.

After borrowing a cigarette from Holmyard, he described the events of the day more fully than he had been able to do over the transceiver. Holmyard gently squeezed the egg clinging to Carmody's chest, and he said, 'How does it feel not only to give birth to a horowitz, but to give birth to speech among them? To become in a sense, the father of all the horowitzes?'

'It makes me feel very odd,' said Carmody. 'And aware of a great burden on me. After all, what I teach these sentients will determine the course of their lives for thousands of years to come. Maybe even further.

'Then again, all my efforts may come to nothing.'

'You must be careful. Oh, by the way, here's the stuff you asked for. A holster and belt. And, in a knapsack, ammo, a flashlight, more sugar, salt, paper, pen, a pint of whiskey.'

'You don't expect me to give them firewater?' said Carmody.

'No,' chuckled Holmyard. 'This bottle is your private stock. I thought you might like a nip now and then. After all, you must need something to buck up your spirits, being without your own kind.'

'I've been too busy to be lonely. But nine months is a long time. No, I don't really believe I'll get unbearably lonely. These people are strange. But I'm sure they have spirits kindred to mine, waiting to be developed.'

They talked some more, planning their method of study for the year to come. Holmyard said that a man would always be in the ship and in contact with Carmody, if an emergency should come up. But everybody would be busy, for this expedition had many projects in the fire. They would be collecting and dissecting specimens of all sorts, making soil and air and water analyses, geological surveys, digging for fossils, etc. Quite often the ship would take a trip to other regions, even to the other side of this planet. But when that happened, two men and a jeep would be left behind.

'Listen, Doc,' said Carmody. 'Couldn't you take a trip to this valley and get some flint ore? Then leave it close to us, so my group could find it? I'd like to find out *now* if they're capable of using weapons and tools.'

Holmyard nodded and said, 'A good idea. Will do. We'll have the flint for you before the week's up.'

Holmyard shook Carmody's hand, and the little monk left. He lit his way with the flashlight, for he hoped that, though it might attract some of the big carnivores, it might also make them wary of getting too close.

He had not gone more than a hundred yards when, feeling as if he were being stalked, and also feeling foolish because he was obeying an irrational impulse, he whirled. And his flashlight centered on the small figure of Tutu.

'What you do here?' he said. She approached slowly, as if fearing him, and he rephrased his question. There were so many words that she did not know that he could not, at this point, fully communicate with her.

'Why you here?'

Never before had he used *why*, but he thought that now, under the circumstances, she might understand it.

'Me . . .' she made a motion of following.

'Follow.'

'Me follow . . . you. Me no . . . want you hurt. Big meat-eaters in dark. Bite, claw, kill, eat you. You die; me . . . how you say it?'

He saw what she meant, for tears were filling her large brown eyes.

'Cry,' he said. 'Ah, Tutu, you cry for me?'

He was touched.

'Me cry,' she said, her voice shaking, on the edge of sobs. 'Me . . .'

'Feel bad. Feel bad.'

'John die after now . . . me want to die. Me . . .'

He realized that she had just coined a term for the future, but he did not try to teach her the use of the future tense. Instead, he held out his arms and embraced her. She put her head against him, the sharp edge of her beak digging into the flesh between his ribs, and she burst into loud weeping.

Stroking the plumage on top of her round head, he said, 'No feel bad, Tutu. John love you. You know . . . me love you.'

'Love. Love,' she said between sobs. 'Love, love. Tutu love you!'

Suddenly, she pushed herself away from him, and he released her. She began to wipe the tears from her eyes with her fists and to say, 'Me love. But . . . me 'fraid of John.'

' 'Fraid? Why you 'fraid of John?'

'Me see . . . uh . . . horowitz . . . by you. You look like him, but not look like him. Him . . . how say . . . funny-looking, that right? And him fly like vulture, but no wing . . . on . . . me no able to say on what him fly. Very . . . funny. You talk to him. Me understand some words . . . no some.'

Carmody sighed. 'All me able to tell you now that him no horowitz. Him man. Man. Him come from stars.' He pointed upwards.

Tutu also looked up, and then her gaze returned to him, and she said, 'You come from . . . star?'

'Child, you understand that?'

'You no horowitz. You place on beak and feathers. But . . . me understand you no horowitz.'

'Me man,' he said. 'But enough of this, child. Some day . . . after soon . . . me tell you about the stars.'

And, despite her continued questioning, he refused to say another word on the subject.

The days and then weeks and then months passed. Steadily, walking about two and a half to three miles a day, progressing

from grove to grove, the band followed Carmody northwards. They came across the flints left by the ship. And Carmody showed them how to fashion spearheads and arrowheads and scrapers and knives. He made bows for them and taught them to shoot. In a short time, every horowitz who had the manual skill was making weapons and tools for himself. Fingers and hands were banged and cut, and one male lost an eye from a flying chip. But the group began to eat better; they shot the cervinoid and equinoid animals and, in fact, anything that wasn't too big and looked as if it might be edible. They cooked the meat, and Carmody showed them how to smoke and dry the meat. They began to get very bold, and it was this that was the undoing of Whoot.

One day, while with two other males, he shot a leonoid that refused to move away from their approach. The arrow only enraged the beast, and it charged. Whoot stood his ground and sent two more arrows into it, while his companions threw their spears. But the dying animal got hold of Whoot and smashed in his chest.

By the time the two had come for Carmody, and he had run to Whoot, Whoot was dead.

This was the first death among the group since Carmody had joined them. Now he saw that they did not regard death dumbly, as animals did, but as an event that caused outcries of protest. They wailed and wept and beat their chests and cast themselves down on the ground and rolled in the grass. Tutu wept as she stood by the corpse of her father. Carmody went to her and held her while she sobbed her heart out. He waited until their sorrow had spent itself, then he organized a burial party. This was a new thing to them; apparently, they had been in the custom of leaving their dead on the ground. But they understood him, and they dug a shallow hole in the ground with sharp-pointed sticks and piled rocks over the grave.

It was then that Tutu said to him, 'Me father. Where him go now?'

Carmody was speechless for several seconds. Without one word from him, Tutu had thought of the possibility of afterlife. Or so he supposed, for it was easy to misinterpret her. She might just be unable to conceive of the discontinuity of the life of one she loved. But, no, she knew death well. She had seen others die before he had joined the group, and she had seen death and dissolution of many large animals, not to mention the innumerable rodents and insects she had eaten.

'What think the others?' he said, gesturing at the rest of the group.

She looked at them. 'Adults no think. Them no talk. Them like the animals.

'Me a child. Me think. You teached me to think. Me ask you where Whoot go because you understand.'

As he had many times since he met her, Carmody sighed. He had a heavy and serious responsibility. He did not want to give her false hopes, yet he did not want to destroy her hopes—if she had any—of living after death. And he just did not know if Whoot had a soul or, if he did, what provision might be made for it. Neither did he know about Tutu. It seemed to him that a being who was sentient, who had self-consciousness, who could use verbal symbolism, must have a soul. Yet, he did not know.

Nor could he try to explain his dilemma to her. Her vocabulary, after only six months of contact with him, could not deal with the concepts of immortality. Neither could his, for even the sophisticated language at his command did not deal with reality but only with abstractions dimly comprehended, with vague hopes only stammered about. One could have faith and could try to translate that faith into effective action. But that was all.

Slowly, he said, 'You understand that Whoot's body and the lion's body become earth?'

'Yes.'

'And that seeds fall on this earth, and grass and trees grow there and feed from the earth, which Whoot and the lion becomed?'

Tutu nodded her beaked head. 'Yes. And the birds and the jackals will eat the lion. Them will eat Whoot, too if them able to drag the rocks from him.'

'But at least a part of the lion and of Whoot become soil. And the grasses growing from them become partly them. And the grass in turn become eated by antelopes, and the lion and Whoot not only become grass but beast.'

'And if me eat the antelope,' interrupted Tutu excitedly, her beak clacking, her brown eyes shining, 'then Whoot become part of me. And me of him.'

Carmody realized he was treading on theologically dangerous ground.

'Me no mean that Whoot live in you,' he said. 'Me mean . . .'

'Why him no live in me? And in the antelopes that eat grass and

in the grass? Oh, understand! Because Whoot then become breaked into many pieces! Him live in many different creatures. That what you mean, John?'

She wrinkled her brow. 'But how him live if all teared apart? No, him no! Him body go so many places. What me mean, John, where Whoot go?'

She repeated fiercely, 'Where *him* go?'

'Him go wherever the Creator send him,' replied Carmody, desperately.

'Cre-a-tor?' she echoed, stressing each syllable.

'Yes. Me teached you the word *creature,* meaning any living being. Well, a creature must become created. And the Creator create him. Create mean to cause to live. Also mean to bring into becoming what no becomed before.'

'Me mother me creator?'

She did not mention her father because she, like the other children and probably the adults, too, did not connect copulation with reproduction. And Carmody had not explained the connection to her because, as yet, she lacked the vocabulary.

Carmody sighed and said, 'Worse and worse. No. You mother no you Creator. Her make the egg from her body and the food her eat. But her no create you. In the beginning . . .'

Here he boggled. And he wished that he had become a priest and had a priest's training. Instead, he was only a monk. Not a simple monk, for he had seen too much of the Galaxy and had lived too much. But he was not equipped to deal with this problem. For one thing, he just could not hand out a ready-made theology to her. The theology of this planet was in formation and would not even be born until Tutu and her kind had full speech.

'Me tell you more in the future,' he said. 'After many suns. For this time, you must become satisfied with the little me able to tell you. And that . . . well, the Creator make this whole world, stars, sky, water, animals, and the horowitzes. He make you mother and her mother and her mother's mother's mother. Many mothers many suns ago, he make . . .'

'*He?* That him name? *He?*'

Carmody realized he had slipped up in using the nominative case, but old habit had been too much for him.

'Yes. You can call him He.'

'He the Mother of the first mother?' said Tutu. 'He the Mother of all creatures' Mothers?'

'Here. Have some sugar. And run along and play. Me tell you more later.'

After I have time to think, he said to himself.

He pretended to scratch his head and slid back the activating plate on the transceiver curved over his skull. And he asked the operator on duty to call Holmyard. In a minute, Holmyard's voice said, 'What's up, John?'

'Doc, isn't a ship due in a few days to drop records and specimens you've collected so far? Will you have it take a message back to Earth? Notify my superior, the abbot of Fourth of July, Arizona, that I am in deep need of guidance.'

And Carmody related his talk with Tutu and the questions that he had to answer in the future.

'I should have told him where I was going before I left,' he said. 'But I got the impression that he had put me on my own. However, I am now in a predicament which requires that wiser and better trained men help me.'

Holmyard chuckled. He said, 'I'll send on your message, John. Though I don't think you need any help. You're doing as well as anyone could. Anyone who tries to maintain objectivity, that is. Are you sure that your superiors will be able to do that? Or that it may not take them a hundred years to arrive at a decision? Your request might even cause a council of the Church heads. Or a dozen councils.'

Carmody groaned, and then he said, 'I don't know. I think I'll start teaching the kids how to read and write and do arithmetic. There, at least, I'll be navigating in safe waters.'

He shut off the transceiver and called Tutu and the other young who seemed capable of literacy.

In the days and nights that followed, the young made exceptional progress, or so it seemed to Carmody. It was as if the young had been fallow, just waiting for the touch of somebody like Carmody. Without too much trouble, they learned the relation between the spoken and the written word. To keep them from being confused, Carmody modified the alphabet as it was used on Earth and made a truly phonetic system so that every phoneme would have a parallel notation. This was something that had been talked about for two hundred years among the English-speakers of Earth but had not, so far, been done. Orthography there, though it had changed,

still lagged behind the spoken word and presented the same maddening and confusing picture to the foreigner who wished to learn English.

But reading and writing in short time led to Carmody's being forced to teach another art: drawing. Tutu, without any hint on his part that she should do so, one day began to make a sketch of him. Her efforts were crude, and he could have straightened her out very quickly. But, aside from later teaching her the principles of perspective, he made no effort to help her. He felt that if she, and the others who also began to draw, were influenced too much by Terrestrial ideas of art, they would not develop a truly Feral art. In this decision he was commended by Holmyard.

'Man has a fundamentally primate brain, and so he has worked out a primate's viewpoint through his art. So far, we've had no art produced by—forgive me—bird-brains. I'm with you, John, in allowing them to paint and sculpture in their own peculiar fashion. The world may some day be enriched by avian artistry. Maybe, maybe not.'

Carmody was busy from the time he woke, which was dawn, until the time he went to sleep, about three hours after nightfall. He not only had to spend much time in his teaching, but he had to act as arbitrator—or rather dictator—of disputes. The disputes among adults were much more trying than among the young, for he could communicate effectively with the latter.

The cleavage between the young and the adults was not as strong as he had expected. The adults were intelligent, and, though speechless, could learn to make flint tools and weapons and could shoot arrows and throw spears. They even learned to ride horses.

Halfway toward their destination, they began to encounter bands of animals that strongly resembled hairless horses. Carmody, as an experiment, caught one and broke it. He made reins from bone and a strong-fibered grass. He had no saddles at first but rode it bareback. Later, after the older children and the adults had caught their own horses and began to ride them, they were taught how to make saddles and reins from the thick skin of the tricorn.

Shortly after, he met his first resistance from the young. They came to a place where a lake was, where trees grew thickly, where a breeze blew most of the time from the nearby hills, and where the game was numerous. Tutu said that she and the others thought it would be a good idea if they built a walled village, such as

Carmody had told them they would build when they got to the Valley.

'Many speechless ones live around here,' she said. 'Us able to take them young and raise them, make them us people. That way, us become stronger. Why travel every day? Us become tired of traveling, become footsore, saddlesore. Us able to make—barns?—for them horses, too. And us able to catch other animals, breed them, have plenty of meat to kill without hunting. Also, us able to plant seeds like you telled us and grow crops. Here a good place. Just as good as that Valley you speaked of, maybe gooder. Us children talked it over, decided to stay here.'

'This a good place,' said Carmody. 'But not the goodest. Me have knowledge of the Valley, and me have knowledge that there many things this place no have. Such as flint, iron, which much gooder than flint, healthier climate, not so many big beasts that eat meat, gooder soil in which to grow crops, and other things.'

'How you have knowledge of this Valley?' said Tutu. 'You seed it? You goed there?'

'Me have knowledge of the Valley because someone who there once telled me of it,' said Carmody. (And he wished that he had not avoided the use of the verb *know* to avoid confusion with the adjective and adverb *no*. So far he had not introduced any homonyms into the horowitz's vocabulary. But he determined at this moment to make use of know. He could, though, partially reinstate the original Old English pronunciation and have them pronounce the k. At the first chance, he would do that.)

'Who telled you of the Valley?' said Tutu. 'No horowitz doed it, because none haved speech until you teached them how to talk. Who telled you?'

'The man doed it,' replied Carmody. 'Him goed there.'

'The man who comed from the stars? The man me seed you talking to that night?

Carmody nodded, and she said, 'Him have knowledge of where us go after death?'

He was caught by surprise and could only stare, open-mouthed, at her a few seconds. Holmyard was an agnostic and denied that there was any valid evidence for the immortality of man. Carmody, of course, agreed with him that there was no scientifically provable evidence, no facts. But there were enough indications of the survival of the dead to make any open-minded agnostic wonder about the

possibility. And, of course, Carmody believed that every man would live forever because he had faith that man would do so. Moreover, he had a personal experience which had convinced him. (But that's another story.)

'No, the man no have knowledge of where us go after death. But me have knowledge.'

'Him a man; you a man,' said Tutu. 'If you have knowledge why no him?'

Again, Carmody was speechless. Then he said, 'How you have knowledge that me a man?'

Tutu shrugged and said, 'At first, you fool us. Later, everybody have knowledge. Easy to see that you put on beak and feathers.'

Carmody began to remove the beak, which had chafed and irritated him for many months.

'Why no say so?' he said angrily. 'You try to make fool of me?'

Tutu looked hurt. She said, 'No. Nobody make fool of you, John. Us love you. Us just thinked you liked to put on beak and feathers. Us no have knowledge of why, but if you like to do so, O.K. with us. Anyway, no try to get off what we talk about. You say you have knowledge of where dead go. Where?'

'Me no supposed to tell you where. No just yet, anyway. Later.'

'You no wish to scare us? Maybe that a bad place us no like? That why you no tell us?'

'Later, me tell. It like this, Tutu. When me first comed among you and teached you speech, me no able to teach you all the words. Just them you able to understand. Later, teach you harder words. So it now. You no able to understand even if me tell you. You become older, have knowledge of more words, become smarter. Then me tell. See?'

She nodded and also clicked her beak, an additional sign of agreement.

'Me tell the others,' she said. 'Many times, while you sleep, we talk about where us go after us die. What use of living only short time if us no keep on living? What good it do? Some say it do no good; us just live and die, and that that. So what? But most of us no able to think that. Become scared. Besides, no make sense to us. Everything else in this world make sense. Or seem to. But death no make sense. Death that last forever no do, anyway. Maybe us die to make room for others. Because if us no die, if ancestors no die, then soon this world become too crowded, and all starve to death, anyway. You tell us this world no flat but round like a ball

and this force—what you call it, gravity?—keep us from falling off. So us see that soon no more room if us no die. But why no go to a place where plenty of room? Stars, maybe? You tell us there plenty of round worlds like this among the stars. Why us not go there?'

'Because them worlds also have plenty of creatures on them,' said Carmody.

'Horowitzes?'

'No. Some have mans on them; other have creatures as different from both man and horowitz as me different from you. Or from a horse or a bug.'

'Plenty to learn. Me glad me no have to find out all that by meself. Me wait until you tell me everything. But me become excited thinking about it.'

Carmody had a council with the older children, and the upshot was that he agreed they should settle down for a short period at this site. He thought that, when they began to chop down trees for a stockade and houses, they would break and dull their flint axes and in a short time would run out of flint. Not to mention that his descriptions of the Valley would influence the more restless among them to push on.

Meanwhile, the egg on his chest grew larger and heavier, and he found it an increasing burden and irritation.

'I just wasn't cut out to be a mother,' he told Holmyard over the transceiver. 'I would like to become a Father, yes, in the clerical sense. And that demands certain maternal qualities. But, literally, and physically, I am beginning to be bothered.'

'Come on in, and we'll take another sonoscope of the egg,' said Holmyard. 'It's time that we had another record of the embryo's growth, anyway. And we'll give you a complete physical to make sure that the egg isn't putting too much strain on you.'

That night, Carmody met Holmyard, and they flew back in the jeep to the ship. This was now stationed about twenty miles from Carmody, because of the far-ranging of the horowitzes on their horses. In the ship's laboratory, the little monk was put through a series of tests. Holmyard said, 'You've lost much weight, John. You're no longer fat. Do you eat well?'

'More than I ever did. I'm eating for two now, you know.'

'Well, we've found nothing alarming or even mildly disturbing.

You're healthier than you ever were, mainly because you've gotten rid of that flab. And the little devil you're carrying around is growing apace. From the studies we've made on horowitzes we've caught, the egg grows until it reaches a diameter of three inches and a weight of four pounds.

'This biological mechanism of attaching eggs to the bloodstream of hosts of another species is amazing enough. But what biological mechanism enables the foetus to do this? What keeps it from forming antibodies and killing itself? How can it accept the bloodstream of another totally different species? Of course, one thing that helps is that the blood cells are the same shape as a man's; no difference can be detected with microscopic examination. And the chemical composition is approximately the same. But even so . . . yes, we may be able to get another grant just to study this mechanism. If we could discover it, the benefit to mankind might be invaluable.'

'I hope you do get another grant,' said Carmody. 'Unfortunately, I won't be able to help you. I must report to the abbot of the monastery of Wildenwooly.'

'I didn't tell you when you came in,' said Holmyard. 'because I didn't want to upset you and thus bollix up your physical. But the supply ship landed yesterday. And we got a message for you.'

He handed Carmody a long envelope covered with several official-looking seals. Carmody tore it open and read it. Then he looked up at Holmyard.

'Must be bad news, judging from your expression,' said Holmyard.

'In one way, no. They inform me that I must live up to my contract and cannot leave here until the egg is hatched. But the day my contract expires, I must leave. And, furthermore, I am not to give the horowitzes any religious instruction at all. They must find out for themselves. Or rather, they must have their peculiar revelation—if any. At least, until a council of the Church has convened and a decision arrived at. By then, of course, I'll be gone.'

'And I'll see to it that your successor has no religious affiliations,' said Holmyard. 'Forgive me, John, if I seem anticlerical to you. But I do believe that the horowitzes, if they develop a religion, should do it on their own.'

'Then why not their speech and technology?'

'Because those are tools with which they may deal with their

environment. They are things which, in time, they would have developed on lines similar to those of Earth.'

'Do they not need a religion to ensure that they do not misuse this speech and technology? Do they not need a code of ethics?'

Holmyard smiled and gave him a straight and long look. Carmody blushed and fidgeted.

'All right,' said Carmody, finally. 'I opened my big mouth and put both my big feet in it. You don't need to recite the history of the various religions on Earth. And I know that a society may have a strong and workable code of ethics with no concept of a divinity who punish transgressors temporally or eternally.

'But the point is, religions may change and evolve. The Christianity of the twelfth century is not exactly like that of the twentieth century, and the spirit of the religion of our time differs in more than one aspect from that of the twentieth. Besides, I wasn't intending to convert the horowitzes. My own Church wouldn't permit me to do so. All I have done so far is tell them that there is a Creator.'

'And even that they misunderstood,' said Holmyard, laughing. 'They refer to God as He but classify Him as a female.'

'The gender doesn't matter. What does is that I am in no position to reassure them of immortality.'

Holmyard shrugged to indicate he couldn't see what difference it made. But he said, 'I sympathize with your distress because it is causing you pain and anxiety. However, there is nothing I can do to help. And, apparently, your Church is not going to, either.'

'I made a promise to Tutu,' Carmody said, 'and I don't want to break that. Then she would lose faith.'

'Do you think they regard you as God?'

'Heaven forbid! But I must admit that I have worried about that happening. So far, there has been no indication on their part that they do so regard me.'

'But what about after you leave them?' said Holmyard.

Carmody could not forget the zoologist's parting reply. He had no difficulty getting to sleep that night. For the first time since he had joined the group, he was allowed to sleep late. The sun had climbed halfway toward its zenith before he woke. And he found the partially constructed village in an uproar.

Not that of chaos but of purposeful action. The adults were standing around looking bewildered, but the young were very busy. Mounted on their horses, they were herding ahead of them, at the

point of their spears, a group of strange horowitzes. There were some adults among these, but most were youngsters between the ages of seven and twelve.

'What mean what you do?' said Carmody indignantly to Tutu.

The smile-muscles around her beak wrinkled, and she laughed.

'You no here last night, so us no able to tell you what us planned to do. Anyway, nice surprise, heh? Us decide to raid them wild horowitzes that live near here. Us catch them sleeping; drive away adults, forced to kill some, too bad.'

'And why you do this?' said Carmody, aware that he was about to lose his temper.

'You no understand? Me thinked you understand everything.'

'Me no God,' said Carmody. 'Me telled you that often enough.'

'Me forget sometimes,' said Tutu, who had lost her smile. 'You angry?'

'Me no angry until you tell me why you did this.'

'Why? So us able to make us tribe bigger. Us teach the little ones how to talk. If them no learn, them grow up to become adults. And adults no learn how to talk. So them become like the beasts. You no want that, surely?'

'No. But you killed!'

Tutu shrugged. 'What else to do? Them adults tried to kill us; us killed them, instead. Not many. Most runned off. Besides, you say O.K. to kill animals. And adults same as animals because them no able to talk. Us no kill childs because them able to learn to talk. Us—what you say? adopt—yes, us adopt them. Them become us brothers and sisters. You telled me that every horowitz me brother and sister, even if me never see them.'

She regained her smile and, bending eagerly toward him, she said, 'Me haved a good thought while on raid. Instead of eating eggs that mothers hatch when no enough adults to attach eggs to, why not attach eggs to childs and to horses, and other animals, too? That way, us increase us tribe much faster. Become big fastly.'

And so it was. Within a month's time, every horowitz large enough to carry the weight, and every horse, bore an egg on his/her chest.

Carmody reported this to Holmyard. 'I see now the advantage of extra-uterine development of the embryo. If the unborn aren't as well protected from injury, it does furnish a means for a larger number to be born.'

'And who's going to take care of all these young?' said Holmyard. 'After all, the horowitz chick is as helpless as and requires as much care as the human infant.'

'They're not going hog-wild. The number to be produced is strictly regulated. Tutu has it figured out how many chicks each mother can adequately care for. If the mothers can't furnish enough regurgitated food, they will prepare a paste of fruit and meat for the chicks. The mothers no longer have to spend a good part of their time hunting for food; the males are doing that now.'

'This society of yours is not developing quite along the lines of those of Paleolithic Earth,' said Holmyard. 'I see an increase toward a communistic trend in the future. The children will be produced *en masse,* and their raising and education will have to be done collectively. However, at this stage, in order to gain a large enough population to be stable, it may be well for them to organize on an assembly-line basis.

'But there's one thing you've either not noticed or have purposely neglected to mention. You said the attaching of the eggs will be strictly regulated. Does that mean that any eggs for which there is no provision will be eaten? Isn't that a method of birth control?'

Carmody was silent for a moment, then he said, 'Yes.'

'Well?'

'Well, what? I'll admit I don't like the idea. But I don't have any justification for objecting to the horowitzes. These people don't have any Scriptural injunctions, you know. Not yet, anyway. Furthermore, under this system, many more will be given a chance for life.'

'Cannibalism and birth control,' said Holmyard. 'I'd think you'd be glad to get out of this, John.'

'Who's talking about the anthropocentric attitude now?' Carmody retorted.

Nevertheless, Carmody was troubled. He couldn't tell the horowitzes not to eat the surplus eggs, for they just would not have understood. Food wasn't so easy to get that they could pass up this source of supply. And he couldn't tell them that they were committing murder. Murder was the illegal slaying of a being with a soul. Did the horowitzes have souls? He didn't know. Terrestrial law maintained that the illegal killing of any member of a species capable of verbal symbolism was murder. But the Church, though it enjoined its members to obey that law or be punished by the

secular goverment, had not admitted that that definition had a valid theological basis. The Church was still striving to formulate a rule which could be applied toward recognition of a soul in extra-terrestrial beings. At the same time, they admitted the possibility that sapients of other planets might not have souls, might not need them. Perhaps the Creator had made other provisions for assuring their immortality—if any.

'It's all right for *them* to sit around a table and discuss their theories,' said Carmody to himself. 'But I am in the field of action; I must work by rule of thumb. And God help me if my thumb slips!'

During the next month he did many things in the practical area. He arranged with Holmyard to send the ship to the Valley and there dig up and transport to the outskirts of the village several tons of iron ore. The following morning he took the children to the place where the ore lay. They gave cries of astonishment, cries which increased as he told them what they were to do with it.

'And where this iron ore come from?' asked Tutu.

'Mans bringed it from the Valley.'

'On horses?'

'No. Them bringed it in a ship which comed from the stars. The same ship that carried me from the stars.'

'Me able to see it some day?'

'No. You forbidden. No good for you to see it.'

Tutu wrinkled her brow with disappointment and clacked her beak. But she made no further reference to it at that time. Instead, she and the others, with Carmody's help and some of the more co-operative adults, built furnaces to smelt the ore. Afterwards, they built a furnace to add carbon from charcoal to the iron, and they made steel weapons, bridle braces and bits, and tools. Then they began to construct steel parts for wagons. Carmody had decided that it was time now to teach them to construct wagons.

'This fine,' said Tutu, 'But what us do when all the iron ore gone, and the steel us make rust and wear out?'

'There more in the Valley,' said Carmody. 'But us must go there. The starship bring no more.'

Tutu cocked her head and laughed. 'You shrewd man, John. You know how to get us to go to Valley.'

'If us to go, us must get a move on soon,' said Carmody. 'Us must arrive before winter come and snow fall.'

'Hard for any of us to imagine winter,' she said. 'This cold you talk about something us no able to understand.'

Tutu knew what she was talking about. When Carmody called another council and exhorted them to leave at once for the Valley, he met resistance. The majority did not want to go; they liked it too well where they were. And Carmody could see that, even among the horowitzes, and as young as they were, the conservative personality was the most numerous. Only Tutu and a few others backed Carmody; they were the radicals, the pioneers, pushers-ahead.

Carmody did not try to dictate to them. He knew he was held in high regard, was, in fact, looked upon almost as a god. But even gods may be resisted when they threaten creature comforts, and he did not want to test his authority. If he lost, all was lost. Moreover, he knew that if he became a dictator, these people would not learn the basics of democracy. And it seemed to him that democracy, despite its faults and vices, was the best form of secular government. Gentle coercion was to be the strongest weapon he would use.

Or so he thought. After another month of vainly trying to get them to make the exodus, he became desperate. By now the stick-in-the-muds had another argument. Under Carmody's tutelage, they had planted vegetable gardens and corn, the seeds of which came from seed brought by the supply ship on Carmody's request. If they moved now, they would not be able to profit by their hard work. All would go to waste. Why did Carmody have them break their backs digging and plowing and planting and watering and chasing off the wild life, if he intended them to move on?

'Because me wanted to show you *how* to grow things in the soil,' he said. 'Me no intend to remain with you forever. When us get to the Valley, me leave.'

'No leave us, beloved John!' they cried. 'Us need you. Besides, now us have another reason for no go to the Valley. If us no go, then you no leave us.'

John had to smile at this childlike reasoning, but he became stern immediately thereafter. 'Whether you go or no go, when this egg hatch, me go. In fact, me go now, anyway. You no go, me leave you behind. Me call on all of you who want to go with me to follow me.'

And he gathered Tutu and eleven other adolescents, plus their horses, wagons, weapons, food, and twenty chicks and five adult females. He hoped that the sight of his leaving would cause the

others to change their minds. But, though they wept and begged him to stay, they would not go with him.

It was then that he lost his temper and cried, 'Very well! If you no do what me know the goodest for you to do, then me destroy you village! And you must come with me because you no have any place else to go!'

'What you mean?' they shouted.

'Me mean that tonight a monster from the stars come and burn up the village. You see!'

Immediately afterwards, he spoke to Holmyard. 'You heard me, Doc! I suddenly realized I had to put pressure on them! It's the only way to get them off their fannies!'

'You should have done it long ago,' replied Holmyard. 'Even if all of you travel fast now, you'll be lucky to get to the Valley before winter.'

That night, while Carmody and his followers stood on top of a high hill outside the village, they watched the spaceship suddenly appear in the dim light cast by the two small moons. The inhabitants of the village must all have been looking up for the promised destroyer, for a shriek from a hundred throats arose. Immediately, there was a mad rush through the narrow gates, and many were trampled. Before all the children, chicks and adults could get out, the monster loosed a tongue of flame against the log-walls surrounding the village. The walls on the southern side burst into flame, and the fire spread quickly. Carmody had to run down the hill and reorganize the demoralized horwitzes. Only because he threatened them with death if they didn't obey him, would they go back into the enclosure and bring out the horses, wagons, food, and weapons. They then cast themselves at Carmody's feet and begged forgiveness, saying they would never again go against his wishes.

And Carmody, though he felt ashamed because he had scared them so, and also distressed because of the deaths caused by the panic, nevertheless was stern. He forgave them but told them that he was wiser than they, and he knew what was good for them.

From then on, he got very good behavior and obedience from the adolescents. But he had also lost his intimacy with them, even with Tutu. They were all respectful, but they found it difficult to relax around him. Gone were the jokes and smiles they had formerly traded.

'You have thrown the fear of God into them,' said Holmyard.

'Now, Doc,' said Carmody. 'You're not suggesting that they think I am God. If I really believed that, I'd disabuse them.'

'No, but they believe you're His representative. And maybe a demi-god. Unless you explain the whole affair from beginning to end, they'll continue to think so. And I don't think the explanation will help much. You'd have to outline our society in all its ramifications, and you've neither the time nor ability to do that. No matter what you said, they'd misunderstand you.'

Carmody attempted to regain his former cordial relations with them, but he found it impossible. So he devoted himself to teaching them all he could. He either wrote or else dictated to Tutu and other scribes as much science as he had time for. Though the country they had crossed so far was lacking in any sulfur or saltpeter deposits, Carmody knew that the Valley contained them. He wrote down rules for recognizing, mining, and purifying the two chemicals and also the recipe for making gunpowder from them. In addition, he described in great detail how to make rifles and pistols and mercury fulminate, how to find and mine and process lead.

These were only a few of the many technological crafts he recorded. In addition, he wrote down the principles of chemistry, physics, biology, and electricity. Furthermore, he drew diagrams of an automobile which was to be driven by electric motors and powered by hydrogen-air fuel cells. This necessitated a detailed procedure for making hydrogen by the reaction of heated steam with zinc or iron as a catalyst. This, in turn, demanded that he tell them how to identify copper ore and the processes for refining it and making it into wire, how to make magnets, and the mathematical formulae for winding motors.

To do this, he had to call frequently on Holmyard for help. One day, Holmyard said, 'This has gone far enough, John. You're working yourself to a shadow, killing yourself. And you're attempting to do the impossible, to compress one hundred thousand years of scientific progress into one. What it took humanity a hundred millenia to develop, you're handing to the horowitzes on a silver platter. Stop it! You've done enough for them by giving them a speech and techniques in working flint and agriculture. Let them do it on their own from now on. Besides, later expeditions will probably get into contact with them and give them all the information you're trying to forcefeed them.'

'You are probably right,' groaned Carmody. 'But what bothers me most of all is that, though I've done my best to give them all I can to enable them to deal with the material universe, I've done scarcely anything to give them an ethics. And that is what I should be most concerned with.'

'Let them work out their own.'

'I don't want to do that. Look at the many wrong, yes, evil, avenues they could take.'

'They will take the wrong ones, anyway.'

'Yes, but they will have a right one which they can take if they wish.'

'Then, for Christ's sake, give it to them!' cried Holmyard. 'Quit belly-aching! Do something, or shut up about it!'

'I suppose you're right,' said Carmody humbly. 'At any rate, I don't have much time left. In a month, I have to go to Wildenwooly. And this problem will be out of my hands.'

During the next month, the party left the hot plains and began to travel over high hills and through passes between mountains. The air became cooler, the vegetation changed to that which superficially resembled the vegetation of the uplands of Earth. The nights were cool, and the horowitzes had to huddle around roaring fires. Carmody instructed them how to tan skins with which to clothe themselves, but he did not allow them to take time out to hunt and skin the animals and make furs from them. 'You able to do that when you reach the Valley,' he said.

And, two weeks before they were to reach the pass that would lead them to the Valley, Carmody was awakened one night. He felt a tap-tapping in the egg on his chest and knew that the sharp beak of the chick was tearing away at the double-walled leathery covering. By morning a hole appeared in the skin of the egg. Carmody did what he had observed the mothers do. He grabbed hold of the edges of the tear and ripped the skin apart. It felt as if he were ripping his own skin, so long had the egg been a part of him.

The chick was a fine healthy specimen, male, covered with a golden down. It looked at the world with large blue eyes which, as yet, were unco-ordinated.

Tutu was delighted. 'All of us have brown eyes! Him the first horowitz me ever see with blue eyes! Though me hear that the wild horowitzes in this area have blue eyes. But him have eyes just like you eyes. You make him eyes blue so us know him you son?'

'Me have nothing to do with it, said Carmody. He did not say that the chick was a mutation, or else had carried recessive genes from mating by ancestors with a member of the blue-eyed race. That would have required too lengthly an explanation. But he did feel uncomfortable. Why had this happened to the chick that *he* was carrying?

By noon the tendrils holding the egg to his flesh had dried up and the empty skin fell to the ground. Within two days, the many little holes in his chest had closed; his skin was smooth.

He was cutting his ties to this world. That afternoon, Holmyard called him and said that his request for an extension of his stay on Feral had been denied. The day his contract ended, he was to leave.

'According to our contract, we have to furnish a ship to transport you to Wildenwooly,' said Holmyard. 'So, we're using our own. It'll only take a few hours to get you to your destination.'

During the next two weeks, Carmody pushed the caravan, giving it only four hours' sleep at night and stopping only when the horses had to have rest. Fortunately, the equine of Feral had more endurance, if less speed, than his counterpart on Earth. The evening of the day before he had to leave, they reached the mountain pass which would lead them to the promised Valley. They built fires and bedded down around the warmth. A chilly wind blew from the pass, and Carmody had trouble getting to sleep. It was not so much the cold air as it was his thoughts. They kept going around and around, like Indians circling a wagon train and shooting sharp arrows. He could not keep from worrying about what would happen to his charges after he left them. And he could not quit regretting that he had not given them any spiritual guidance. Tomorrow morning, he thought, tomorrow morning is my last chance. But my brain is numb, numb. If it were left up to me, if my superiors had not ordered me to be silent . . . but then they know best. I would probably do the wrong thing. Perhaps it is best to leave it up to divine revelation. Still, God works through man, and I am a man. . . .

He must have dozed away, for he suddenly awakened as he felt a small body snuggling next to his. It was his favorite, Tutu.

'Me cold,' she said. 'Also, many times, before the village burn, me sleep in your arms. Why you no ask me to do so tonight? You last night!' she said with a quavering voice, and she was crying. Her shoulders shook, and her beak racked across his chest as she

pressed the side of her face against him. And, not for the first time, Carmody regretted that these creatures had hard beaks. They would never know the pleasure of soft lips meeting in a kiss.

'Me love you, John,' she said. 'But ever since the monster from the stars destroyed us village, me scared of you, too. But tonight, me forget me scared, and me must sleep in you arms once more. So me able to remember this last night the rest of me life.'

Carmody felt tears welling in his own eyes, but he kept his voice firm, 'Them who serve the Creator say me have work to do elsewhere. Among the stars. Me must go, even if no wish to. Me sad, like you. But maybe some day me return. No able to promise. But always hope.'

'You no should leave. Us still childs, and us have adults' work ahead of us. The adults like childs, and us like adults. Us need you.'

'Me know that true,' he said. 'But me pray to He that He watch over and protect you.'

'Me hope He have more brains than me mother. Me hope He smart as you.'

Carmody laughed and said, 'He is infinitely smarter than me. No worry. What come, come.'

He talked some more to her, mainly advice on what to do during the coming winter and reassurances that he might possibly return. Or, if he did not, that other men would. Eventually, he drifted into sleep.

But he was awakened by her terrified voice, crying in his ear.

He sat up and said, 'Why you cry, child?'

She clung to him, her eyes big in the reflected light of the dying fire. 'Me father come to me, and him wake me up! Him say, "Tutu, you wonder where us horowitzes go after death! Me know, because me go to the land of beyond death. It a beautiful land; you no cry because John must leave. Some day, you see him here. Me allowed to come see you and tell you. And you must tell John that us horowitzes like mans. Us have souls, us no just die and become dirt and never see each other again."

'Me father telled me that. And him reached out him hand to touch me. And me become scared, and me waked up crying!'

'There, there,' said Carmody, hugging her. 'You just dream. You know you father no able to talk when him alive. So how him able to talk now? You dreaming.'

'No dream, no dream! Him not in me head like a dream! Him standing outside me head, between me and fire! Him throw a shadow! Dreams no have shadows! And why him no able to talk? If him can live after death, why him no talk, too? What you say, "Why strain at a bug and swallow a horse?" '

'Out of the mouths of babes,' muttered Carmody, and he spent the time until dawn talking to Tutu.

At noon of that same day, the horowitzes stood upon the rim of the pass. Below them lay the Valley, flashing with the greens, golds, yellows, and reds of the autumnal vegetation. In a few more days the bright colors would turn brown, but today the Valley glittered with beauty and promise.

'In a few minutes,' said Carmody, 'the mans from the skies come in the starwagon. No become frightened; it will not harm you. Me have a few words to say, words which me hope you and you descendants never forget.

'Last night, Tutu seed her father, who had died. Him telled her that all horowitzes have souls and go to another place after them die. The Creator have maked a place for you—so say Whoot—because you He's childs. He never forget you. And so you must become good childs to He, for He . . .'

Here he hesitated, for he had almost said Father. But, knowing that they had fixed in their minds the maternal image, he continued . . . 'for He you Mother.

'Me have telled you the story of how the Creator maked the world from nothing. First, space. Then, atoms created in space. Atoms joined to become formless matter. Formless matter becomed suns, big suns with little suns circling around them. The little suns cooled and becomed planets, like the one you now live on. Seas and land formed.

'And He created life in the seas, life too small to see with the naked eye. But He see. And some day you, too, see. And out of the little creatures comed big creatures. Fish comed into being. And some fish crawled onto the land and becomed airbreathers with legs.

'And some animals climbed trees and lived there, and their forelimbs becomed wings, and they becomed birds and flyed.

'But one kind of tree-creature climbed down out of the trees before it becomed a bird. And it walked on two legs and what might have becomed wings becomed arms and hands.

'And this creature becomed you ancestor.

'You *k*now this, for me have telled you many times. You *k*now you past. Now, me tell you what you must do in the future, if you wish to become a good child of He. Me give you the law of the horowitz.

'This what He wish you to do every day of you lives.

'Love you Creator even gooder than you own parents.

'Love each other, even the one who hate you.

'Love the animals, too. You able to kill animals for food. But no cause them pain. Work the animals, but feed them and rest them well. Treat the animals as childs.

'Tell the truth. Also, seek hard for the truth.

'Do what society say you must do. Unless society say what He no wish you to do. Then, you may defy society.

'Kill only to keep from becoming killed. The Creator no love a murderer or a people who make war without good cause.

'No use evil means to reach a good goal.

'Remember that you horowitzes no alone in this universe. The universe filled with the childs of He. Them no horowitzes, but you must love them, too.

'No fear death, for you live again.'

John Carmody looked at them for a moment, wondering upon what paths of good and evil this speech would set them. Then he walked to a large flat-topped rock on which sat a bowl of water and a loaf of bread made from baked acorn flour.

'Each day at noon, when the sun highest, a male or female choosed by you must do this before you and for you.'

He took a piece of bread and dipped it in the water and ate the piece, and then he said, 'And the Chooses One must say so all able to hear.'

' "With this water, from which life first comed, me thank me Creator for life. And with this bread, me thank me Creator for the blessings of this world and give me self strength against the evils of life. Thanks to He." '

He paused. Tutu was the only one not looking at him, for she was busily writing down his words. Then, she looked up at him as if wondering if he meant to continue. And she gave a cry and dropped her pencil and tablet and ran to him and put her arms around him.

'Starship come!' she cried. 'You no go!'

There was a moan of fear and astonishment from the beaks of the crowd as they saw the shining monster hurtle over the mountain toward them.

Gently, Carmody loosed her embrace and stepped away from her.

'Come a time when the parent must go, and the child must become adult. That time now. Me must go because me wanted elsewhere.

'Just remember, me love you, Tutu. Me love all of you, too. But me no able to stay here. However, He always with you. Me leave you in the care of He.'

Carmody stood within the pilothouse and looked at the image of Feral on the screen. It was now no larger to him than a basketball. He spoke to Holmyard.

'I will probably have to explain that final scene to my superiors. I may even be severely rebuked and punished. I do not know. But I am convinced at this moment that I did rightly.'

'You were not to tell them they had a soul,' said Holmyard. 'Not that I myself care one way or another. I think the idea of a soul is ridiculous.'

'But you can think of the idea,' said Carmody. 'And so can the horowitzes. Can a creature capable of conceiving a soul be without one?'

'Interesting question. And unanswerable. Tell me, do you really believe that that little ceremony you instituted will keep them on the straight and narrow?'

'I'm not all fool,' said Carmody. 'Of course not. But they do have correct basic instruction. If they pervert it, then I am not to blame. I have done my best.'

'Have you?' said Holmyard. 'You have laid the foundations for a mythology in which you may become the god, or the son of the god. Don't you think that, as time blurs the memory of these events you initiated, and generations pass, that myth after myth and distortion after distortion will completely alter the truth?'

Carmody stared at the dwindling globe. 'I do not know. But I have given them something to raise them from beasts to men.'

'Ah, Prometheus!' breathed Holmyard. And they were silent for a long time.

3 STEPS TO SUCCESS

FACE THE FACTS

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