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FANTASY AND SCIENCE FICTION

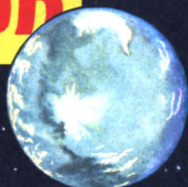
THE MAGAZINE OF
Fantasy AND

Science Fiction

**SPECIAL
SUMMER
ISSUE**

JULY

40¢



TO THE TOMBAUGH STATION

a short novel by

WILSON TUCKER

ZENNA HENDERSON

THEODORE R. COGSWELL

HOLLIS ALPERT

JULY 1960

Fantasy and Science Fiction

JULY

Including Venture Science Fiction

Oh I'll Take the High Road	STEPHEN BARR	5
The Simian Problem	HOLLIS ALPERT	20
The Burning	THEODORE R. COGSWELL	28
Things	ZENNA HENDERSON	32
It Is Not My Fault	A. H. Z. CARR	39
Ferdinand Feghoot: XXVIII	GRENDAL BRIARTON	49
All in Good Time	MIRIAM ALLEN DEFORD	50
The Last Dream	GORDON R. DICKSON	58
Science: Beyond Pluto	ISAAC ASIMOV	65
Books: Level 7	DAMON KNIGHT	76
Fair Trade	AVRAM DAVIDSON	79
✓ To the Tombaugh Station (long novelet)	WILSON TUCKER	87
Coming next month		64
Cover by Mel Hunter—"Moon landscape"		

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The "Red Death" had long devastated the country. No pestilence had ever been so fatal, or so hideous. Blood was its Avatar and its seal—the redness and the horror of blood.

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Scientists, Joan felt, were fanciful and easily controlled; poets, on the other hand, went to the roots of reality, and this might make for trouble True Love, of course, has special, enduring properties of its own, of which even Joan was not fully aware.

OH I'LL TAKE THE HIGH ROAD

by Stephen Barr

TRUE LOVE, ACCORDING TO some people, never fades. According to others—dusty-minded and clinical—it doesn't even exist, but both poets and scientists agree that whether it exists or not, whether it fades or remains forever in an improbable bloom, Love is around.

John Dougal was a scientist and he was also a poet, and these two qualities can exist simultaneously in one man with a degree of mutual confidence, until he falls in love. When this happens the two sides of himself, Scientist (the man of fact) and Poet (the man of fancy) which had been so happy together before, will curdle into a strange and disparate mass: rather like an unsuccessful colloid. It becomes as though one had left the milk out in freezing weather—the cream is no longer on the top: it is uselessly separated from the water into congealed droplets, and the top of the bottle has been

pushed up. Who can have perpetrated this senseless vandalism? Why, Love of course! The small chap with the eye-patch and the bottle opener!

John Dougal was in love with a girl he had met at a scientific tea: that is to say a tea party of scientists, by scientists and for scientists. She was the daughter of the host and she was trying to be polite to everyone. The host was a scientist (rockets) but not a poet, and the guests were also rocket men: all, that is, except John Dougal. He didn't know why, but he disliked the idea of rockets intensely—they went too high and they went much too fast. The truth of the matter is that he was brave as a sheep, which is surely the bravest of all creatures because it will face up to a wolf if it becomes necessary—it is easy for the wolf to be brave with all those teeth.

But John feared height and more than height he feared speed. Joan, the daughter of his host, was a girl with a mind—and a car—of her own, and later on when she had got to know John better she would take him for drives. He could not drive, and she would have to hold onto his arm when they went around curves. She thought this was very funny, but he was ashamed.

At this scientific tea the other men, who were working with their host Merton on the same project, had firmly decided to avoid talking shop but their wives overruled this, and so when John arrived they were all discussing fuels and cosmic radiation, and limiting velocities and maximum acceleration, while the ladies for various obscure reasons were listening avidly. Then he realized that the pretty girl with the green eyes was not really listening at all. When the tea consumption began to fall off he sat down next her. "I don't think you are interested in rockets, are you, Miss Merton?" he said.

"No, and I don't think you are, either," she answered. "It's all Father ever talks about: he doesn't seem to mind that I don't understand a word he's saying—he keeps on anyway." She smiled sadly. "Mother was a mathematician and he used to tell her everything he was doing, and now he tells it all to me, poor darling."

The poor darling came up to them. "I think some of the guests might like a drink, Joan," he said. "So if you will remind me where the whiskey is I'll— Oh, hello, Dougal—make some."

"I'll get it, Father," she said, and left them. Professor Merton sat down and looked at John Dougal over the top of the glasses he thought he had on.

"Well," he said. "Well, well!"

John blinked several times and said, "Quite so." There was a silence following which Professor Merton tried again.

"How's the work coming?"

"Oh, all right. Still in the theoretical stage."

"Ah. And you still think you are going to reach another galaxy in less than a lifetime?"

"Well . . ." John looked uncomfortable; he knew he was a heretic. "I don't say I will. It's just that I believe it can be done, and much faster than that."

The professor shrugged (all poets are mad). He himself, with his associates, were planning a trip across space but to one of the planets—practically in Earth's suburbs. And they would go in a rocket—what could be saner than that?

"But even if you went at the speed of light," he said, "your trip would take you a millennium of lifetimes. Surely you do not question Einstein's equation showing —"

"Oh, I wouldn't dream of it," John said hurriedly.

"—that nothing can travel faster than light?"

John blinked and said nothing. Professor Merton looked at him thoughtfully. "Hm," he said, after a while. "Been writing any more poetry lately?"

Before John Dougal could answer him Joan came back with the whiskey, and on his catching her eye she winked at him. The wink, of course, was intended as a kind of sympathetic comment, and referred to her father and rocket talk, but for some reason John Dougal fell in love with her at that moment. Joan saw this at once, and he realized that she saw it. Women, he knew, were equipped with a form of love-radar.

I wonder, she thought to herself, if I ought to marry a poet?

She gave no mind to the scientist in him: she was used to scientists—she regarded them as fanciful and easily controlled. Poets, on the other hand, she felt dealt in facts. They went to the roots of reality, and this might make for trouble.

She was still thinking about this a few days later when he took her to his house to see where he worked. It was a large sunny room with an open fireplace and a great many books. There seemed to be two desks, one for poetry and one for . . . for what? She looked around, but apart from pa-

pers, all the apparatus she could see was a slide-rule lying on the non-poetic desk.

"Well, there it is," he said proudly. He was a small wiry man with pale hair.

"It is?" she replied. "I don't see it. Where's the machine, or whatever it is?"

He smiled at her. "Oh, I haven't bothered with that yet. There may not even have to be a machine."

This was reassuring. This was more like what she would expect from a scientist. A poet, on the other hand, wouldn't be so absurd: if he had an idea for a poem he would go ahead and do it, at once, right away. She looked at him carefully: he has a dear smile, she told herself, and smiled back at him.

John's heart stepped up its activity. "Joan," he said, "Joan . . . I . . ." The radar developed her-ringbone patterns and jammed up.

"Yes, dear," she said, "yes, I know." This, she thought, is True Love, and it will outlive us.

Spring came. John Dougal's powers of concentration fell to a new low, and he made the discovery that love is no help to poetic inspiration: it leads to cliché and over-obvious rhymes. And of course it is ruination to science.

"When are we going to get married?" he asked her.

"When are you going to travel

to the stars?" she said. They were in her car, and he had come to the point where he almost didn't mind the speed, so love has its uses. It was half-past eight in the evening.

"Would you dare to come with me?" he asked.

"Of course," she said, sensibly. "And we'd better put on warm things—it looks very cold up there. Will we be able to get back all right?"

"If we can go we can return." He looked up at the soft May sky where Orion stood in his glittering belt, his bright dog Sirius at his side. "You asked me once why I had built no machine, Joan, and I said that perhaps there would be no machine. Well, there is none."

"What is it then, dear?"

"It's a diagram. If an idea is complete within itself, then it is real."

"But, John, dear: just a *diagram*?"

"It was just an equation that split the atom. In the beginning was the Word."

"It sounds like some kind of magic."

"Not half so magical as your father's rocket. You went past the gate."

"So I did—oh dear."

"Let's go on driving, Joan."

"All right, darling."

When they got back to her father's house, he welcomed them

in and they sat around the living-room fire and had hot toddy. Professor Merton was very excited. "We leave tomorrow," he said. "And then in another day we take off." He turned to John Dougal. "Mars! Not the moon, but Mars direct! How's that, my boy? Of course it'll take several months—not like you with the distant galaxies." He smiled a professorial smile—poets always dream of the stars: nothing so prosaic as a planet will suit them. He liked John very much: what a pity he wrote such good poetry. He was a fine mathematician wasted, but perhaps Joan would knock a little sense into him. Professor Merton had his own rather dim and faulty male radar. It never occurred to him to wonder how his daughter might be during the half year that he would be gone. She had since her mother's death always taken care of him, and he was confident that she could take good care of herself.

"Father," Joan said, "will you try and remember everything I told you? I know you and the whole group have worked it all out, but will you take your pills every day after breakfast?"

"Yes, Joan, I will. I'll remember everything you've ever told me, only there won't be any day or night, or anything like that. I'll take 'em though. I'll be taking others, too: ones that have to do with space-sickness." He smiled at

John. "You won't be bothered with that, will you?"

"Hell, no . . ." John said. "You see, I'll be—"

"Because," Professor Merton went on, "it'll all be in the mind, I think you said."

"No, sir. I said I won't be traveling *physically* in the ordinary accepted sense. I'll be going faster than light, yes, but as if I were going in a negative direction . . ."

"Then I'd think you'd stay right here," Professor Merton said.

"No, Father," Joan said. "It means we'll be facing the wrong way, is all. And what do you mean?" she added to John, "I'll be doing this and I'll be traveling that?" I thought it was us—both of us."

For the first time Professor Merton realized what was afoot. If John liked to talk moonshine about an impossible journey, that was one thing, but if Joan said she was going too, why then she was. Still, he reflected, it was only on paper as yet. Time enough to talk about it when he got back from Mars. In a way his assumption was wrong, and yet his intuition was right.

"Oh," he said, looking at John in a new way. "I see. Well. Well, well."

"Quite so," said John.

John Dougal and Joan were married the next day, for, as he pointed out, it would not be pro-

per to go on a trip together singly. "You know what I mean," he added. "Go singly, together."

"Yes, dear," she said. "You're perfectly right. It wouldn't do, even in a diagram."

They said goodbye to Professor Merton, who was taking a later, faster plane, because of the wedding. He shook hands with John rather solemnly. "I suppose you'll be passing us on the way," he said. All trace of the professorial smile had vanished. "I believe you said you were going to the Andromeda nebula—that's in the same direction, isn't it?"

"Well, sir," John looked embarrassed, "we'll be there first, but . . ."

"We'll be travelling in the opposite direction!" Joan finished for him. She was beginning to catch on: she had a quick mind.

"Well . . . sort of," John admitted.

"I see," his father-in-law said, but he didn't at all. They'll be going around the long way, he thought to himself, the full circuit of the finite universe. . . . He kissed Joan and left, and Mr. and Mrs. Dougal went home to the diagram.

When they got to the workroom she said, "What do we do? Just look at it or stand on it?"

John shook his head. "Understand it. Sit closer to me and I'll explain it to you."

"But how can we be going fast-

er than light?" she asked. "Father says nothing can."

"The Einstein equation," John said patiently, "merely shows that at the velocity of light, the mass equals infinity. It doesn't actually say you *can't* go faster—just that you'd have a negative mass if you did."

"How would that feel?"

"I don't know—I don't think we'll be travelling in the ordinary physical sense . . . Oh, I said that yesterday, didn't I?"

"Yes; to Father, and he didn't follow you. D'you mean it's only our minds that'll be going?"

John frowned—he wasn't quite sure what the diagram meant when it was taken out of its mathematical context. He searched for the right words. "Well . . . would you say that your mind was an attribute of your body, or the other way about?"

"I never gave it a thought, John."

"I think it's fifty-fifty," he said. "And if our consciousness is the most important thing in us, that's what'll be going. And I think it will sort of pull our bodies along with it."

Joan stared at the diagram in silence.

"Whatever is most important in us," John repeated, "is what will go."

She thought about this—but she didn't have to think very hard. She knew what was the most im-

perishable thing in her now, as she sat closer to him . . .

"Will we see anything on the way? I never read when I'm on a train—I like to look out of the window."

"I don't think we'll see, until we land," John said. "Except perhaps out of the window of the mind. I shall be thinking of your green eyes, Joan, and how you look."

"How do we know we'll land on a planet?"

"If there isn't one quite like this we'll come around full circle and be right back where we started. If there is we'll land on it."

"Mightn't there be a fearful bump?"

"Inertia won't affect us. Sit closer."

Joan remembered that when she was in school one of the teachers had said to her, "The trouble with you is you don't *want* to understand." This was no help, because you cannot make yourself want something. But now she found that she could understand very well, although it was very difficult. Why, even her father had not been able to, so perhaps love helps here, too.

"It's a very small diagram, John," she said, "to take us on such a journey."

"Einstein's equation of mass and velocity is still smaller."

He looked at her face and it faded from his view, and he knew that they had started.

Nothing times nothing, times nothing . . . forever . . .

Einstein said the universe is not endless—it comes back to itself like the oceans of the world, and if you point you are pointing at your own back. The ancients thought that of the four Elements, Earth and Water were heavy, and that Air had no weight. But Fire . . . what did Fire have? Un-weight? And what did they think of un-direction? Would it be inward . . . in to the inner-mind?

That was where he felt himself to be—but when you know that you are dreaming, in that instant you are awake. John looked about him.

It was summer on this planet: and that was the way it should be—and quite like Earth, but the diagram would see to that, so it was no coincidence. All the four Elements were there: the ground beneath his feet, a brook that ran beside him, and air all about him, and above in the blue sky he saw the fiery sun of this planet. Everywhere were those things the ancients believed to be compounded of all four elements together: live things, grass and plants, and in the distance trees. Birds flew in the sky and animals ate the grass but was that number really four? He tried to count and found that he had forgotten how, or perhaps he could not remember how many legs they had at home. He felt dizzy and sat down.

"I have a physical body again, at all events," he said. There was no answer, and he realized for the first time that he was alone. He looked around him again and stood up, swaying from side to side.

Joan, Joan, he called, and it echoed in his mind, but there was no answer. Only the birds twittering and the wind in the bushes.

From over a nearby heath-covered rise in the ground some people came toward him, and when they saw him they ran up and looked at him with distress and compassion. Where can she be? he thought. Why isn't she with me? Perhaps she is still in the work-room—but no, she had *understood*. Had she gone by some dreadful mistake to a different and distant planet?

Sit down, the people said to him, and take this food—it will make you feel better. He thanked them, but no: it was all impossible. The diagram could lead only to one planet—the one most like the Earth. She *must* be here somewhere. Miles away perhaps, but here on this planet. He would have to start looking immediately. Maybe these people would know.

He looked at their faces: how could this be—they were human! Well, on a planet very like Earth, human beings might evolve, but they spoke to him in English! No—not in English. They are not really speaking, so this must be

telepathy; yet surely it takes two to make telepathy. Evidently not: it was very strange.

Where have you just come from? one of them asked him. Who are you? This man was tall and about forty years old to look at him, and he wore clothes that seemed familiar—John felt that he had seen a picture of clothes like that long ago, but he could not remember.

I came from Earth, he began, and realized that it could mean nothing to these people. I am . . . he began again, but stopped in confusion: he was naked as a newborn child. The tall man smiled and so did the others.

Come back with us and we'll give you some clothes.

They began to lead him across the heather the way they had come.

I was with someone, he said, holding back. I must find her: have you seen her? Have you seen Joan?

They were puzzled. We saw no one else; is she your companion?

He nodded.

What is *your* name? asked the tall man.

My name is John Dougal. How absurd it sounded! How foolish this is, he thought. What can our names mean to them? What's in a name, and what does Mary mean? Well, that depends who Mary is.

What is *your* name? he asked the tall man.

Michael. Now, come along with us—we will help you find your friend. (Michael? Yes, of course: that was a familiar and rather encouraging name.)

When they got to the rise of ground he saw where they lived: a long street, sunny yet mournful—like a Chirico painting. But the people were not mournful, and very soon he became used to the style of their houses: everything is association. He put on the clothes they gave him, which felt unfamiliar and therefore uncomfortable, but he knew he would get used to them, too. At first all the people seemed alike—except for Michael who was older—the way people of an exotic race do until you have lived with them and grown to know them, but in a few hours John had passed that point. Some of them at first could not understand when he tried to tell them that he had come from another planet, remote beyond imagining. When he called it Earth they thought that Earth meant planet, and they were on a planet; right here; this one. This is Earth, they said. But at length the others explained it to them and they looked at John with astonishment and admiration. Also he thought they were laughing at him a little.

How long is a day here? he asked.

About twenty-five hours, said a

girl whose name seemed to him to be Mary. So, then it was much like Earth in this respect also.

And this is summer?

Summer? Oh, yes, the season: we have no seasons now—they changed all that a long time ago. Well, perhaps a little of seasons; spring leading through this to a golden fall so the trees can renew themselves, and then spring again.

What bliss, thought John, who hated cold, but then he thought, what a pity. No snow—no fire to sit around. But that, over there, must be a fireplace: perhaps the nights were cold. Where was Joan? Would she be cold tonight? He stood up. I must find her *now*!

Yes, they said. We will help you find her.

But I cannot wait! I must start at once—it will be night soon!

It is already night, Michael said. Mary will guide you. She knows best of all of us how to look for things.

How shall we go? he asked her. Can you fly, here?

Yes, some of us can. See: he can.

She held up her hand and a small bird flew to it from the rafters. He hopped along her arm and seemed to say something into her ear and she laughed and he flew in a spiral, and went back to his rafter. All right, she said. Come along.

She led him outside, and he looked up at the clear sky where

the stars gleamed in unfamiliar patterns. Too bad he knew so little of astronomy—they were all higgledy-piggledy, but no astronomer back at home on Earth could possibly tell how the stars would look in the cloudy mass of this far-off nebula.

Perhaps, then, we had better fly, she said. How did you come here?

John explained, but when he told it, it sounded like a pentagram and medieval incantations. Also he could not remember it very well, but he'd be able to work it out later . . . when he found Joan.

You know, Mary said, it reminds me of the way we fly.

No flying machine? John asked. No flying machine.

It roused an echo. She took his hand and looked at him steadily. You're much too heavy for me to carry, so you must help. I'll try and explain how to do it. She smiled. Are most of the people on your Earth your size?

Most of the men are a little larger.

Then it will be easier for you, she said.

He looked down and saw their village was below them: but he was no longer afraid of height. They began to drift away from it, and then faster and faster until they were going in a rush through the cool air, but he was not afraid of the speed. Who minds speed

and height if they will help him the quicker to find Joan?

If we go too far away mightn't we miss her? She may be close by so perhaps we ought to circle.

We are circling, Mary said.

How will we see her? John said. I know the moon is very bright but she may be under a tree.

I'm calling, Mary said. Can't you hear? *She* will, and she'll come out and look up.

Suppose she's asleep?

She will hear.

They went together in ever-widening circles as the full moon rose higher. It shone into a valley beneath them making one side brilliant with white rocks casting black shadows on the pale grass, and leaving the other side in darkness picked out in yellow sparkles of light from people's windows.

How do you get your light?

From lamps—or the sun, she said.

Where do you get your heat?

From the woods.

And your food?

From the fields and the sea.

Have you towns?

Many.

Where are all the children?

Asleep.

But I saw none.

A pity . . . You will.

The old people?

They die.

Are you never sick?

What is that?

And war . . . are there no wars?

Once there used to be war, they say, among a certain kind, but they all went to the next planet and blew it up and themselves, too. Never again for us—no, never again. Anyway, now there is no reason.

Does no one want to be leader?

There is nothing to be gained by being a leader. Children play at it, and sometimes when they grow up they still play at it; then they go back to the nursery for a while. Everyone tries to talk them out of it, but they insist on going back to the nursery. Then they get over it.

Have you machines?

Machines? Oh, you mean, like a spade?

No: I mean . . . Well, have you Science?

Mary was puzzled. You mean what it is that teaches us how to live, I suppose. Yes, of course.

Well, yes: that. But science for finding out things, and science for making things?

For finding out, yes. But is the other also science?

Then what do you call it?

John could not hear the answer. These are the children of a played-out technology! he thought angrily.

She laughed. No, we are not, John. And we work very hard when we want to.

Work? At what? In the fields and cutting wood, I suppose!

Mary was still laughing. Yes, of course, and other things, too. Some work at finding out things—like Michael—and some like to make things: enormously difficult things that others stand around and admire. And I know of one man who spent a summer finding some flowers of a certain kind and shape. He made it into a necklace and it only lasted a day. No one saw it but he.

Suddenly John cried out. There she is! He pointed at someone standing in a field looking up.

No: that isn't your companion. I tell you it is!

Then we'll go down and talk to her, but I know who she is.

When they were close enough John saw that it was not Joan.

I'm walking in my sleep, the girl in the field said. She seemed very much awake, though. Tonight I want to walk and look at everything by moonlight: I'm in love, and tomorrow everything will look strange to me.

When they rose again into the sky John saw that dawn was coming. It lighted the horizon of the distant sea and the air was colder. Near to the water he saw many lights close together, and Mary said, Look—there is a town.

Are those boats in the harbor beyond? Why do you need boats?

Yes, those are boats. Don't you like to sail?

(But where was Joan? He must find her—she must be somewhere,

she must.) Aren't you tired? he said.

No, but you are. We'll go to the town and rest. You have come a long way and you are worried and frightened. You are in love with her. What is she like, John?

She . . . I cannot describe her to you. She has green eyes, and she came with me and she must be here. I can't rest till we find her—what will happen to her if I don't find her?

Nothing, John. She will be looked after.

Suppose she lands in a desert? Did you land in a desert?

No, but . . . (Did the diagram also see to that? Yes, of course it did.) I am not tired, he said, I cannot sleep. I'm like that girl in the field . . .

He fell asleep as they were still flying.

When he awoke it was the middle of the day, and it was almost hot. The sun shone into the windows of the room where he had slept, the bed was like any bed—when you are exhausted. He threw back the cover—it was a single smooth blanket—and went to the windows. Outside in the street below were a number of people, dressed in variations of the clothes he himself had worn. Then he remembered everything and his heart sank.

A man came into the room and stopped when he saw him. I'm sor-

ry—I thought you must be still asleep. Come and have something to eat with us.

Where is Mary? I must start at once . . .

Mary is downstairs. She told us about you and everyone will help you to look.

But how can you? You don't know what my wife looks like.

He dressed and went with the man into a room downstairs where there was Mary with another woman—a little older. He thought Mary looked tired. No, she said, I'm not. It's just that I was unhappy and I'm beginning to get over it.

Then the people here are not happy here all the time?

Mary frowned. Of course not. Lots of things make one unhappy. I have been terribly jealous—I know the man the girl in the field loves: but he cannot love both of us. It has left me feeling empty . . . (The empty shall be filled.) Yes, Mary said, looking out of the window, I think that . . . already . . . She smiled at him. I don't know what I feel. Are you hungry now?

After they had eaten he said, We must make a plan. We can't just go on flying around in ever-widening circles. Haven't you something like . . . well, like radio? I'm sure you know what I mean.

Yes, said the man. That's for people who can't hear very well, or are very far away.

Well then, John said with ex-

asperation, we must send out an alarm!

We did, the man's wife said, as soon as you got here.

John looked around the sunny room in which there were unfamiliar and beautiful plants growing in boxes. On the wall was a tapestry with a strange, tragical design woven into it, but he could not tell what it was. Nowhere did he see anything that resembled a radio.

It's down the street, the man's wife said. Just a few doors away in a small house.

Oh? Are all the houses like this one? I mean, are there no tall buildings?

Mary looked surprised. Why, wasn't the view we had last night good enough for you? I suppose you mean something like the ancient monuments. As for flying around in circles, I don't think Joan can be very far away. When you were explaining how you came here Michael said that your diagram would bring her close to you. Michael works at that sort of thing.

But, John said, it was after we had left that I explained about the diagram to you!

She smiled. You weren't attending.

Oh, John thought to himself, but very quietly, if Joan and I had only arrived together—what excitement this would be. How we would love it all, or even be fright-

ened together; but he couldn't imagine Joan frightened of anything—only indignant. I was the coward of the two. He looked at the others: the man seemed kind but a little stupid—no, not stupid, but could he be trusted to help them? It would take imagination—he and his wife were oddly incurious about where he had come from. But perhaps they were only being polite. Mary, though . . . She was very different, yet she, too, asked few questions. It must be the right way to behave here.

A spotted house cat came into the room and rubbed against the man's leg. When will we hear from the alarm you sent out? John asked.

That's hard to say, said the man's wife. Particularly if your companion—or, your wife, isn't it?—could be anywhere in the whole world.

Michael said she would be close by, Mary said.

But she might not, John said unhappily. Perhaps she fell into the sea!

Michael didn't think so.

Then perhaps she is lost and her mind is wandering.

Where would it wander to? Mary looked at him. (She has green eyes, too—no, they just seem green. Unworthy John.)

At all events, John said, I can't sit here and discuss it all day

Then we can look again, Mary said. I think now you want to go

back and look in the country about the village, but—

I don't care where we look, he interrupted, just so long as we go on looking, and start now! He got up, and the spotted cat moved out of sight behind a piece of furniture: it evidently was not accustomed to such a display. Where had he seen a spotted cat before? It was not a small leopard—just a cat. Egyptian tomb-paintings, he decided. Things were not quite like Earth after all.

Mary got up also and they went out onto the street, and now everything had as strange a look as does a man's face when after a fever he looks in a mirror. The air had a strange tang. The people moved more slowly.

He's a pretty cat—the one they have, Mary said, isn't he?

Yes.

All right. I know you don't want to talk about cats. You know, John, you were wrong in thinking I was not curious about you. I've been learning all the time. You seem very familiar to me now.

So do you to me, he said. But that man and his wife—they're very kind of course, but are we to go back and look in the fields and leave the rest of the world to them?

She nodded. I'm afraid you insulted him, John. But I know you didn't mean to.

I did? How?

You didn't trust him. And you insulted Michael, too. You were

ashamed of being naked. Don't you consider it an insult if people are ashamed on your Earth?

No: I'm afraid we are very primitive.

You aren't, at any rate.

A new thought came to him. I must go on looking, Mary, but there is no reason you should spend so much time. Go back to your home—I can manage by myself. It isn't fair to you.

You think I am reluctant, but you are wrong—I like to help you, John. She smiled happily at him.

Will you mind, he said, if I find her?

No, I shall not mind, John, when you find her. I think you don't believe she is near—I think you want to look in a desert, in spite of what Michael says.

Yes. I want to look in the deserts first—while there is time. If she is where there are people, as you say, she will be cared for. Or look first where it is cold, and all ice and snow.

There are no places like that anymore, she said, but there is the Old Desert.

Well, then.

It is across the sea. It's quite far, John, and we shall have to fly too fast to show you anything on the way. Take my hand and think as I do . . .

Mary was right—the town was gone in an instant, and the ships in the harbor streaked past under

them without detail. They rose high in the air, higher and higher until John's head swam and his ears were ringing. He looked down and the sea was so far below that the waves appeared as the sheen of stain. He looked back and the coast was already out of sight. He felt cold at first from the rush of air but then he grew warmer.

He could not think and time lost its meaning between the endless sea and sky. After a while on the horizon in front of them he saw a hazy purple line.

The coast, Mary said, but we are not going right—we must turn more to the south a little.

As they turned in the sky Mary put out her hand and held onto his arm. Then they were over the land and in a short while he could see stretching out before them to the horizon, which was very far because of their height, a desert, sandy, and endless like the ocean. But the nearer parts were crossed by irrigation canals, and dotted with green. As they drew lower he saw a few people.

Have they radios here? John asked. If not they may not have heard of our search.

They will have heard, Mary said. There's always one somewhere around. The real desert is further off, but I think you should rest for a moment.

They stood on the ground together, by the bank of a canal. On the other side were tall palm-like

trees and beyond them he could vaguely see some immense mounds that he had not noticed before from above: perhaps they had been too foreshortened. She looked at him seriously. You think I am holding you back, she said.

(Her eyes were green—he was sure they were . . . or almost.)

But I know, she went on, I *know* that you will find her.

They rested for a while and walked a little to stretch their legs, and the mounds came into view as they got beyond the clump of trees. There were three of these mounds—vast and triangular, and not of earth, but stone. Something stirred in John's memory.

Mary, he said, I want to look . . . to look on the other side of those . . . He pointed.

She turned. Oh, those? They are the ancient monuments, and there's nothing on the other side: only the lion. What is the matter?

But he didn't answer, and they flew across, and then around, and John saw in front of him, preserved by a glassy coat of silica, the Sphynx: and he knew where he was.

She put an arm around him to steady him. Sit down, sit down; now tell me.

We . . . I have come around full circle! I missed the planets, so there is no planet like Earth but the Earth itself, and I am back where I started! Where is Joan? A million million years have

passed! Where is she? He looked up at Mary and she knelt down in front of him.

She left with you, John?

If she didn't she's a million years in the past! A million million . . . Einstein said the faster you go the faster goes time . . . for the others! When I looked at the stars I recognized nothing—the very stars have moved.

I know she left with you, John.

He looked at her again, closely. (Green eyes . . .)

I don't know. I left all at once—in a flash, but perhaps she left gradually . . .

Or perhaps, Mary said, she didn't *all* leave—only the part that counts. (Green eyes—loving eyes.)

I think . . . John said.

Yes?

I think my search is over.

So is mine, John, and I have been searching all my life.

But I got here only yesterday.

Yes, she said sensibly, I began living only yesterday.

John Dougal's house had burned to the ground in the intense flash of their going, and all that remained of him and his Joan were their white bones. All, that is, that doth fade: all that remains in this nowadays and unkind present. But in the far future that awaited them they were together, for as some people will have it, True Love never fades.

Movie critic for The Saturday Review, author of many short stories (The New Yorker, McCall's, etc.), novelist (THE SUMMER LOVERS, Knopf, 1959, and the forthcoming SOME OTHER TIME)—Hollis Alpert here tells a wry tale about what he terms mutational possibilities in the next decade.

THE SIMIAN PROBLEM

by Hollis Alpert

Reprinted from the Proceedings of the Third Annual Convocation of the Society of American Geneticists, October 4, 1973. Place: The Benjamin Franklin Institute, Philadelphia, Pennsylvania. Speaker: Robert Crindall, B.S., M.S., Ph.D., Visiting Professor, Institute for Advanced Studies, Princeton University. Professor Crindall's remarks follow.

Gentlemen:

Science, in the words of Huxley, has fulfilled her function when she has ascertained and enunciated truth. Were I not aware that a larger audience than the esteemed members of this body closely follows our proceedings, I would confine my report to a summation of present-day fact and theory concerning the Simian Problem, including relevant statistical information, and leave broader implications to the journalists and commentators who are here today in such extraordi-

nary numbers. Under the circumstances, it has been thought wise by the officers of this society and, I should mention, by certain high officials of our government, that some one of us attempt a more generalized appraisal of the Problem than has been customary at these meetings. I hesitate to describe the contents of my remarks as a popularization. Let us say that I intend to be non-technical—which is not meant to imply that I mean to be unscientific.

As many of you are aware, my connection with the Problem has been a relatively long one, and I am therefore in a position to adopt a somewhat more historical point-of-view than those pursuing strictly specialized lines of research. My own beginnings, so far as the Problem is concerned, were accidental (accident, too, has its place in science) and I cannot honestly wear the mantle of omniscience that has so often been attributed to me by the press. Nor,

to say the least, can I take even the gloomiest satisfaction in the knowledge to which our researches have led.

As few as eight years ago, none of us in this society had the slightest inkling that our branch of learning would rise to its present high prominence. Dr. Crabwell's study, "Fallout: Early Phases," had appeared in our journal and attracted considerable international attention among scientists, but it was regarded mainly as a source work, one that indicated certain new directions of research on genes and radioactivity. None of us, myself included, was aware of the historic importance of the section devoted to "Evolutionary Possibilities, Strontium and Carbon 14 Variety." The oversight was undoubtedly due to the fact that the section was primarily speculative. One columnist, coming across the study, wrote that Dr. Crabwell had gone out on a limb. I daresay that the laughter generated by his pun would sound hollow today.

Nor, the following year, did anyone relate to that study my own inquiries into "Suicide Rates in the Eastern and Southern States, 1965 compared with 1955." A current misconception has it that Dr. Crabwell's study influenced the nature of my work at that time. Chronologically speaking, this is not true. I did refer to Dr. Crabwell's study in 1966, but

when I began my statistical examination of suicide rates the figures were planned for use as an appendix in my contemplated broad work on "Suicide, Geographic and Economic Factors." That work had, of necessity, to be halted while the intriguing possibilities opened up by the comparison of suicide rates were explored.

To those of you without personal experience in the early period of the branch of genetic research that has dealt with the Simian Problem, there can be little awareness of the puzzling nature of the data phenomena we encountered at the time the shadow of the problem first emerged. We were, putting it mildly, flabbergasted, when struck by the high incidence of double suicide in 1965 as compared with 1955. In New York State, for instance, the rate was approximately seven times that of the 1955 rate. This rate rose to *thirteen* times the norm in Arkansas (using 1955 for that figure) and eleven in Florida—a scattered pattern that was almost uninterpretable. A brilliant young assistant of mine, Casper Smith (now Professor Smith, and a member of the President's committee on Simian Control), made correlations according to race, religion, and economic status, but found little to clear up the mystery. He did show that the rates were higher for the very low and the very high income groups.

The data grew more fascinating the more we correlated various factors. We studied New York City, Boston, Little Rock, Arkansas, and Miami, Florida, and the first breakthrough came when we examined age groupings. The double suicide, until approximately 1965, was relatively rare. From 1965 onwards we had to contend not only with greatly increased frequency, but with the fact that the two self-killers were invariably husband and wife. This was a clue, of course, but what sort of clue? Imagine our further perplexity when we discovered that the ages of the suicides were rarely beyond forty-eight in the case of men, and forty in the case of women. Encountering data of this kind can be compared to discovering that a trusted compass at sea has suddenly become a wildly gyrating and quite useless indicator. Thus, in Nashville, Tennessee, in 1955, we found only two recorded cases of double suicide. In 1963 there were six such cases, and in 1965 a total of twenty three. Casper Smith was unable to obtain a fund for investigation of the phenomenon from either the Ford or Rockefeller Foundations, but was able to arrange for a small grant from the Kinsey Institute, on condition that he also investigate sex factors in double suicide.

Yet it was in my own backyard, so to speak, that the lightning struck. I hope I will be pardoned

for indulging in personal reminiscence, but it bears upon the historical picture I am attempting to give. My niece, whom I will call Mary Jones, visited me at my office at Columbia, where I was then associate professor. Mary had lost her child during delivery ten days before, but I was not prepared for her agitation when she appeared in my office, and insisted that the door be securely locked. A tall, blonde young woman of 22, healthy and normal in all respects until her experience in the maternity ward at Doctor's Hospital, she was now thin, haggard in feature, and had suddenly developed pronounced streaks of grey in her hair. Alarmed, I calmed her as best I could, and listened to what she had to tell me. In essence, it was as follows:

She had been informed by both doctor and nurse that her child had emerged still-born, but having arranged to have the child by the method then known as "natural" (and abandoned by law in 1971), she had not only been conscious during all stages of the birth, but had distinctly heard, immediately after the delivery, the normal sound of a baby crying. Her anxiety grew during the following week, and she could not rid herself of the memory of the baby's cry. She called upon her doctor again and again, insisted (pleaded) for all possible details, until at last the doctor told her

what had actually transpired. A male child, alive and well, had indeed been born. But it had been born with a pronounced cauda, a flexible appendage, simian in characteristic. Arms, legs, and chest of the newborn child were extraordinarily hirsute. An operation was immediately performed to remove the cauda, and the baby died.

I can still remember, gentlemen, the harsh, near whisper of my niece sounding in my office. "Uncle Bob, my child was not human. My child, Uncle Bob, was a *healthy* monster."

I gave her a sedative, cautioned her against telling her husband what she had told me, and visited her daily until her strength and fortitude, if not her good spirits, were restored. She immediately ceased all marital relations with her husband. I relate this anecdote to stress the fact that we, as scientists, must be prepared to encounter the emotional element as we investigate. I must confess that the scientist in me came to the fore. I telephoned Casper Smith, who was then in New Orleans, to look into any possible relationship that might show up between double suicide and the incidence of deformed and monstrous births. It was a wild shot, but if you will pardon the metaphor, it landed on Mars. Within two weeks, Casper Smith had verified a strong correlation, even

though he had to contend with stubborn silence on the part of many hospital authorities.

It was then that I re-examined Dr. Crabwell's Fallout studies, re-read the section on Evolutionary Possibilities, Strontium and Carbon 14 Varieties. I wrote Dr. Crabwell a letter, communicating to him some of my suspicions, and asked if we could meet. He dictated a letter to his secretary, informing me that all material relevant to his studies had recently been placed in the hands of Dr. Randolph Sills, of New York City. I subsequently learned that Dr. Crabwell had developed cancer, was aware that his was a terminal case, and wished his researches to be carried forward.

I will always remember the last words in his letter to me. "See Dr. Sills," he wrote. "That limb we are out on is very solid."

Dr. Crabwell, it must be admitted now, saw through the glass only darkly, and at the time of his death he was not aware that the Simian Problem existed to the extent that it has lately emerged. His theory, in brief, was that mutations and variations in the human species as a result of Strontium 90 in the soil and the atmosphere were not only possible but must be expected at an accelerated rate. He failed to specify what forms these variations would take, and it is unfortunate that one of his speculations—that the

human race of the year three thousand would undoubtedly bear little resemblance in physical appearance to the race as we now know it—was quoted so extensively and sensationally. Overlooked was another insight of his, to wit: if variations could be expected in the human species, variations could also be expected among lower mammalians. Thus one can say that the entire direction of present day Neo-Simian research was laid out in advance by Dr. Crabwell.

The details of my visit to Dr. Sills have never been recorded in our Proceedings, and this, perhaps, is the proper moment to repair the oversight. The name of Dr. Sills has seldom appeared in references to the Simian Problem; yet, though not strictly speaking a geneticist, he must be considered a pioneer in our research. It may interest you to have a brief description of him, as he was in 1966. (His death occurred in 1969.) When I saw him he was on the staff of consulting surgeons at New York General Hospital, a specialist in the field of spinal correction. He was a small man, with sparse grey hair, and bright, lively, blue eyes. He smoked a pipe and, when I visited him at his home in Greenwich, Connecticut, was sixty six years of age. The date of our consultation was September 14, 1966.

"I understand," I began, "that

Dr. Crabwell has sent you certain of his papers."

"Correct," he said. "I have been in correspondence with Crabwell for the past year and a half, and have furnished him information he has asked for."

"May I ask what form this information takes?"

"Only if we are speaking in complete confidence."

"We are," I replied.

"In that case, I'll not only be glad but relieved to tell you. Dr. Crabwell asked for any information I possessed on unusual deformities in the newborn, and in children under the age of nine. He had made this same request of other surgeons, particularly those concerned with orthopedics and the spine, but had had remarkably little response."

"Can you be more specific?" I asked.

"I take it you wonder if we have been encountering anything unusual in our hospitals?"

"Exactly," I said.

Dr. Sills hesitated, relit his pipe, and went to his desk, where he rummaged through some papers until he found the sheaf he wanted. "I've been keeping a young fellow at the hospital busy for the past months working with our electronic calculator," he said. "I provide him with sets of figures, unidentified, and ask him for probabilities: the year 1980, the year 2000, and so on. When I

look at this processed data in my hand I sometimes feel I might be losing my mind. Do you know, Crindall, that in the past week alone at New York General seventeen children were born with some type of caudal appendage? What do you do with a fact like that?"

"Before you go any further," I said, "let me tell you of my work, and that of my assistant, on double suicide rates." I also told him of the recent case of my niece.

"I haven't been aware of the double suicide angle," he said, thoughtfully. "We are very careful to protect the parents at New York General, tell them neither of the operation nor the results. Our policy is secrecy, but naturally we can't control individual doctors and nurses. We intend to keep the matter secret until we have more than limited success with our operations."

"Limited success?"

"We have a closely guarded room at New York General with six babies, ages one day to three weeks, who have survived operations. The parents have been told the children are critical and are in an incubator."

"Any other characteristics beside the cauda?" I asked.

"Hirsute bodies, elongated arms, shortened limbs, highly flexible spines, beetling brows in most cases. Damn it, Crindall, there are two and three year old chil-

dren tottering around today who will develop fantastic climbing ability, even without the use of their rudimentary tails."

"You mean you have examined children with appendages?"

"Unmistakable," Dr. Sills answered. "No need to tell *you* what this does to the parents."

"What do your calculations show?"

"Within ten years—it's an absolutely amazing figure, and I hope to God the damnable machine has gone haywire—roughly two out of five children will be born with tails of an anthropoid type. Even now we have a moral problem with those little hairy creatures in the hospital we've managed to keep alive. The cranial capacity, you see."

"What about it?"

"Somewhere between man and anthropoid, almost the missing link. I would say that these children will develop mentally about to the level of three years old."

"Do your figures show the rate for fifty years from now?"

Dr. Sills tapped his pipe on his desk for emphasis. "Every child born, according to that machine's calculations, will have a tail, fully developed and highly useful in the majority of cases. My assistant is working now on the figures relating to cranial capacity and mental development, and thank God he doesn't know what he's working on. You can make your

own guess. I've made mine. Naturally I plan to have all the figures closely rechecked at M.I.T. before I make contact with government authorities."

I left Dr. Sills after we had spent several hours in further speculation, and we maintained a liaison until his death. As it happened it was Casper Smith who on his own, and with neither my participation nor approval (I must frankly say this) contacted the General Surgeon of the United States, and who then allowed himself to be interviewed by a Washington political columnist, with what world-wide reverberations we now all know about. The brave work of Dr. Sills has largely gone unrecognized, as a result, and at this point I would like to ask for a moment of silence in his memory.

(Editor's note: *A minute of silence ensued at the meeting, after which Dr. Crindall resumed his remarks.*)

Thank you, gentlemen.

Time forbids the listing of the varied contributions made by many distinguished members of this society since we literally stumbled on the Simian Problem. Nevertheless, I feel I must briefly remind you of Dr. Harvey Goldblatt's work on psychological factors of adjustment for parents of Neo-Simian offspring, and how richly he deserves the awarding of last year's Nobel Prize for science.

Dr. Harrison's work, "Rearing the Neo-Simian," has been justly acclaimed by press, public, and medical authorities. Morton Gehman's "The Simian Problem in the Soviet Union" has lighted up that little-known area, and has led directly to the admission by Premier Gromyko that the problem exists in equal measure in his country. Richard Felker's lecture series at Harvard: "Can Reverse Evolution be Reversed?" has resulted in a grant by the General Motors Foundation for a large-scale crash program on the anti-Strontium frontier.

We must commend the government, led by the President's Commission, for its far-sighted construction programs, particularly for the Forest Play Areas recommended by the Secretary of the Interior. This year, for the first time, we can point to a plateau, instead of a rising incidence, on the curve of suicide rates, both single and double. While child homicide is, unfortunately, still on the increase, the work of the United Campaign for Simian Tolerance can be expected to bring results in the near future.

And what about that future? I know that this solemn question accounts for the large attendance at these meetings, and we must ask ourselves: is it our function to make assumptions until all the returns are in from those dark areas of uncompleted research?

Facts can be faced, but assumptions can be highly dangerous. This much I can say: it is definitely not the position of the Society of American Geneticists that the human race will descend a notch on the evolutionary ladder during our lifetimes or those of the next generation, despite the gloomy predictions of certain scientists. We believe that the descent of man can be checked. There is, first of all, much hope in anti-Strontium research. The ingenuity that created thermonuclear explosions can be applied in the opposite direction.

I, for one, believe in the possibility of anti-Strontium, regardless of whether or not a significant breakthrough has as yet occurred. Training of our anthropoidal children has developed to the point where it may be confidently assumed that they can handle the responsibilities of a six-year-old age level. Having gone this far, there is no reason why we cannot go farther. It hardly needs saying how urgently required are training centers for these children, and for the immense numbers yet to be born until sterilization procedures are stabilized. The bill pending in Congress for the construction and development of these training centers should be passed without further delay. On-

ly forthright action can prevent time running out on us.

There is another encouraging development. As you know, our Society has sponsored an expedition, the most completely staffed and equipped ever to be organized, to investigate possibilities in animal mutation. The areas south of the Sahara, in the jungle regions closest to the site of the French thermonuclear explosions of 1967 (the so-called "dirty year"), have been under close surveillance for the past two years. Colonies of apes, chimpanzees, gorillas, and gibbons have been formed and ceaselessly observed. I can make public a hitherto secret staff report: recent offspring in one of our gorilla colonies have shown the following characteristics:

Reduction of hirsute areas, less flexible spines, higher brows, a slight enlargement of cranial capacity and . . .

Gentlemen, gentlemen. . . .

(Editor's note: Dr. Crindall was forced to break off his remarks at this moment, due to an interruption and hubbub caused by reporters leaving their seats and rushing to the doors. Order was not restored, and the Convocation was therefore adjourned for the day.)

Theodore R. Cogswell in his many years as an s.f. practitioner has often demonstrated his special talents for humor and biting social comment. Here he combines those talents, and offers a surprising tale of sociological possibilities of the not distant future . . .

THE BURNING

by Theodore R. Cogswell

MOST OF THEM WERE UP IN CENTRAL Park getting the boxes ready but Hank and I stayed behind. We went over on 27th to bust some windows but we couldn't because all the windows was already busted. So we went into the **ACME ELITE BAR AND GRILL**, and scrummaged around to see if there was anything that had maybe been overlooked. Hank finally found a bottle back in the corner buried under a heap of ceiling plaster and busted stuff that wasn't worth lugging off for the fires, but it turned out to be one of them **NO DEPOSIT, NO RETURN** plastic things that didn't make no proper noise at all when he smanged it against the wall.

We fooled around a while more but then I took a look out into the street. When I saw how short the shadows had got, I started getting the jumps. The burning always starts at high noon and there wasn't much time left.

"We'd better be getting on up," I said. "Goofing off on the collecting is one thing, but if the Mother notices we're not there come light-up time, there's going to be hell to pay."

Hank just laughed. "She'll be too twitched up by now to notice anything. This is *her* day. Things are too big to take time out to count the number of drabs in the back row of the clapping section."

I still felt jumpy. Not that I wanted to go, mind you, in spite of what the Mother was always saying about it developing character. Mothers are always talking about Character and The Flag and The Sanctity of American Womanhood and stuff like that, but I notice it's always the little guys who end up getting burnt during Mother's Day ceremonies. And I'm a little guy.

Big Harry sinned with the Mother almost every night when he first got born into the Family

but somehow it never got put down in the Book. Otto got put down, though, just like I told Hank he would, and when the Patrol came around they didn't even check his name page, they just went up to his room and got him. But not before me and Hank did considerable sweating because by then we knew it was going to be one of us three. All that morning I don't think five minutes went by without my giving my good luck pin at least one good rub just on the odd chance that it might do some good.

"Look, Hank," I said. "We don't go and the Mother happens to notice it, we're in for it. But good."

"Yeah," he said, "but what if Otto craps out before light-up time? That bum ticker of his is liable to go plonk just from waiting . . . and the Mother likes live meat."

"Better one than two," I said, and grabbed him by the arm and pulled him to his feet. "Come on, let's ramble. The Patrol happens to catch us this far south, we've had it!"

Hank didn't take much pushing. He gets stubborn only when he thinks it's good and safe, and as soon as I said "Patrol" he right away decided that maybe he wasn't. He didn't have much and what he did have he didn't have much chance to use, but like the fellow says, "Something is better than nothing." And nothing's

what you got when the Patrol gets through with you.

We girder-walked as far as 58th. I slipped twice but we had a pretty good safety rope linking us and Hank was able to haul me back both times. Working along twisted beams five stories up is a scary business but at least you don't have to worry about out-walkers from other families taking pot shots at you. Ammo's too scarce to waste on drabs and anyway you fall that far and there ain't much left worth taking home.

Past 58th things are too messed up to get through top side so we had to take to the storm sewers. Hank and I had a long argument as to who was to go first and then we flipped and I lost. I started singing the truce song as loud as I could with Hank hitting the refrain on the base parts. Hank's got perfect pitch but you get a real rogue mother out on the prowl and she can be tone deaf as hell, especially if she's got big ideas about snatching enough strays to build up a family of her own. Time was when they only went after the big ones and if a drab was in good voice he could wander all the way up to the 90's on his own if he was so minded, but no more. Since the Council busted up, anything that's still breathing is fair game—except for Mother's Helpers, that is, and they never did count anyway.

We came out at 74th, both a

bit winded from the singing and having to run the last two blocks because there was a sort of commotion in the cross conduit at 72nd that we didn't stick around to find out what it was. We went into the Park slantwise, circling around through the trees so we could slide in from the back. With everybody all involved in watching Otto and all it wasn't likely that they'd notice we were coming in late.

Only they weren't watching Otto. They were watching the Mother. Otto was hanging from the stake in a limp way that let you know he was more than just out. His ticker had plonked just like Hank was afraid it would and Mother's Day just isn't Mother's Day without a live one. Even Big Harry looked worried and had slid around behind some of the other kids, only it didn't do him much good because even hunching he stood up a good six inches higher than the rest. There was going to be a replacement for Otto, and fast, and the Mother was just as likely as not to grab the first one she set eye on, even a prime like Big Harry.

Only she didn't.

She went over and spit in Otto's face for not loving her enough and then yelled at us to fall into family formation. There was a certain amount of shoving because everybody was trying to get into the back row but she broke

that up in a hurry. Hank and I managed to get in at the far end of the last line, hoping that somebody else might strike her fancy before she got to us. Only we knew better. I looked at Hank and Hank looked at me and even if we were pals and all that each of us was thinking the same thing. Only just hoping it would be him instead of me wasn't enough. I had to do something . . . and fast!

"There's more in the Book on you than there is on me," I says to Hank out of the side of my mouth. "If I was you I'd make a bolt."

"Mother wouldn't like it," he whispered back. "If I was to spoil her celebration she wouldn't love me anymore."

I could see his point. Now that everything has sort of gone to pot, a Mother's love is the only thing a boy can really count on, and the least we can do is try to make her happy on her day. But I could see my point too—namely that it was either Hank or me.

"Once across the park you'd be safe," I said. "The Patrol don't usually operate that far east and if you keep a sharp eye out for rogues you'll be OK." I could see he liked the idea but he was still worrying about the Mother. She was in the last row now and moving toward us steady like. Hank was really twitching and his face was kind of grey underneath the dirt.

"I can't," he said. "My legs won't work."

I sneaked a quick look at the Mother. She'd stopped and was looking down at us kind of thoughtful like. And I had a feeling she was looking more at me than she was at Hank.

"She's got her eye on you, boy," I said. "If you don't leg it now you're in for a slow burn. Them boxes is still wet from last night's rain."

We were supposed to be at attention but without knowing it I'd pulled my good-luck pin out of my pocket and was rubbing it with my thumb the way I got a habit of when I'm nervous. It's a little gold like pin made in the shape of a funny kind of leaf. There was some writing on it too but I didn't find out what the words was until later.

"It's your funeral, kid," I said.

Just then the Mother let out a yell.

"You! You down at the end!"

She was pointing at me but I swung around to Hank.

"Front and center, kid," I said. "Mama wants you."

He let out a funny little squawk and then went into a sort of bent over half squat like he'd just been kicked in the gut. I let out a yell and grabbed at him, giving him a spin with my right hand so that he ended up pointing toward the trees. Then I came up with my left and jabbed him in the backside with my good-luck pin.

He took off like a prime rogue

in mating season and was across the grass and into the trees before anybody rightly knew what was up. Then the Mother started yelling orders and a bunch of primes took off after him. I ran up to her and flopped down and started bawling, "Don't be mad at me, I tried to stop him!" over and over until she belted me a couple.

"He said you didn't have no right!" I said.

That shook her like I hoped it would and got her thinking about him instead of me.

"He *what*?" she said, as if her ears weren't working right. "He said *what*?"

I made my voice all trembly.

"He said you didn't have no right to burn kids when they hadn't done nothing really bad." I started crying again but the Mother didn't pay me no mind. She just walked away.

The Patrol brought Hank in about an hour later. They'd worked him over to the point where he wasn't up to doing much in the way of complaining.

Afterward we sat around the fire and had a family sing, finishing up as usual with "Silver Threads Among the Gold". The Mother got all teary-eyed and mellow so I took a chance and went up and asked her what the words on my good-luck pin was. She didn't belt me or nothing. She just gave me a sort of lazy grin and said, "*Be Prepared*".

The author of the stories about The People here turns her compassionate eye on a more primitive group of aliens . . .

THINGS

by Zenna Henderson

VIAT CAME BACK FROM THE camp of the Strangers, his crest shorn, the devi ripped from his jacket, his mouth slack and drooling and his eyes empty. He sat for a day in the sun of the coveti center, not even noticing when the eager children gathered and asked questions in their piping little voices. When the evening shadow touched him, Viat staggered to his feet and took two steps and was dead.

The mother came then, since the body was from her and could never be alien, and since the emptiness that was not Viat had flown from his eyes. She signed him dead by pinning on his torn jacket the kiom—the kiom she had fashioned the day he was born, since to be born is to begin to die. He had not yet given his heart, so the kiom was still hers to bestow. She left the pelu softly alight in the middle of the kiom because Viat had died beloved. He who dies beloved walks straight and strong on the path to the Hidden

Ones by the light of the pelu. Be the pelu removed, he must wander forever, groping in the darkness of the unlighted kiom.

So she pinned the kiom and wailed him dead.

There was a gathering together after Viat was given back to the earth. Backs were bent against the sun, and the coveti thought together for a morning. When the sun pointed itself into their eyes, they shaded them with their open palms and spoke together.

"The strangers have wrought an evil thing with us." Dobi patted the dust before him. "Because of them, Viat is not. He came not back from the camp. Only his body came, breathing until it knew he would not return to it."

"And yet, it may be that the Strangers are not evil. They came to us in peace. Even, they brought their craft down on barrenness instead of scorching our fields." Deci's eyes were eager on the sky. His blood was hot with the wonder of a craft dropping out of the

clouds, bearing strangers. "Perhaps there was no need for us to move the coveti."

"True, true," nodded Dobi. "They may not be of themselves evil, but it may be that the breath of them is death to us, or perhaps the falling of their shadows or the silent things that walk invisible from their friendly hands. It is best that we go not to the camp again. Neither should we permit them to find the coveti."

"Cry them not forbidden, yet!" cried Deci, his crest rippling, "We know them not. To taboo them now would not be fair. They may come bearing gifts—"

"For gifts given, something always is taken. We have no wish to exchange our young men for a look at the Strangers." Dobi furrowed the dust with his fingers and smoothed away the furrows as Viat had been smoothed away.

"And yet," Vetí's soft voice came clearly as her blue crest caught the breeze, "it may be that they will have knowledge for us that we have not. Never have we taken craft into the clouds and back."

"Yes, yes!" Deci's eyes embraced Vetí, who held his heart. "They must have much knowledge, many gifts for us."

"The gift of knowledge is welcome," said Tefu in his low rumble. "But gifts in the hands have fangs and bonds."

"The old words!" cried Deci.

"The old ways do not hold when new ways arrive!"

"True," nodded Dobi. "If the new is truly a way and not a whirlwind or a trail that goes no place. But to judge without facts is to judge in error. I will go to the strangers."

"And I." Tefu's voice stirred like soft thunder.

"And I? And I?" Deci's words tumbled on themselves and the dust stirred with his hurried rising.

"Young—" muttered Tefu.

"Young eyes to notice what old eyes might miss," said Dobi. "Our path is yours." His crest rippled as he nodded to Deci.

"Deci!" Vetí's voice was shaken by the unknown. "Come not again as Viat came. The heart you bear with you is not your own."

"I will come again," cried Deci, "To fill your hands with wonders and delights." He gave each of her cupped palms a kiss to hold against his return.

Time is not hours and days, or the slanting and shortening of shadows. Time is a held breath and a listening ear.

Time incredible passed before the ripple through the grass, the rustle through reeds, the sudden sound of footsteps where it seemed no footsteps could be. The rocks seemed to part to let them through.

Dobi led, limping, slow of foot, flattened of crest, his eyes hidden in the shadow of his bent head.

Then came Tefu, like one newly blind, groping, reaching, bumping, reeling until he huddled against the familiar rocks in the fading sunlight.

"Deci?" cried Vetí, parting the crowd with her cry. "Deci?"

"He came not with us," said Dobi. "He watched us go."

"Willingly?" Vetí's hands clenched over the memory of his mouth. "Willingly? Or was there force?"

"Willingly?" The eyes that Tefu turned to Vetí saw her not. They looked within at hidden things. "Force? He stayed. There were no bonds about him." He touched a wondering finger to one eye and then the other. "Open," he rumbled. "Where is the light?"

"Tell me," cried Vetí. "Oh, tell me!"

Dobi sat in the dust, his big hands marking it on either side of him.

"They truly have wonders. They would give us many strange things for our devi." His fingers tinkled the fringing of his jacket. "Fabrics beyond our dreams. Tools we could use. Weapons that could free the land of every flesh-hungry kutu."

"And Deci? And Deci?" Vetí voiced her fear again.

"Deci saw all and desired all. His devi were ripped off before the sun slid an arm's reach. He was like a child in a meadow of flowers, clutching, grabbing, crump-

ling and finding always the next flower fairer."

Wind came in the silence and poured itself around bare shoulders.

"Then he will return," said Vetí, loosening her clenched hand. "When the wonder is gone."

"As Viat returned?" Tefu's voice rumbled. "As I have returned?" He held his hand before his eyes and dropped his fingers one by one. "How many fingers before you? Six? Four? Two?"

"You saw the Strangers, before we withdrew the coveti. You saw the strange garments they wore, the shining roundness, the heavy glitter and thickness. Our air is not air for them. Without the garments, they would die."

"If they are so well wrapped against the world, how could they hurt?" cried Vetí. "They cannot hurt Deci. He will return."

"I returned," murmured Tefu. "I did but walk among them and the misting of their finished breath has done this to me. Only time and the Hidden Ones know if sight is through for me."

"One was concerned for me. One peered at me when first my steps began to waver. He hurried me away from the others and sat away from me and watched with me as the lights went out. He was concerned for me—or was studying me. But I am blind."

"And you?" asked Vetí of Dobi. "It harmed you not?"

"I took care," said Dobi. "I came not close after the first meeting. And yet—" he turned the length of his thigh. From hip to knee the split flesh glinted like the raking of a mighty claw. "I was among the trees when a kutu screamed on the hill above me. Fire lashed out from the strangers and it screamed no more. Startled, I moved the branches about me and—s-s-s-st!" His finger streaked beside his thigh.

"But Deci—"

Dobi scattered his dust hand-print with a swirl of his fingers. "Deci is like a scavenging mayu. He follows, hand out-stretched. 'Wait wait,' he cried when we turned to go. 'We can lead the world with these wonders.'

"Why should we lead the world? Now there is no first and no last. Why should we reach beyond our brothers to grasp things that dust will claim?"

"Wail him dead, Vetì," rumbled Tefu. "Dèath a thousand ways surrounds him now. And if his body comes again, his heart is no longer with us. Wail him dead."

"Yes," nodded Dobi. "Wail him dead and give thanks that our coveti is so securely hidden that the strangers can never come to sow among us the seeds of more Viats and Tefus.

"The strangers are taboo. The coveti path is closed."

So Vetì wailed him dead,

crouching in the dust of the coveti path, clutching in her hands the kiom Deci had given her with his heart.

Viat's mother sat with her an hour—until Vetì broke her wail and cried, "Your grief is not mine. You pinned Viat's kiom. You folded his hands to rest. You gave him back to the earth. Wail not with me. I wail for an emptiness—for an un-knowledge. For a wondering and a fearing. You know Viat is on the trail to the Hidden Ones. But I know not of Deci. Is he alive? Is he dying in the wilderness with no pelu to light him into the darkness? Is he crawling now, blind and maimed up the coveti trail? I wail a death with no hope. A hopelessness with no death. I wail alone."

And so she wailed past the point of tears, into the aching dryness of grief. The coveti went about its doing, knowing she would live again when grief was spent.

Then came the day when all faces swung to the head of the coveti trail. All ears flared to the sound of Vetì's scream and all eyes rounded to see Deci stagger into the coveti.

Vetì flew to him, her arms out-stretched, her heart believing before her mind could confirm. But Deci winced away from her touch and his face half snarled as his hand, shorn of three fingers and barely beginning to regenerate, motioned her away.

"Deci!" cried Vetì, "Deci?"

"Let—let—me breathe." Deci leaned against the rocks. Deci who could outrun a kutu, whose feet had lightness and swiftness beyond all others in the coveti. "The trail takes the breath."

"Deci!" Vetì's hands still reached, one all unknowingly proffering the kiom. Seeing it, she laughed and cast it aside. The death mark with Deci alive before her? "Oh, Deci!" And then she fell silent as she saw his maimed hand, his ragged crest, his ravaged jacket, his seared legs—his eyes—His eyes! They were not the eyes of the Deci who had gone with eagerness to see the strangers. He had brought the strangers back in his eyes.

His breath at last came smoothly and he leaned to Vetì, reaching as he did so, into the bundle by his side.

"I promised," he said, seeing Vetì only. "I have come again to fill your hands with wonder and delight."

But Vetì's hands were hidden behind her. Gifts from strangers are suspect.

"Here," said Deci, laying an ugly angled thing down in the dust before Vetì. "Here is death to all kutus, be they six legged or two. Let the Durlo coveti say again the Klori stream is theirs for fishing," he muttered. "Nothing is theirs now save by our sufferance. I give you power, Vetì."

Vetì moved back a pace.

"And here," he laid a flask of glass beside the weapon. "This is for dreams and laughter. This is what Viat drank of—but too much. They call it water. It is a drink the Hidden Ones could envy. One mouthful and all memory of pain and grief, loss and unreachable dreams is gone.

"I give you forgetfulness, Vetì."

Vetì's head moved denyingly from side to side.

"And here." He pulled forth, carelessly, arms-lengths of shining fabric that rippled and clung and caught the sun. His eyes were almost Deci's eyes again.

Vetì's heart was moved, woman-wise, to the fabric and her hands reached for it, since no woman can truly see a fabric unless her fingers taste its body, flow, and texture.

"For you, for beauty. And this, that you might behold yourself untwisted by moving waters." He laid beside the weapon and the water a square of reflecting brightness. "For you to see yourself as Lady over the world as I see myself Lord."

Vetì's hands dropped again, the fabric almost untasted. Deci's eyes again were the eyes of a stranger.

"Deci, I waited not for *things*, these long days." Vetì's hands cleansed themselves together from the cling of the fabric. Her eyes failed before Deci and sought the

ground, jerking away from the strange things in the dust. "Come, let us attend to your hurts."

"But no! But see!" cried Deci. "With these strange things our coveti can rule all the valley and beyond and beyond!"

"Why?"

"Why?" echoed Deci. "To take all we want. To labor no more save to ask and receive. To have power—"

"Why?" Vetí's eyes still questioned. "We have enough. We are not hungry. We are clothed against the changing seasons. We work when work is needed. We play when work is done. Why do we need more?"

"Deci finds quiet ways binding," said Dobi. "Rather would he have shouting and far, swift going. And sweat and effort and delicious fear pushing him into action. Soon come the kutu hunting days, Deci. Save your thirst for excitement until then."

"Sweat and effort and fear!" snarled Deci. "Why should I endure that when with this—" He snatched up the weapon and with one wave of his hand sheared off the top of Tefu's house. He spoke into the dying thunder of the discharge. "No kutu alive could unsheath its fangs after that, except as death draws back the sheath to mock its finished strength."

"And if so against a kutu," he muttered. "How much more so against the Durlo coveti?"

"Come, Deci," cried Vetí. "Let us bind your wounds. As time will heal them, so time will heal your mind of these strangers."

"I want no healing," shouted Deci, anger twisting his haggard face. "Nor will you after the strangers have been here and proffered you their wonders in exchanged for this foolish fringing devi." Contempt tossed his head. "For the devi in our coveti, we could buy their sky craft, I doubt not."

"They will not come," said Dobi. "The way is hidden. No stranger can ever find our coveti. We have but to wait until—"

"Until tomorrow!" Deci's crest tossed rebelliously, his voice louder than need be. Or perhaps it seemed so from the echoes it raised in every heart. "I told—"

"You told?" Stupidly, the echo took words.

"You told?" Disbelief sharpened the cry.

"You told!" Anger spurted into the words.

"I told!" cried Deci. "How else reap the benefits that the strangers—"

"Benefits!" spat Dobi. "Death!" His foot spurned the weapon in the dust. "Madness!" The flask gurgled as it moved. "Vanity!" Dust clouded across the mirror and streaked the shining fabric. "For such you have betrayed us to death."

"But no!" cried Deci. "I lived.

Death does not always come with the Strangers." Sudden anger roughened his voice. "It's the old ways! You want no change! But all things change. It is the way of living things. Progress—"

"All change is not progress," rumbled Tefu, his hands hiding his blindness.

"Like it or not," shouted Deci. "Tomorrow the strangers come! You have your choice, all of you!" His arm circled the crowd. "Keep to your homes like Pegu or come forward with your devi and find with me a power, a richness—"

"Or move the coveti again," said Dobi. "Away from betrayal and foolish greed. We have a third choice."

Deci caught his breath.

"Veti?" his whisper pled. "Veti? We do not need the rest of the coveti. You and I together. We can wait for the strangers. Together we can have the world. With this weapon not one person in this coveti or any other can withstand us. We can be the new people. We can have our own coveti, and take what we want—anything, anywhere. Come to me, Veti."

"Veti looked long into his eyes. "Why did you come back?" she whispered with tears in her voice. Then anger leaped into her eyes. "Why did you come back!" There was the force of a scream in her harsh words. She darted suddenly to the rocks. She snatched the kiom from the dust where it had

fallen. Before Deci knew what was happening, she whirled on him and pinned death upon his ragged jacket. Then with a swift, decisive twist, she tore away the pelu and dropped it to the dust.

Deci's eyes widened in terror, his hand clutched at the kiom but dared not touch it.

"No! he screamed, "No!"

Then Veti's eyes widened and her hands reached also for the kiom, but no power she possessed could undo what she had done and her scream rose with Deci's.

Then knowing himself surely dead and dead unbeloved, already entering the eternity of darkness of the unlighted kiom, Deci crumpled to the ground. Under his cheek was the hardness of the weapon, under his outflung hand, the beauty of the fabric, and the sunlight, bending through the water, giggled crazily on his chin.

One dead unbeloved is not as much as a crushed flower by the path. For the flower at least there is regret for its ended beauty.

So knowing Deci dead, the coveti turned from him. There was for memory of him only an uncertainty to Veti's feet and a wondering shock in Veti's eyes as she turned with the others to prepare to move the coveti.

The wind came and poured over the dust and the things and Deci.

And Deci lay waiting for his own breath to stop.

A. H. Z. Carr has been an economic adviser to President Roosevelt, and a speech-writer for Adlai Stevenson; he has published a number of non-fiction books, and his stories have appeared in such diverse markets as the Saturday Evening Post and Ellery Queen's Mystery Magazine. Having drinks at the Carr's is a warming experience; you never know whom you may meet, but the conversation is sure to be fine, and you are likely to hear a good story or two . . . such as:

IT IS NOT MY FAULT

by A. H. Z. Carr

AT A CERTAIN POINT IN ILLIMITABLE space-time, awakening from one of the deep slumbers which in his old age had become more frequent, God looked about him. And because He is all-seeing, He saw all. He saw the universe; He saw the super-galaxies, and galaxies, and solar systems; and He saw at the same instant each little molecule and atom and increment of substance everywhere.

Among the infinity of sights that He saw was this: On a small inhabited planet that He remembered having noticed twice or thrice before during eternity, in a certain noisy place of many people, was a patch of fenced-in greensward where a man was lying on his face; and even as He looked, in that instant the man died in great misery.

It angered God that there should

be misery anywhere in the fine universe which He had created for His own unimaginable purposes; for although He had doubtless been subconsciously aware of misery, as He was of everything, He had never taken official cognizance of it. Now He beckoned to Sandolphon, in charge of the Celestial Department of Prayer, and whom He considered the most intelligent angel left in Heaven since the revolt of the intellectuals in Lucifer's time. Showing Sandolphon what He had seen, God said, "Go thou to where this man lies dead, and search out among his fellow men the cause of his misery. For assuredly some one of them is to blame. And he who has thus caused misery in My universe, him shall I punish, yea, punish fearfully." And at these words, all the listening angels trembled.

Sandolphon, who had a methodical turn, made a note on his tablets, and transferred himself at once to the place God had indicated. All around the dead man thousands of his kind moved to and fro, but no one paid attention to the motionless figure on the grass, beyond a contemptuous smile. Standing invisibly over him, Sandolphon debated with himself how best to proceed with his investigation. He looked thoughtfully at the passing people, and studied with some curiosity the manifold prohibitions of the small grass plot: "Keep off the Grass"; "Dogs Not Allowed"; "Do not Walk Here"; but he found no clue anywhere. Finally a large man in blue clothes, carrying a thick club and walking with great dignity, entered the park and lightly struck with his club the worn-through soles of the corpse's shoes, saying, "Here, you, I thought I told you to beat it."

Sandolphon deemed it wise to appear to this person of obvious power in the guise of a prosperous citizen, and this he did saying sternly, "Desist! The man is dead."

Startled by Sandolphon's sudden appearance, and impressed by his unusual manner, the man with the club said, "You don't mean it!" and bent over the lifeless body. "It's a fact," he added a moment later. "Poor devil."

"He died in great misery," said Sandolphon, frowning at the ap-

plication of the term devil to one of God's creatures, but not wishing to make an issue of it. And hoping to terminate his undertaking quickly, Sandolphon said further, "Who caused him this misery."

"How the hell should I know?" said the man, staring.

"Was it you?" demanded Sandolphon.

The man began to reply angrily, but looking at Sandolphon's eyes, was awed by what he saw there, and modified his words thus: "Now I ask you, brother, is that reasonable? I seen the bird, yeah, but I only says to him, he can't hang around here. And he says he's been kicked out of his dump, and relief ain't come through yet. Why didn't he go down to the Municipal Lodging House, like I told him? Why did he pick my beat to pass out on?"

These queries Sandolphon was not in a position to answer. Furthermore, his knowledge of human speech was based largely on the language of prayer, and he perceived only dimly the intent of the man's words. Meanwhile, as Sandolphon hesitated, the man examined the contents of the corpse's pockets. Now he studied some greasy papers, and said, "His name was Smith, and this here must be his last address."

After a time, Sandolphon said doubtfully, "Did a man, then, deny him shelter?"

"Sure," said the man. "Waddy expect, when the guy couldn't pay his rent?"

Sandolphon, who had listened to the prayers of many landlords, knew that rent was what some men paid to others, although the custom had always struck him as somewhat puzzling. However, the man's words provided him, he felt, with his first hint of the wrongdoer whom he sought. Musing aloud, he said, "Here, then, lies the cause of Smith's misery."

"I don't getcha, brother," said the man. "Anyway, I ain't got time now. I gotta get this stuff certified, and 'phone the morgue." He blew loudly upon his whistle.

At once the passers-by clustered about the railings of the little park, eagerly according to the dead Smith the interest they had denied him while they thought him alive; and Sandolphon went away.

In a little while, as humanity measures time, he came to a dingy house of many odors, where the man Smith had lived. Here he found one who wore an air of importance; and to this one he said, "I seek the man who caused the misery of Smith, who was refused shelter in this house. Are you he?"

The man turned pale and said, "Listen, buddy, I don't know what society you're from, but we don't want no trouble."

"Prepare for the punishment," began Sandolphon inexorably, "which awaits him who—"

"Gimme a break," the man said hastily. "If there's trouble, the owner'll take it out on me. You can't blame me if anything happens to these birds. I gotta job to do. The owner says to me, 'If they don't pay, out!' This guy Smith, I remember him, the poor bum, he was sick. I let him stay on as long as I could. But he owed three months. I couldn't take no more chances on him. Every time the owner saw his name on the list, she slapped my ears down. So what could I do but evict?"

Sandolphon saw in the man's eyes that he spoke the truth. He said, therefore, "The one, then, whom you call The Owner; this man clearly is the cause of Smith's misery."

"Sure," said the man, anxiously. "Only it's a dame, not a guy. A widow. Her husband left her these dumps, and she lives on the rents, over on Park Avenue. But leave me out of it. I gotta family."

The man, Sandolphon recognized, was but the instrument, the woman the cause. He sought out the widow, where she lay late in her magnificent bed amid the myriad luxuries of her home; and he determined to appear to her in all the majesty of his own presence, in order to strike terror to her heart and wring a swift confession from her lips. Accordingly, he did so, and was gratified to see that she was taken aback, sitting up wide-eyed in her bed.

"Woman," said Sandolphon, "a man, one Smith, has died in great misery, primarily as a consequence of having been denied shelter in your house. This is your fault, since it was by your orders that those failing to pay rent were evicted." Sandolphon had already begun to learn some of the technical terms surrounding the complex business of human living and death.

"It's so comforting," said the woman softly, touching her fingers to her blonde hair and adjusting the shoulder-straps of her night-dress, "to know that you angels really look like the pictures. It's a really practical reason for making an effort to go to Heaven."

"Woman!" cried Sandolphon, shocked and embarrassed, and hastily dropping his outspread wings before him, "I charge you, in the name of your Creator, to confess your fault and beg His forgiveness."

"How absurd!" the woman answered, frowning, but slightly intimidated. "I had nothing to do with it. I never knew this man you speak of. It wasn't my fault that he died."

"Was it not by your orders," pressed Sandolphon, "that—"

"Very likely," the woman said with a revealing shrug, and a side-long look at Sandolphon. "I can't allow people to stay on when they've stopped paying rent. If I did, I'd be penniless in a year. You

wouldn't want me to starve, would you?"

"Better to starve," Sandolphon said sternly, "then to have caused the misery of Smith."

"Nonsense," the woman said, "What good would my starving have done? If I didn't own the property, someone else would, and this man would have been evicted just the same. It was up to this Smith to pay his rent." She looked at Sandolphon in triumph. "So you might as well stop trying to put the blame on me."

A certain crude logic in the woman's view of the matter impressed Sandolphon. He said abstractedly, "And why did the man Smith cease to pay the rent you required?"

"How should I know?" the woman said fretfully. "I suppose he lost his job or something. But must we talk about—"

"What is job?" asked Sandolphon.

She made a gesture of impatience. "Why, work, of course. People work, you see. They have jobs. They get wages. That's how they pay their rent. And then they lose their jobs. They're always losing their jobs."

"Why?" Sandolphon persisted.

"Really!" the woman exclaimed. "Are all you angels so naive? Because their employer doesn't want them any more, of course."

"You mean," Sandolphon said, with interest, "that another man

denied Smith the work by which he earned the money to pay his rent?"

The woman answered, "What a silly way of putting it. I'm always having to get rid of my help. You have no idea how stupid people are. And now with all this relief, they're so terribly independent."

"This," murmured Sandolphon, intent upon his own thoughts, "this strikes near to the heart of the matter."

"Well!" said the woman. "And now, perhaps you'll be a little more polite." She smiled at him.

"I must seek further," Sandolphon said, still unheeding. "Be warned, woman, for narrowly have you escaped the dreadful punishment of God."

"Don't go," the woman cried, but he vanished, while she pouted after him.

It was some little while before Sandolphon, asking many questions of many men, learned that the man Smith had been employed in a factory. Purposefully the angel betook himself to the factory, adopting after consideration the outward character of one who inquires with authority. He noticed that very few men were about, and these seemed idle; and upon asking for the proprietor he was directed to a room where two men sat across a table with many papers between them. Of these two men, one was nervous and sad, while the other was cheerful and

confident. The nervous man was the owner of the factory, and when he saw Sandolphon he became still more nervous.

Sandolphon said, "I am investigating the misery and death of one Smith, a former employee of yours. You, I believe, are responsible, for you deprived Smith of the work and money that men need to live."

"Now this is too damn much!" cried the nervous man, striking the table with his clenched fist. "I'm damned if any God-damned Government snoop is going to say I'm responsible because somebody who once worked for me kicks off."

"Why then," said Sandolphon, biting his lip to avoid reproving the man for his profanity, "why did you deprive Smith—"

"Deprive him?" retorted the man. "Why did I discharge nine-tenths of my men? Why am I selling my plant for seven cents on the dollar, book value, to Mr. Tooker here? Because I have to, that's why. Because I'm broke! Because this damned junior-size panties business has ruined me!"

Observing the man's sincere distress, Sandolphon pitied him. "And whose fault is that?" he asked.

The nervous man laughed bitterly. "You better ask Tooker," he said.

"Oh, come now, Bilby," said the cheerful man. "You can't say it's my fault. Don't mix me up in any government investigations. The

fact is," he went on, turning to Sandolphon, "after I found my new patented process for making reinforced seats my friend Bilby found he couldn't meet my prices. Well, naturally he's had a hard time of it. It's too bad, of course," he said smiling broadly, "but that's the luck of the game."

"But was it really necessary," said Sandolphon, puzzled, "to use this new process and ruin your friend, thus causing the misery of Smith?"

The man Tooker stared. "Are you kidding me?" he said. "Oh, I get it. You're one of these social workers. Well, all right, look at it in a big idealistic way. Here I find how to make panties practically hole proof. It's a boon to humanity, isn't it? It's a break for the kiddies. I got to give people the benefit of it, don't I?"

Sandolphon said earnestly, "But could you not have shared this process with your friend?"

The man Tooker burst into a roar of laughter, in which the man Bilby joined. "I can't imagine," Tooker said finally, wiping tears from his eyes, "why they put you kindergarten parlor pinks in government jobs. Don't you know anything at all? I got stockholders and a Board of Directors to account to in my company. How long do you think I'd last if I started giving away secret processes, hey? Why, they'd put me in the bug-house. And they'd be right."

"But then," said Sandolphon, bewildered and sad, "if truly the fault for the man Smith's misery lies with neither of you, who then is to blame? I must know."

The man Bilby now said, "Why do they spend the taxpayers' money finding out why some poor sap croaks? Why didn't they put him on relief?"

"Relief?" asked Sandolphon, remembering that the man with the club and the woman too had used this mysterious word.

"On the government payroll with all the rest of you parasites," said the man impatiently. "Don't come bothering me for Heaven's sake. Go to relief headquarters and bother them. It's their fault." The two men once more turned to their papers, and Sandolphon, sighing, left them.

As night fell, he found the place to which they had directed him. A single man was working at a desk, his face harassed and haggard in the yellow light of an electric lamp; and to this man he came swiftly, saying, "Why did you not give money to the man Smith, who died in misery for want of it?"

The man behind the desk jumped up, saying, "I beg your pardon, sir, I didn't recognize you. They're always changing department heads, you see, and it's so hard to remember—I beg pardon. . . . Smith, did you say? Just a moment while I consult the general card index. We have over a

hundred Smiths on application. First name, please?"

Sandolphon shook his head, "I know not."

"Oh, that makes it quite difficult," said the man behind the desk, wrinkling his forehead. "Perhaps it was Lucius T. Smith. His is a very old application. I happen to remember the name, because he was in here just the other day, making a most unpleasant scene. As if we could help it, sir, when the funds have practically given out and we're under instructions to give priority to married men. Smith was unmarried, you see. His application had to wait its turn, of course, sir. It wasn't our fault."

"Then whose was the fault?" asked Sandolphon wearily.

The man looked frightened. "Must I answer the question, sir?"

"Yes," said Sandolphon.

"Well, sir, you understand I'm not criticizing anybody, but if they'd only give us enough funds, we would take care—"

"They?" Sandolphon interrupted.

The man looked yet more frightened. "The—the administration," he whispered. "But you'll keep this in confidence, won't you sir? You asked me, you know."

Sandolphon touched the man's forehead with his finger, so that the trembling, ugly fear was assuaged; for to an angel every fear but the fear of God is evil, and all

evil springs from fear. Then he vanished, while the man gasped.

Sandolphon now communicated with the proper Celestial Department, where the learned angel in charge consulted for him a large book of reference, and told him that the term "administration," when applied to human government, signified a vast and elaborate congeries of executive offices. This dismayed Sandolphon, but he was comforted by hearing that the head of the administration was one man. And he discovered further where he could find this man, together with other essential facts which the recording angels in their ceaseless labors had recorded.

Now Sandolphon considered that this man who was the head of the administration could rightly be punished for Smith's misery, since to him had been entrusted power and monies to save Smith. Therefore Sandolphon visited this man, whom he determined to accuse invisibly and craftily, as a twinge of conscience, so that the man could not escape by words.

The man was in his study, writing with his own hand, Sandolphon saw, a Statement for the Press; and this statement said, "The condition of the country has steadily improved under the present Administration. I can say with confidence that our standard of living is higher than it was two years ago, higher than that of any other nation . . ."

Sandolphon, through the man's conscience, now said, "Smith is dead. He died in great misery, because the funds for his relief were insufficient, and his application was unheeded. That is your fault. You had power and money to help Smith."

The man threw down his pen disgustedly, and spoke aloud. "Why," he said, "am I cursed with this schoolboy sentimentality? What difference can one life more or less make in a great plan?"

"What plan?" asked Sandolphon, as conscience.

"Why," the man said, now to himself, "you know. My plan for helping Smith and the others. It consists of twelve main sections, each costing an average of a billion dollars." Here he reviewed this plan to himself, while the clock in the corner ticked wakefully for a long while.

Sandolphon, as conscience, said finally, with a yawn, "I cannot understand all that. Nor do I believe that you understand it. Come, confess. You could have helped Smith. Yet he died in misery. That is your fault."

All at once the man buried his head in his hands. "No," he groaned, silently, "no. It is not my fault. Why can't they let me alone? They blame me for everything. They expect me to do everything—to be an economist, and a National Leader, and Heaven knows what else. The thing's

too big. It's got out of hand. I try, but I can only do a little here, and a little there, while everything goes along somehow, of its own momentum. It's all so terribly complicated. If I help Smith, then the interest rate on the next short term refinancing goes up—or something. And then there's that shift in public sentiment to the right. I don't dare to spend any more money to help Smith until the next election is out of the way. You can understand that."

"Smith is dead," repeated Sandolphon, as conscience.

"Oh, hang Smith," the man cried inwardly. "If these radical intellectuals who stick up for Smith would tackle this job they'd soon stop their criticizing. It's their fault, really. If they're so good-hearted and so wise, why don't they cooperate with me, why don't they help me? Why doesn't a man like Partinger, for example, that everybody says is so profound—why doesn't he do something besides criticize? I'm open-minded. Nobody can accuse me of not being open-minded. I'll listen to constructive practical suggestions. It's the fault of men like Partinger, really, that nobody is ever able to save Smith from misery."

He picked up his pen, and hastily scrawled on his statement, "If the carping critics of the administration would once take the pains to familiarize themselves with its intimate problems . . ."

Sandolphon went away, deeply troubled, and after long searching came to a cottage set among trees, where the man called Partinger lay awake in bed, thinking more thoughts while the cold, pale light of the moon streamed in through the windows. All around the room were rows of books, which were called, "Social Aspects of Collectivist Theory," by Partinger; "Notes on the Philosophy of the Planned Economy," by Partinger; "Money, Credit and Human Happiness," by Partinger; and by similar titles which deeply impressed Sandolphon.

Wishing to be respected by the man Partinger, Sandolphon entered his brain, and addressed him as his own thought.

Sandolphon, as thought, said, "Smith died in misery. And the fault lies not with the man who spoke sternly to him, or with the woman who denied him shelter, or with the men who refused him work and money."

"True," the man Partinger reflected in reply. "For these too, like Smith, are but slaves of the System."

"Neither," Sandolphon, as thought, went on, "does the fault lie with the man of government, for he is confused and wearied by his task, which he cannot comprehend."

"True," the man Partinger reflected complacently. "He has the limitations of the opportunistic

politician. He is not a philosopher and social student, like me."

Sandolphon was heartened by this agreement, which seemed to presage an end to his investigation. "Then," he accused, still as thought, "you are to blame for Smith's misery. For had you, with your great intellect, chosen to show the man of government how to help Smith, given him a better plan for helping Smith, then Smith would have been spared his misery."

The man Partinger laughed. "Foolish thought," he remarked to himself. "Naive thought. As if a mere plan, even my plan, would help anybody. Even if the politicians would have considered my plan, even if they had adopted it, which is an absurd hypothesis, Smith could not have been saved. For the essence of any sound plan to help Smith, is that Smith must first help himself. He must first stand up on his hind legs and refuse to be starved, denied shelter, or abused. He must fight for his rights. He and his fellows must first band together courageously."

"But this is rank revolution you are preaching," said Sandolphon, horrified, because he recognized echoes of the distant universe-shaking words he had once heard from flaming Lucifer, before that proud Angel had been hurled from Heaven.

"I hardly know what's the matter with me tonight," the man

Partinger considered. "All these banal thoughts. This comes of that second helping of fish. As if any stigma were attached nowadays to the term revolution. As if collective action in self-defense can be construed by any modern thinker . . ."

"But Smith!" Sandolphon reminded, as a final distressed thought.

"Smith! If Smith was miserable, it's his own fault," the man Partinger scoffed. "Smith and all his kind are fools and cowards. Why didn't he join my League for Collective Action . . .?"

Sandolphon waited to hear no more. He winged his way from earth to the great spaces where the newly-released souls are kept, pending their classification and routing to their eventual destination; and he discovered the naked, whimpering soul of Smith trying to hide in a corner.

"Soul of Smith!" Sandolphon cried. "Oh, Soul of Smith, miserable Smith, you yourself then are at fault for your misery. If you had been brave, if you had fought, if you had refused to be oppressed, then so says the best modern thought, you would have lived happily among your fellows. (And I," Sandolphon added to himself with a sigh, "would have been spared this horrible wild seeking to and fro for someone to be punished.")

The Soul of Smith stood sud-

denly erect before the angel. It trembled, but with indignation. "Now I like that!" the Soul of Smith said. "This is the last straw! Me to blame for my misery! I could put up with misery, but if you're going to try to tell me it's my own fault, I simply won't stand for it, that's all. If God wanted me to be brave, why didn't he make me brave, then, instead of a coward? My fault, indeed! I'll tell you whose fault it is! It's God's fault!"

Sandolphon started back, shuddering at this blasphemy; and throughout infinite space-time the words of Smith were whispered from mouth to horrified mouth by the souls of the listening dead and their guardian angels; and all of them shuddered likewise. But the desperate Soul of Smith stood defiantly against them all, and sobbed, "It's God's fault!"

Loyal angel that he was, Sandolphon yet could not help seeing, after he recovered from his first shock, the point of view of the Soul of Smith. He tried to shut his mind to it, but he could not. There was simply no denying the reason of it. The responsibility did go back to God. For after all, he had created Smith as he was. In fact, if Sandolphon was not mistaken, God had created Smith in his own image. And the implications of this frightful thought staggered Sandolphon.

Slowly he flew to an empty star

in the galaxy Andromeda, and sat there for a long while, pondering. And the more he pondered, the more certain he felt that Smith had ended his search for him.

It was with a singular lack of enthusiasm that he finally started back to Heaven. He had no desire, none whatever, to tell God whose was really the fault for Smith's misery. He had grave doubts how his conclusions, however tactfully put, would be received. The Divine wrath, it was notorious, kindled easily, and tended to extremes.

Still, Sandolphon saw, sighing, there was no way out. His duty

was clear. The thing had to be done.

He reached Heaven, taking none of his usual pleasure in its pure radiance and the soft harmony of its ever-fresh joys. Un-easily, feeling himself as wicked, almost, as that eternally accursed, fascinating Lucifer, he ascended the eleven thousand steps which led to the Throne, ignoring the greetings of the angels around him. But when he reached the Throne, and looked up, when his eyes had once more become accustomed to the Divine effulgence, he was enormously relieved. God had fallen asleep again.

Through Time And Space With Ferdinand Feghoot: XXIX

Ferdinand Feghoot was the only man to hold a high rank in the Navy during the Missourian Momarchy (2504-2622 A.D.) He actually attained supreme command, flying the flag of High Admiral of the Blue, and so ranking all the female High Admirals. Except in one case, his tact and personal charm at once dissolved all jealousy and ill-feeling.

This exception was his immediate subordinate, an old sea-dog named Hattie McBoom. Her resentment came to a climax when Feghoot was issued a smart admiral's barge six feet longer than hers and with space for four additional oarswomen. At its first appearance, she ordered her main batteries to fire on it, and sank it with a number of casualties.

She was arrested at once, a Naval Court was convened, and its unanimous verdict was announced within twenty minutes—she was to be keelhaunched, then hanged from the yardarm. Her life was saved by High Admiral Feghoot, who, despite his own narrow escape, eloquently pleaded for leniency, stating that the case was clearly a psychiatric one.

"What do you mean, Sir?" cried the President of the Court.

"It's obvious, Madame," answered Ferdinand Feghoot. "We have here a simple case of old-fashioned pinnacle envy."

—GRENDAL BRIARTON

Things were quite different in law school than in the university. Learning from an instructor rather than tridimens and tapings was unsettling enough—but what the instructor had to say was downright shocking. . . .

ALL IN GOOD TIME

by Miriam Allen deFord

GOOD MORNING, LADIES AND gentlemen, and welcome to your first session in my course.

Before we get down to cases . . . That was a pun, class, and you're supposed to laugh at my jokes—haven't you been told yet that old Dr. Hunnicott is the campus character, the faculty's prize eccentric?

Before we get down to cases, then, let's get some things straight. You are first-year students in this law school, which is a graduate school of the university. You will find things a bit different from your experience in undergraduate work, wherever in any of the Three Planets your colleges were located.

Hitherto you have been instructed by tridimens and tapings, and your reports and papers have been graded by cybercom. They will still be so graded, but now for the first time you will be face to face with your instructors. You're going to be asked questions and will have to give immediate answers; I know

that's going to be hard for some of you to take, unaccustomed as we all are nowadays to direct communication. But it isn't just an archaic holdover; when a few of you—just a few, I must remind you sadly—have completed your courses and taken your bar examinations and been admitted to practice in the Interplanetary Courts, you'll find that law in some respects lags behind the other learned professions.

For example, I see some of you having difficulty already in understanding everything I am saying to you. For those who have always spoken vulgar and colloquial Intervox, and know no other language, learning to understand and speak classical Intervox, with its outdated words and strict attention to grammar, is going to be almost like acquiring a new tongue. But that is the language of the courts, and you're going to have to reconcile yourselves to it. If you find it too hard or too distasteful, it's not

yet too late to transfer to medicine or education or engineering.

But if our language indicates a cultural lag, I can assure you that our procedure does not. Law has kept abreast or ahead of all the other disciplines. To demonstrate this, it is my custom, at the beginning of every term, to plunge you eager embryo attorneys headfirst into consideration of some quite modern case. That will not only convince you of the contemporaneous nature of our jurisprudence—that's right, make a note of the words you don't understand, and look them up afterwards, instead of wasting our time now—but it will also give me a chance to find out how you respond to the give-and-take of a live lecture. Your other instructors will cover their particular specialties; old Dr. Hunnicott's function is to give you a broad orientation.

Yes?—you with the red hair—I don't know your names yet. Oh, I thought you were asking a question. No apologies needed—I often make people yawn.

The case I'm using this time as a preliminary example of the legal approach dates from 2160, only 23 years ago. It was quite celebrated in its day, and may even be known to some of you—though I should say your average age is about 25, so you couldn't have been very much interested at the time.

What's the matter, young lady?

Didn't you get enough sleep last night, either? I promise you the dry part of my discourse is about over.

In fact, I hope it will wake you all up when I tell you that this is a criminal case in the realm of sex-relationships—to be precise, a trial for bigamy. It is the case of *Government vs. Summers*, Interplan 78,239-60NY.

To give you the necessary background, Halton Summers, the accused, was at that time 38 years old, a historian by profession—in fact, I believe some of his historical tapings are still used in colleges, and some of you may have scanned them.

He was married, and in 2160 had been for 12 years married, to one Marion Garth, an architect—though her occupation does not enter into the case. They had no children, and apparently on the husband's side, at least, the marriage had ceased to be a happy one, though neither had any grounds for divorce. The wife seems to have been not so much jealous as possessive; she demanded a good deal more of her husband's attention than is customary in our modern unions. As a matter of fact, they were both bored with each other, but expressed it in different ways. With Summers, it took the form of spending as much time as possible away from home—home being a servo-unit on the edge of the metropolis, only 20 minutes,

even by slow copter, from the old city of Manhattan: I mention this to note that they were not suburbanites or exurbanities, and therefore were not afflicted with any of the well-known emotional disturbances common among people suffering from agrarian neurosis. (You will find, ladies and gentlemen, that frequently legal problems are entangled with medical ones, as Dr. Singh, your professor of psychosomatic jurisprudence, will soon make clear to you.)

Summer's special interest in history was the mid-20th century—as those of you who may have scanned any of his tapes will be aware. As a registered member of the Interplanetary Historical Association, he had, of course, a license to use his regional time-traveler, in order to verify or elaborate points in his researches.

Yes?—the gentleman with the Martian haircut, in the third row.

Oh, perhaps I should explain that; neither Mars nor Venus has time-travelers yet, since the history of both colonies is so recent. On Earth we have government-owned instruments—I'm not mechanically-minded, and I've never seen one, but I understand they are collapsible capsules dialed for place and time and for duration of stay—in each of the five federated regions. Their use is limited to qualified persons—government officials, law enforcement officers and privateyes, historians and archaeolo-

gists, and some other scholars. Licensed users have to apply in advance for a booking, just as you would make a reservation for a space-berth. Does that answer your question?

Well, Halton Summers naturally had occasion to use the time-traveler a good deal. His usual system, when he was working on a book, was to go as far as he could with recorded secondary material—discs, microtapes, and the preserved old print-on-paper books which were still in use 200 years ago, and then reserve passage on the time-traveler, to consult firsthand sources—to talk to the persons concerned, read contemporary newspapers and magazines, see their newsreels and television interviews, all that sort of thing. According to his wife's testimony in the court trial, he usually taped a book every two years or so, and during that period was absent in the 20th century for four to six visits on each book, each visit lasting from three to ten days.

What? I don't think that's exactly relevant, but if it will make it easier for you to understand the case—

Yes, I believe all qualified persons must not only show complete familiarity with the exact language of the time and place they visit, back to 3000 years ago, as far as the time-travelers can reach in their present stage of development, but they must also know the cus-

toms, beliefs, manners, and technical development of the time and place they visit, so that they are able to pass without question as contemporaries. Government specialists provide them with the proper clothing and equipment. And all license-holders are conditioned psychologically, so that it is impossible for them to reveal to any person in the past that they have come from the future.

Well, as I was saying— Did somebody else have a question? Oh, yes, the lady from the African Region.

No, I don't think any of the visitors could—how did you put it?—influence history by any action of his in the past. Whatever he did would only change history as it has come down to us. And please don't raise the issue of his killing his grandfather—that old fallacy has long since been exploded. If he'd killed his grandfather in the past he would never have been born and so he couldn't be going back now for that purpose.

To return to Marion Garth's testimony during her husband's trial, she said that during the preparation of his last book, which he began late in 2157, his whole procedure had suddenly changed. Instead of going back for a few days, two or three times a year, he began reserving the time-traveler whenever it was not in use by anyone else, and finally it came to the place where he was spending at

least three quarters of his time in the mid-20th century. The exact year he was visiting she did not know, since she herself had no access to the time-traveler reservation records, but since his book before that had brought the cultural history of the Newyorkopolis area (that was his particular field of inquiry) up to 1960, that was the most likely date.

Her always latent suspicions having been aroused, she determined to find out why her husband went away so often and stayed away so long every time. Another woman would have queried or challenged him—as perhaps she would have done in the earlier, happier days of their marriage; but by this time, though still living together, they were barely on speaking terms.

What she did was to hire a privateye, a well-known practitioner named Stanley Wiggins, to (as she put it) "go back there and see what Hal was up to."

Since Wiggins could scarcely have found out "what Hal was up to" unless Summers was on the spot to be observed, he had to use a time-traveler belonging to another region, at a time when Summers was using their local one. It must have cost her a lot of money, but that didn't seem to bother her. It was almost a year before the privateye could get the use of a free machine at the right moment.

Well, since I told you in the be-

ginning that this was a prosecution for bigamy, you can guess what Wiggins discovered. Summers had married a mid-20th century woman—her name was Enid Harkness—and was cohabiting with her. Moreover, he was about to become a father by her.

Okay, I expected you to be horrified at the idea of a contemporary of ours mating with, and even having a child by, a virtual barbarian—as, from our standpoint, the people of 200 years ago undoubtedly were. Just take it in your stride; you'll learn many still more shocking things when you begin to practice law. And it ill behooves any of our young men who came back from occupation duty on Titan with aboriginal brides—

Sit down, sir, and calm yourself. I know nothing about the private lives of any of you, and there was nothing personal in my remark. If you are so quick to take offense, you don't belong in the law. Wait till some prosecuting attorney really lets go on you some time and you have to keep your temper or the bailifrobot will throw you out of the courtroom!

Very well, then. We now have the background of the Summers case. On information from his wife—his 2160 wife, I mean—backed by the testimony of Privateeye Stanley Wiggins, Halton Summers was indicted on a charge of bigamy and tried in the Regional Court.

Now, of course you have no acquaintance as yet with either regional or interplanetary law. That is why, in this introductory lecture, I am taking as illustration, not a case depending on colonial relations or space-scope limitations, but one dealing with a situation as old as human marriage itself.

What I'm trying to get over to you is that law is not merely a set of arbitrary rules, but that common sense is a ruling factor in it. That is especially true of criminal law. Most of you—the ones that get through law school, pass their examinations, and are admitted to the bar—will find yourselves practising as defense attorneys; vacancies in the various Boards of Prosecutors, like vacancies in government service, are few and far between, and the civil service examinations to fill them are ferocious. Unless—which I hope every year, but I seldom find my hope fulfilled—I have a legal genius or two in this class, most of you, as I have said, will wind up in the lower courts, where plain horse sense is just as important as is knowledge of the minute points of recorded decisions. One of my objects in this whole preliminary lecture is to test your ability—since you are still completely laymen—simply to put two and two together and make four.

So I'll tell you right now that Halton Summers was acquitted.

One statement by his attorney ended the whole case.

And I'll tell you that the reason for this was not the citing of some obscure decision, but an obvious statement of fact that even a jury—that body of lay citizens which in the old days used to decide whether the defendant was innocent or guilty—would have realized must end in his discharge.

I'm going to give you three minutes to consider the situation and discuss it among yourselves, and then I'm going to ask for suggestions from the class as to *why* Summers was set free. . . .

. . . The three minutes are up, ladies and gentleman. Who will be the first to brave old Dr. Hunnicott's derision of an inept response?

Ah, there's a courageous young man. Stand up, sir, where we can all see you. What is your conclusion?

Now, that really is a lallapalooza and a humdinger—which, if you want to know, is ancient slang for what you call a glub.

No, citizen, it was *not* because his 1960 marriage to Enid Harkness was not legal in our eyes. It was entirely legal by the laws of the place and time in which it occurred. And so—to forestall another foolish suggestion—was his marriage to Marion Garth in 2148.

Yes?—the gentleman who got so angry because he imagined I was insulting his Titanian wife.

I'm glad you've cooled down, sir. What is *your* idea?

No, I'm sorry to say you're wrong too. Summers had instituted no secret divorce proceedings against either wife. He was legally married to both of them at the time the alleged offense took place.

Anybody else? Come, come, class, surely you can do better than that.

Ah, our red-haired friend has waked up! Yes, sir, what do you suggest?

Oh, no, quite impossible—remember that the 20th century wife had no idea whatever that her husband came from the future. I suppose Summers gave her some excuse about a job that required traveling, to account for his absences from her. If he disappeared permanently, she could only think that he had deserted her—or that he was dead. Presumably she would make efforts to have him traced, but naturally they would be futile. So it is utterly impossible that she should have appeared suddenly in his defense or even given him any kind of affidavit offering to give him up if the suit against him were quashed. I doubt if people in the 20th century were civilized enough even to make such a gesture—aside from the fact that she had no inkling of his true status.

Dear, dear, this is discouraging. Why, ladies and gentlemen, it's as plain as—as the dome on a space-platform. Can't one of you guess

it? Do I have to tell you myself?

All right, the reason Halton Summers was acquitted was—

Good! Let's hope that is a last-minute inspiration. You—the young lady from the African Region.

Ah, at last! Congratulations! At least one member of this class has some aptitude for the common-sense give-and-take of the legal profession as it is actually practised in the lower courts.

That, of course, is the correct answer.

All you had to do—as this young lady finally did—was to ask yourselves just what constitutes bigamy.

Bigamy, ladies and gentlemen, at all periods and in all places, is marriage to two women or two men—at the same time.

Simple, wasn't it? Let it be a lesson to you, the next time I call on you to use such brains as you were born with.

Now, before dismissing the class until Thursday morning— Yes, sir, did you have a further question?

How should I know what happened to Halton Summers after his acquittal? I never knew him—for our purposes he is only an interesting criminal case. I haven't the remotest idea whether he remained with Marion Garth or sot.

One thing we can be sure of, however—he couldn't leave here permanently and go back to Enid

Harkness in 1960, no matter how much he might have wished he could. For one thing, the Interplanetary Historical Association must have expelled him—they're very sensitive to scandal. That would mean he would no longer have access to the time-traveler.

Oh, come, my frind—I'm afraid your *métier* is to be a crime-fiction writer for the pulptapes, not a lawyer! Granted, he might by some lucky chance have been able to wrangle one last trip back before the IHA expulsion cost him his license—just happened to find the machine free. But he could never have ditched the time-traveler in 1960 and stayed there for good.

Why? Why, because as soon as he had overstayed the period he had reserved the time-traveler for, an officer would be dispatched in another to find him and it and bring them both back here—and that time he certainly wouldn't be acquitted; he'd still be serving a good long sentence in the penal camp on Ceres. And if all that had happened, it would have made a No. 1 story for the sensational tridimens newsreels, and I would certainly have known about it.

Oh, my own guess—I'm not much interested, but I should guess that Marion, who doesn't seem to have been a very pleasant character, would refuse, out of pure spite, to divorce him, and he had no grounds to divorce her. Probably he's still alive—he'd be

only 61—and still tied to her, still eating his heart out for the little barbarian of 1960, whom he seems, strangely enough, to have loved very deeply. And of course he could no longer earn a living as a historian, without membership in the IHA, so if he's still living he must be doing some kind of low-grade work just a cut above the robot occupations—epigraphy or translation or ghost-taping—the kind of thing that brings in scarcely any money because most of it could be done better by machines.

So if any of you in your future careers should have occasion to visit the past, let Halton Summers's fate be a warning to you never to go native! I'll see you again on Thursday.

. . . Well, I have only a minute. What is it?

No, no, my boy, let's not go on with the Summers case. You'll be late for your next class. Eh, *what?*

Oh, good space! Oh, how dreadful! If I'd had the slightest idea—Do please believe me, I chose the case just at random, because it made such a nice illustration.

I can understand you wouldn't take your mother's hobby of genealogy very seriously. But if your great-great-great-great-great grandfather was Halton Summers, and your great-great-great-great-great grandmother was Enid Harkness—

Oh, no, I beg of you, *don't* try to look him up, even to help him! The shock might well drive the poor devil mad!



The return of Chesley Bonestell . . .

With much pleasure we announce that we have recently arranged for two more covers by Chesley Bonestell. Since Sputnik invaded the fringe of space, many of the more down-to-Earth seers of our field have been kept busier than ever as a result of increased scientific interest on the part of the general public, and Mr. Bonestell, Willy Ley, our own Good Doctor Asimov, and other such have found their work schedules jammed. We managed to keep a string on the Good Doctor, but we ran out of covers from the dean of astronomical art—a gloomy situation the end of which we are confident you will cheer as loudly as we do. . . .

Going on 95, a man can begin to think he's had enough of the physical pleasures of life. . . .

THE LAST DREAM

by Gordon R. Dickson

HE MEANT IT.

A couple of days back, or perhaps it was a week or so ago—it was too much trouble now to keep track of the calendar—a reporter had got into his hospital room. They had found the man, of course, and hustled him out again; but not before he had had time to ask a few questions. Most of them were the same old questions . . . what did it feel like to have run through thirty million dollars of inheritance, would he do it all over again, etc. But there was one question that hadn't been asked before. How did Tommy feel about dying?

"I'm looking forward to it," Tommy Harmen had said.

The reporter had made a note of that answer—with pencil on some thickly typewritten paper, sheaved together. A newsy point? Well, thought Tommy, I meant it. It wasn't something he had said merely for the shock value. After all, he was ninety-four. At ninety-four, dying wasn't something you considered academically. It was

right there in the room with you, like a piece of furniture. Maybe it wasn't sprung or padded just to suit you, but it was something to sit on anyway, and you planned on sitting on it. What the hell! Tommy Harmen chuckled at the profanity in his thoughts. Funny. Old people shocked others as children did when they swore. You were supposed to be above such—

The chuckle, he realized suddenly, had also been in his mind. It was too much effort to chuckle aloud. They had him in an oxygen tent now. It made the room seem wavery and unnatural, seen through the plastic. Which reminded him—he needed that nurse. Damn it, they took better care of the babies in the nursery ward, he'd be bound. With an effort as large as that in hauling back on the rod when there was a big blue on the end of the line, he groped for the button. Where was the damn thing . . .? No matter. He gave up. After all, it was the hospital's good name and odor that was at stake, not his.

He lay still, exhausted by the effort, lapsing into a light doze. Bet that reporter hadn't believed him, knowing the things he'd done, the places he'd been, the things he'd . . . all over the world, too. There was that little island down in the West Indies . . . and Antibes . . . and . . .

" . . . How about the jereboam?" asked Winkie.

"Jereboam, hell," he said. "Let's have in the Methuselah."

. . . His vision cleared. He was sitting at a small, round table with a marble top—a real marble top.

"Didn't know they made them any more," he said, testing it with his fingernail.

"You have to know the dealer," said Winkie. Tommy looked up. Winkie was tipping back on two legs of the elegant occasional chair, with his collar open. Drunk, as usual. No, not drunk. Tight. Tight as a lord. Square jaw hanging down, curly hair mussed. Handsome devil, Winkie.

"You've taken off weight," said Tommy.

"Polo," said Winkie. "Makes all the difference." He winked. "Second story polo."

Tommy laughed and finished his glass. It was one of the good ones. Piper Heidsieck? He looked about for the bottle, and then remembered they had just ordered in the new one. He glanced around the room. It was a drawing

room, large, with comfortable furniture, but rather too many tables to sit at and a small plush bar over in one corner. He felt a sudden access of delight.

"Why, it's a house!" he said. "A real house!"

"Exclusive," said Winkie. "Very."

He looked back at Winkie.

"You're looking damned young," he said. "Where've you been all these years?"

"Living it up," said Winkie. "Here comes the champagne."

And it was coming. They were wheeling it in on a sort of cart, like he hadn't seen since—when was it? In the south of France, somewhere. And there was the Methuselah, a great-granddaddy among champagne bottles.

"Pop it," said Tommy to the black-tied waiter, who was releasing the wire from the bottle's cork. "I don't care what it does to the bouquet. I want to hear it bang."

"Yes, Mr. Harmen," said the waiter, his lean, bony face lit by a happy, conspiratorial smile. Tommy peered suddenly at him.

"Why, you're Caesare," he said. "What're you doing on this side of the world—after all these years?" Tommy frowned. "Why, that was back in the thirties—no, the twenties—"

"Twenty-five and twenty-six, Mr. Harmen," said Caesare. The cork flew suddenly from the bottle and the impelling tips of his

thumbs with a sound like a cannon shot. Applause burst out, around the room. Glancing up and about him, Tommy saw the room was now filled to overflowing with good-looking women and men in all sorts of costume, from evening clothes to hunting outfits. The faces of old friends leaped out at him everywhere his eyes fell among the crowd.

"Winkie!" he said.

"What, Tomser?" said Winkie, pushing a glass of the champagne from the methuselah into his hand.

"All the gals," said Tommy. "All the guys. I know them all. What is this? Some kind of party?"

"Graduation party," said Winkie, winking. "Five guesses for who."

"Me!" cried Tommy, shot through suddenly with delight. "Damn you, Winkie—oh, damn you!"

"Think nothing of it," said Winkie, winking like mad.

Tommy tossed off his glass of champagne. It went bubbling through all his veins bringing fire to his body in every part of him.

"Fill her up!" shouted Tommy. "Fill up, Winkie! Fill up, everybody! Let's kill the old gent. Let's have a party!"

Chattering and laughing, the surrounding crowd poured in around their table and the bottle. Champagne danced and sparkled

in Tommy's throat—the best, the best, the very best he'd ever tasted. Good-looking women sat on his lap, leaned over his shoulder, twined their arms around his neck. And he knew them all; and they were beautiful, beautiful—more beautiful than ever. And the canapes were the tastiest, and the waiters the happiest, and the bartenders—there were dozens of them—the jolliest; and the music (it came from somewhere hidden behind the crowd) all the things he liked. And the party went on and on and on; and nobody grew tired at all; but gradually, by some beautiful natural, group assent, they began to slow down, to quiet down, to a sort of wonderful, companionable silence.

"Bless you," said Tommy, looking at them all with a last glass of champagne in his hand, and sniffing in spite of himself, "Bless you all, damn your eyes. I'm going to miss you."

"Miss you too, Tomser," said Winkie. And then, as if Winkie's words had been a signal, they all got up and began to file by, one by one, and shake his hand before going back to their seats or stations (in the case of the bartenders and waiters), where they lapsed into silence and stillness once again.

At the last, there was only one man who had not come by; and he was a slim, nondescript looking chap in a business suit and the

sort of ordinary face people have trouble remembering.

"Who's he, now?" said Tommy to Winkie, peering at this last man, who was sitting at a table by himself, with no drink, but a briefcase laid out on its marble top before him. Winkie did not answer; and, looking over at his old friend and drinking companion, Tommy discovered Winkie had fallen into the same sort of brown study that had claimed all the rest.

Tommy looked back over at the slim man, and found him standing before his and Winkie's table.

"I'll sit down, if you don't mind," said the slim stranger, and pulled out a chair and took it without waiting for an answer. Tommy, seeing this, lifted his champagne glass for a last time to his lips—and found it empty. He put it back on the table; and recognition came belatedly.

"Oh," he said, "you're the reporter guy."

"Yes, and no," said the slim man, in the judicial tone of a good lawyer. "Yes . . . and no." Tommy's eyes slowly widened.

"Don't slip and slither around with me," said Tommy. He sat up suddenly a little straighter in the chair. "I know who you are now; and I settled my problems with you sixty years ago when I got tossed by that rhino—the one in Uganda. I didn't see my way clear to making any changes then; and

I'm not about to go back on that decision now. Never did in my life and I don't intend to at this late date."

"Changes," said the slim man, and coughed, "are not exactly a topic for discussion at this point." He had been busy opening his briefcase, and now he withdrew from it a thick sheaf of papers bristling with paperclips, interspersed with smaller clips of colored paper. He laid the sheaf before him.

"I just want you to know," said Tommy. "It was my money and my life, and I don't regret a dollar or a minute of it. Nobody lived it up like I did. It was one long circus and if you people've been warming a spit for me all these years, why lead me to it. I don't say," said Tommy, touching the empty champagne glass a little sadly, "that I'm exactly looking forward to it. But I always paid my bills; and I bought this and I'll pay for it."

"Yes. Indeed. Well," said the slim man with another dry cough, tapping the sheaf of paper before him, "I have your complete record here. It establishes beyond doubt that, among the other things, on innumerable occasions you have proven yourself a profligate—"

"Right," said Tommy.

"— a drunkard—"

"Yes," said Tommy, glancing with a touch of nostalgia at the now-empty methuselah.

"—and an engager in illicit relationships with the opposite sex. Nowhere," said the slim man, "is it recorded that you did as much as one honest day's work, that you sought to improve the world you lived in, or change your fellow-man in any way for the better. An unparalleled, a unique, record, in which all the entries of a lifetime fall on one side of the ledger." He tapped the sheaf of paper with one dry forefinger and glanced sharply at Tommy. "I hope you realize this makes you a special case."

"And what's that supposed to mean?" growled Tommy, for he was beginning to get tired of all this and the fumes of the champagne were fading from his head.

"Just this," said the slim man, and made a sweeping outward gesture. "Here you see gathered —" Tommy looked up and discovered that the room in which he sat had strangely and subtly expanded; it stretched now to fantastic distances, and everywhere that he could see, it was filled, stuffed and jammed with silent people—"All the people, living and dead, whose lives your own life affected. Look at them."

Tommy looked again; and it was true. There were armies of waiters and waitresses and bartenders, regiments and companies of men and women he had known, even back to those that had populated the shadowy early begin-

nings of his childhood. They all looked at him now with silent, waiting gazes.

"Hey, lads and lasses," murmured Tommy, gently. "Good to see you one more time."

He had almost whispered the words; but some trick of the now vast room picked them up and amplified them and sent them rolling amongst all the watching multitude. And a wordless, rustling stir answered back from their formless ranks.

"We can dispose of your case very quickly," said the slim man, "provided any one of these people will produce an indictment," he turned his head to the room and raised his voice. "Anyone having just cause to condemn Thomas Nicholas Harmen will now speak up!"

His words like Tommy's, boomed out through the watching crowd. But no sound came back. . . . And Tommy, staring in incredulity from face to remembered face, his glance dancing like lightning from remembered features to remembered features, met here a friendly wink, there a grin, and there again a surreptitious thumbs-up gesture, there a tenderly remembering smile, there a beam of gratitude, there again and once more a glow of pure, remembered jollity and happiness.

"Will no one, no one out of all this man's life time," said the thin man, speaking up again, "find some

cause for indictment against him?"

Silence made answer, a happy, stubborn silence.

"Well then," said the slim man, returning the sheaf of papers with a wash-my-hands air to his briefcase, and standing up. "That concludes the matter." He looked at Tommy. "Shall we go?"

"Go?" said Tommy, looking up startled; and then back again at the crowd for a second, before returning his gaze to the slim man. "But I thought—"

"The other place, the other place," said the slim man with some asperity, frowning. "It has to be one or the other."

"The other place!" said Tommy, astonished and set up in his chair. "Now who'd have thought—" He started to get up, then sank back into his seat.

"Well? Well?" said the slim man, checking himself in midstep away from the table.

"This other place," said Tommy slowly; "just what's it like?"

"Why it's like whatever, you wish," said the slim man. "That's why it's a place of reward."

"Oh," said Tommy. "Well—"

"Well what?" said the thin man. "Surely you don't object to that?"

"Well, you see—" said Tommy, slowly still, "about this business of rewards. You might put it that I've been being rewarded all my life long, right here where I've been. And I enjoyed—" Tommy's voice got firmer— "every damn

minute of it. I don't mean to have you think I didn't. I wouldn't take back a glassful or a moment of it. But—" his voice slowed again—"all the same . . ."

"All the same—what?" said the slim man.

"Well, it's been one hell of a fine life." Tommy looked up at him. "But you know, I'm ninety-four; and sometimes I think nowadays, even if I could drink another bottle just like the ones I used to, and feel the way I used to—perhaps I'd just as soon sit back instead and remember the bottle I did drink, than put another one on top of it. There's some kind of quote about that—" He wrinkled his brow. "The pitcher going to the well once too often, or some such—no, that isn't right. The point is, the first times are really the best times for everything. After a while it gets to be just comfortable, instead of being all skyrocket and New Year's Eve."

He stopped and looked up at the slim man again.

"You remember when you came into my hospital room," he said. "I told you I was looking forward to the end of the book, here. And I meant it. It's all been so fine all these years I wouldn't want to spoil it now by taking the pitcher to the well too many times. . . . What I mean is—" he looked at the slim man almost appealingly—"other place, or no other place, if my reward there is simply go-

ing to be more of the same, I think I'd just as soon pass. It just isn't worth it—" he looked out once more over the waiting multitude—"it just isn't worth it to spoil what I had."

"Don't worry," said the slim man, and for a second his voice sounded quite unbusinesslike, "we hadn't an eternity of parties scheduled for you. It was something rather different. We've got a comfortable chair reserved for you in the library of a rather exclusive club. A club full of old characters like yourself who like to sit around and talk."

"A club? A club?" What characters? Who?"

"Who?" said the slim man, almost smiling. "Why, there's one named Bacchus, and another called Don Juan, and a rather fat one named Diamond Jim Brady."

"Oh," said Tommy.

"So you see," said the slim man, looking at him. Tommy was nodding his head slowly and emphatically.

"I see," he said. "I should've known it. Sorry I was so suspicious. Give me a hand up, will you?"

The slim man gave him a hand up.

"Lean on me," said the slim man.

"That champagne," said Tommy apologetically, as his knees rubbered a little. "Drank it a little too fast. But it was a great bottle to end up on."

"Pleasure to be of assistance," said the thin man; and together they went up through the crowd, and out of the door, and into a sunlit world beyond, where the skies were as bright as Memory.



Coming next month—or shortly thereafter . . .

A John Carmody story by Philip José Farmer—the first of a new group . . . "Nikita Eisenhower Jones," a short novelet by Robert F. Young . . . "The Casuist," by Winston P. Sanders—concerning a long-range Ozma adventure . . . "Callahan and the Wheelies," a funny and frightening tale of an ingenious little invention, by Stephen Barr . . . plus new stories from such as Howard Fast, Poul Anderson, Avram Davidson, Raymond E. Banks, and Rosel George Brown.



Assuming that there is indeed a planet beyond Pluto, what might it be like? The Good Doctor, notorious dreamer, here indulges in practical speculation . . .

BEYOND PLUTO

by Isaac Asimov

A COUPLE OF DAYS AGO (AS I WRITE) A SOVIET ASTRONOMER ANNOUNCED the discovery of a tenth planet, one beyond Pluto. I saw no details beyond the bare announcement, though by the time this article sees print there may be some. It may even turn out to have been all a mistake. Who knows?

But whatever turns out to be true or not true about the actual body discovered, there's nothing to prevent me from speculating about what a tenth planet ought to be like if this were a well-run Solar system. For that matter, science-fictioners have a vested interest in such a planet, for in this, as in most things, we, like Kilroy, were there first. John Campbell (if The Kindly Editor will excuse this mention of the competition), back in 1937, even entitled one of his Penton and Blake stories, "The Tenth World," and set the scene of action to correspond.

So— What might the tenth planet be like? To begin with, how far ought it be from the Sun? Never mind how far the tenth planet discovered by the Soviets is? How far *ought* it be? (An armchair scientist like myself is usually much more entranced with a beautiful theory that ought to be than with any number of ugly facts that are.)

To answer, shall we go back to the eighteenth century? Of course, we shall.

Back in 1766, a German astronomer, Johann Daniel Titius, devised a scheme to express the distances of the planets from the sun by means of a simple system. He did this by writing a series of numbers starting with 0, following with 3 and then having each succeeding member of the series double the one before, thus:

0, 3, 6, 12, 24, 48, 96, 192, 384, 768 . . .

Then he added 4 to each term in the series to get the following:

4, 7, 10, 16, 28, 52, 100, 196, 388, 772 . . .

Now represent Earth's mean distance from the Sun as 10 and calculate the mean distance of every other planet in proportion. What happens? Well, we can make a small table listing Titius' series of numbers and comparing it with the relative mean distances from the Sun of the 6 planets known in Titius' time. Here's how it would look:

Titius series	Relative distance	Planet
4	3.9	Mercury
7	7.2	Venus
10	10.0	Earth
16	15.2	Mars
28		
52	52.0	Jupiter
100	95.4	Saturn

When Titius first announced this, no one paid attention, particularly, except for another German astronomer named Johann Bode. Bode wrote about it in 1772, banging the drums hard on its behalf. Since Bode was much more famous than Titius, this relationship of planetary distances has ever since been referred to as Bode's Law, while Titius remains in profound obscurity. (This shows you can't always trust to posterity for appreciation either—a thought which should help sadden us further in our moments of depression.)

Even with Bode pushing, the series of numbers was greeted as nothing more than a bit of numerology, worth an absent smile and a that-was-fun-what-shall-we-play-next? But in 1781, an amazing thing happened.

A German-born English astronomer, named Frederick William Herschel (he dropped the "Frederick" after becoming an Englishman)

was engaged that year in a routine sweeping of the skies with one of the telescopes he had built for himself. On March 13, 1781, he came across a peculiar star that seemed to show a visible disc, which actual stars do not do under the greatest magnification available at that time (or now either, for that matter). He returned to it night after night and by March 19, he was certain that it was moving with respect to the stars.

Well, anything with a visible disc and movement against the stars could not be a star, so it had to be a comet. Herschel announced it as a comet, but couldn't help noting that it wasn't fuzzy like a comet, but had a sharply ending disc like a planet. Moreover, after he had observed it for a few months, he could calculate its orbit, and that turned out to be not strongly elliptical like the orbit of a comet but nearly circular like the orbit of a planet. *And* the orbit lay far outside the orbit of Saturn.

So Herschel announced that he had discovered a new planet. What a sensation! Since the telescope had been invented nearly two centuries before, a number of new objects had been discovered; new stars and several satellites for both Jupiter and Saturn; but never, never, never in recorded history had a new planet been discovered.

At one bound, Herschel became the most famous astronomer in the world. Within a year he was appointed private astronomer to George III, and six years after that he married a wealthy widow. There was even a move, ultimately defeated, to name the planet he had discovered, "Herschel." (It is now called Uranus.)

And yet the discovery was accidental and hadn't even been really new. Uranus is actually visible to the naked eye as a very dim "star" so it must have been seen casually any number of times. Astronomers must have seen it through telescopes and on a number of occasions its position was even reported. As far back as 1690, John Flamsteed, the first British Astronomer Royal, prepared a star map in which he carefully included Uranus—as a star.

In short, any astronomer could have discovered Uranus, if he had looked for it. And he would have had a good hint as to what kind of a body to look for and how fast he might expect it to move against the stars, for he could have known its distance from the Sun in advance—Bode's Law would have told him. The Bode's Law figure for the relative distance of the Seventh Planet (on an Earth-equals-10.0 scale) is 196 and Uranus's actual distance is 191.8.

Obviously, astronomers weren't going to make this mistake again. Bode's Law was suddenly the guide to fame and new knowledge and

they were going to give it all they had. To begin with, there was that missing planet between Mars and Jupiter, for, they realized *now* there must be a missing planet, since Bode's Law had number 28 between the orbits of Mars and Jupiter and no planet was known to exist there. It had to be searched for.

In 1800, twenty-four German astronomers set up a kind of community effort to find the planet. They divided the sky into twenty-four zones and each member was assigned one zone. But alas, for planning, efficiency and Teutonic thoroughness—while they were making all possible preparations, an Italian astronomer, Giuseppe Piazzi, in Palermo, Sicily, accidentally discovered the planet. It was named Ceres, after the tutelary goddess of Sicily, and proved to be a small object only 485 miles in diameter. It turned out to be only the first of many hundreds of tiny planets ("planetoids") discovered in the region between Mars and Jupiter in the years since. Planetoids numbers 2, 3 and 4, by the way, were found by the German team of astronomers within a year or two after Piazzi's initial discovery, so teamwork wasn't a dead loss after all. Ceres is far the largest of all the planetoids, however, so let's concentrate on it. Its relative mean distance from the Sun is 27.7; Bode's Law, as I said, calls for 28.

No astronomer was in the mood to question Bode's Law after that.

In fact, when Uranus's motion in its orbit seemed to be a bit irregular, a couple of astronomers, John Couch Adams of England and Urbain J. J. Leverrier of France, independently decided there must be a planet beyond Uranus with a gravitational pull on Uranus that wasn't being allowed for. In 1845 and 1846 they both calculated where the theoretical Eighth Planet ought to be to account for the deviations in Uranus's motions. They did that by beginning with the assumption that its distance from the Sun would be that which was predicted by Bode's Law. A few more assumptions and both pointed to the same general position of the sky. And the Eighth Planet, Neptune, proved to be there, indeed.

The only trouble was that it turned out they had made the wrong basic assumption. Neptune ought to have been at relative distance 388 from the Sun. It wasn't; it was at relative distance 301. It was a little matter of 800,000,000 miles closer to the Sun than it should have been and with one blow that killed Bode's law deader than a dried herring. It went back to being nothing more than an interesting piece of numerology.

When, in 1931, the Ninth Planet, Pluto, was discovered, no one expected it to be at the Bode's Law distance predicted for the Ninth

Planet (the numbers of the planets are selected, by the way, by skipping the planetoids so that Mars is the Fourth and Jupiter the Fifth), and it wasn't.

But now, wait.

There are four known bodies lying beyond Uranus and every one of them is odd, in one way or another. The four are Neptune and Pluto, plus Neptune's two known satellites, Triton and Nereid.

The oddness of Neptune is, of course, that it lies so much closer to the Sun that Bode's Law would indicate. The oddness of Pluto is more complicated. In the first place it has the most eccentric orbit of any of the major planets. At aphelion it recedes to a distance of 4,567,000,000 miles from the Sun, while at perihelion it approaches to a distance of a mere 2,766,000,000 miles. At perihelion it is actually an average of about 25,000,000 miles closer to the Sun than is Neptune.

Right now, Pluto is approaching perihelion, which it will reach in 1989. For a couple of decades at the end of the twentieth century, Pluto will remain closer to the sun than Neptune, then it will move out beyond Neptune's orbit, heading toward its aphelion, which it will reach in 2113.

A second odd feature about Pluto is that the plane of its orbit is tilted sharply to the ecliptic (which is the plane of Earth's orbit). The tilt is 17° , which is much higher than that of any other planet. It is this tilt which keeps Pluto from ever colliding with Neptune. Although their orbits seem to cross in the usual two-dimensional representation of the Solar system, Pluto is many millions of miles higher than Neptune at the point of apparent crossing.

Finally, Pluto is peculiar in its size. It is 3,600 miles in diameter, much smaller than the four other outer planets. It is also much denser. In fact, in size and mass, it resembles an inner planet such as Mars or Mercury much more than it does any of the outer planets.

Now let's consider Neptune's satellites. One of them, Nereid, is a small thing, 200 miles in diameter and not discovered until 1949. The odd thing about it is the eccentricity of its orbit. At its nearest approach to Neptune, it comes to within 800,000 miles of the planet, then it goes swooping outward to a distance of 6,000,000 miles at the other end of its orbit. Nereid's orbit is by far the most eccentric orbit in the Solar system. No planet, satellite or planetoid can compare with it in that respect; only comets equal or exceed that eccentricity.

In contrast to Nereid, Triton is a large satellite, with a diameter in excess of 3,000 miles (as compared with the 2,160 mile diameter of

the Moon) and with a nearly circular orbit. The odd thing about it is that its orbit is tilted sharply to the planet of Neptune's equator; in fact, it is quite near to being perpendicular to that plane.

Now there are other satellites in the system with eccentric orbits and tilted orbits. They include the seven outermost satellites (unnamed) of Jupiter; and Phoebe, the ninth and outermost satellite of Saturn. Astronomers agree that these outer satellites of Jupiter and Saturn are probably captured planetoids and not original members of the planetary family. The original members (such as the five inner satellites of Jupiter, including the giant satellites, Ganymede, Io, Callisto and Europa; the eight inner satellites of Saturn, including the giant satellite, Titan) all revolve in nearly circular orbits and in the plane of their planet's equator. So, for that matter, do the five small satellites of Uranus and the two small satellites of Mars. From the manner in which satellite systems are supposed to have originated, these circular, untilted orbits are a must.

Well, perhaps Nereid represents a captured planetoid, although it is surprising that a planetoid is to be found so far beyond the planetoid belt, especially one so large (there are not more than four or five planetoids, at most, that are as large as Nereid.) And as for Triton, was it captured, too? What would an object as large as Triton be doing, wandering around in the region of Neptune, getting captured?

Some astronomers have suggested that a catastrophe took place, during some past age, in the neighborhood of Neptune. They suggest that Pluto, which is much more nearly the size of a satellite than the size of an outer planet, was, originally, indeed a satellite of Neptune, which somehow got jarred out of position and which took up its present wild and eccentric but independently planetary orbit. The shock of that catastrophe may also have jarred Triton's orbit into a strong tilt.

But what was the catastrophe? That, no one says.

A friend of mine, Ensign Stephen A. Kallis, Jr., USNR, suggests one, however. He points out that the one obvious sign of a possible catastrophe in the Solar system is the asteroid belt. There is no real evidence that there ever was a single planet there, but certainly it is tempting to believe that one was there once and that it exploded (due perhaps to the tidal forces within its crust induced by its next door neighbor, the giant planet, Jupiter. An explosion which produced some 44,000 fragments of rock including Ceres, which is 485 miles in diameter, and three or four others of 100 miles in diameter or more, would certainly be a catastrophe.

One catch, however, is that the total mass of all the planetoids be-

tween Mars and Jupiter cannot possibly be more than a tenth that of Mars, or more than a fifth that of Mercury. It would still have been far and away the smallest planet in the system. Why should that be? Was it because its neighbor Jupiter gobbled up most of the raw materials for planet formation, leaving our mythical planet a pygmy?

Or, and this is Kallis' point, what if not all the original planet remained in the space between the orbits of Mars and Jupiter after the explosion? What if the $4\frac{1}{2}$ th planet (we must call it this since Mars is the 4th and Jupiter the 5th) sent a large piece of itself flying far out into space. We can imagine such a piece sailing far out beyond Jupiter, Saturn, Uranus—being caught or seriously deflected by Neptune.

Perhaps the piece was caught by Neptune in an odd orbit and became Triton, while Pluto, as Neptune's original satellite, was knocked out into an independent but whimsical planetary orbit as a result. Or perhaps the original piece was deflected into the planetary orbit, becoming Pluto, while its gravitational pull tilted Triton's orbit. Or perhaps all three, Pluto, Triton and Nereid are fragments of the $4\frac{1}{2}$ th planet.

The chief bother in all this is how an explosion of the $4\frac{1}{2}$ th planet could send so much material far outward, all in one direction. Kallis suggests this was balanced by the sending of a roughly equal mass inward, toward the Sun.

This brings up the question of our own Moon. Like Triton, the Moon is tilted to the plane of its primary's equator; not by as much, but by a good 18° , and its orbit is moderately eccentric as well. Furthermore, the Moon is far too large for us. A planet the size of Earth has no business with such a huge moon. Of the other inner planets, Mars has two peewee satellites of no account whatever, while Venus and Mercury have none at all.

The Moon is $1/80$ th the mass of the Earth and no other satellite in the system even approaches a mass that large in comparison to its primary.

Is it possible then that the inward-speeding fragment of the $4\frac{1}{2}$ th planet was captured by the Earth and became the Moon? Kallis did some calculations to show that such a capture was possible. He had to suppose the Moon-fragment split up a second time as it approached Earth and underwent the stresses of our planet's gravitational field. One piece of the fragment was slowed sufficiently to allow capture by the Earth, while the other moved at a speed that allowed it (Kallis suggests) to escape from the Solar system altogether.

My own modification of this scheme is that this last piece did not

escape but was captured by the Sun, so to speak, and became Mercury, which has, next to Pluto, the most eccentric and the most tilted orbit of all the major planets.

If the Moon, Triton, Pluto and Mercury are all lumped together with the debris of planetoids that are left in the original orbit, you would have a body which would be rather more massive than Mars. This is a respectable planet that would fit the $4\frac{1}{2}$ th position nicely.

Of course, I can't imagine what in all this would account for the fact that Neptune's orbit is so much closer to the Sun than it ought to be, but what the devil, we can't have everything. Let's just leave explanations of the fine points to the astronomers and content ourselves with the heady delight of ungoverned speculation. We can suppose that all the bodies beyond Uranus form one complex, to be counted as a single planet, in which the average relationship to the Sun remains what it ought to be, but in which the relationship of the individual pieces has been confused by catastrophe.

If we take the mean distance of the whole complex, that turns out (thanks to Pluto) to be 3,666,000,000 miles, which, on the Earth-equals-10.0 basis, comes out to be 395.

Now let's make up a new table of the Titius series, like so:

Titius series	Relative distance	Planet
4	3.9	Mercury
7	7.2	Venus
10	10.0	Earth
16	15.2	Mars
28	27.7	Ceres ($4\frac{1}{2}$ th planet)
52	52.0	Jupiter
100	95.4	Saturn
196	191.8	Uranus
388	395	Neptune-Pluto
772	?	Tenth Planet

There you are, then. To answer the question I asked at the beginning of the article, the Tenth Planet should be at position 772 which means it would have a mean distance of 7,200,000,000 miles from the Sun.

How big would it be? Well, if we ignore the interloping Pluto and

just consider the other four outer planets, we find a steady decrease in diameter as we move out from Jupiter. The diameters are 86,700 (Jupiter), 71,500 (Saturn), 32,000 (Uranus) and 27,600 (Neptune.) Carry that through and let's say the Tenth Planet has a diameter of 10,000 miles, which makes a nice round figure.

With that diameter and at that distance from the Sun (and from us) the Tenth Planet ought to have an apparent magnitude of 13, which would make it rather brighter than the nearer but smaller Pluto. It would show very little disc but what disc there was would be larger than that of the nearer but smaller Pluto. Well, then, since Pluto has been discovered and the presumably larger and brighter Tenth Planet has not, does that mean the Tenth Planet does not exist?

Not necessarily. Pluto was recognized among a veritable flood of stars of its magnitude or brighter by the fact that it moved among them. So would the Tenth Planet, but at a much slower rate. From Kepler's Third Law, we can calculate that the period of revolution of the Tenth Planet would be 680 years, nearly three times the length of Pluto's period of revolution, and so the Tenth Planet would move at only $\frac{1}{3}$ the rate at which Pluto moves against the stars. It would take a full year for the Tenth Planet to shift its position over the width of the full Moon. This is not the kind of motion that is easily observed by a casual survey of the heavens. Perhaps it has been seen a number of times and not noticed, as Uranus was.

Have the Soviets now found it? I don't know. Perhaps they have merely found another fragment of the Neptune-Triton-Nereid-Pluto complex. I'll have to wait and see.

The thing that strikes me as most unusual about the Tenth Planet is its utter lonely isolation. It is twice as far from Neptune, at Neptune's closest approach to it, as we on Earth are. Most of the time, it is further from Pluto than we are. Once every 2,700 years, allowing the most favorable conditions, Pluto would approach within two and a half billion miles of the Tenth Planet (the distance from Earth to Neptune.) Nothing else, barring a possible satellite or comet, would ever come within four and a half billion miles of it.

From the Tenth Planet, the Sun would have no discernable disc to the naked eye, of course. It would seem completely star-like and no larger in appearance than the planet Mars appears to us at the time of its closest approach. However, although the Sun was but a point of light, it would still be over 60 times as bright as our full Moon, and a million times brighter than Sirius, the next brightest object in the sky.

If there were any intelligent beings native to the Tenth Planet, that alone ought to tell them there was something different about this particular star. Furthermore, if they watched closely, they would see that the Sun constantly, if slowly, shifted position against the other stars.

As to the planets, all the known members of the Solar system, as seen from the Tenth Planet, would seem to hug the Sun. Even Pluto, viewed from so far beyond its own orbit would never depart more than 40° from the Sun, even when it happened to be at aphelion at the time of maximum elongation. All other planets would remain far closer to the Sun at all times.

As seen from the Tenth Planet, Mercury and Venus would never be more distant from the Sun than the diameter of our full moon. The Earth would recede, at times, to a distance that was at most half again the width of the full moon and Mars would periodically recede to a distance twice the width of the full moon. I feel certain that, even in the absence of an obscuring atmosphere, all four planets would be lost in the brilliance of the pint-size Sun and would never be seen from the Tenth Planet without special equipment.

That leaves only the five outer planets, Jupiter, Saturn, Uranus, Neptune and Pluto. They would be best seen when well to one side of the Sun at which time they would show up (in telescopes) as fat crescents. In that position, Jupiter, Saturn, Uranus and Neptune would all be at roughly the same distance from the Tenth Planet. Pluto might, under favorable conditions, be rather closer than the rest.

This means that, with the distance factor eliminated, Saturn would be dimmer than Jupiter, since Saturn is smaller and more distant from the Sun, hence less brightly illuminated. By the same reasoning, Uranus would be dimmer than Saturn, Neptune would be dimmer than Uranus, and Pluto dimmer than Neptune.

In fact, Uranus, Neptune and Pluto, although approaching more closely to the Tenth Planet at inferior conjunction, than do Jupiter and Saturn, would be invisible to the naked eye.

Jupiter and Saturn would be the only planets visible from the Tenth Planet without special equipment and they would be anything but spectacular. At its brightest, Jupiter would have a magnitude of something like 1.5, about that of the star Castor. And it would for only a year or so, every six years, that it would approach that brightness, and then it would be only 4° from the Sun and probably not too easy to observe. As for Saturn, there would be two-year periods every fifteen years when it might climb to a brightness of 3.5, about that of an average star. That's all.

Undoubtedly, any astronomers stationed on the Tenth Planet would completely ignore the planets. Any other world in the system would give them a better view. But they would watch the stars. The Tenth Planet would offer them the largest parallaxes in the system, because of its mighty orbital sweep. (Of course, they would have to wait 340 years to get the full parallax.) Measurements of stellar distance by parallax, the most reliable of all methods for the purpose, could be extended one hundred times deeper into space than is now possible.

One last point. What ought we to name the Tenth Planet? We've got to stick to classical mythology by long and revered custom. With the Ninth Planet named Pluto, there might be a temptation to name the Tenth after his consort, Proserpina, but that temptation must be resisted. Proserpina is the inevitable name for any satellite of Pluto's that may ever be discovered and should be rigidly reserved for that.

However, consider that the Greeks had a ferryman that carried the souls of the dead across into Hades, the abode of Pluto and Proserpina. His name was Charon. There was also a three-headed dog guarding the entrance of Hades, and its name was Cerberus.

My suggestion then is that the Tenth Planet be named Charon and that its first discovered satellite be named Cerberus.

And then, any returning interstellar voyager approaching the Solar system on the plane of the ecliptic would have to cross the orbit of Charon and Cerberus to reach the orbit of Pluto and Proserpina. What could be more neatly symbolic than that?





LEVEL 7

By Damon Knight

LEVEL 7, by Mordecai Roshwald (McGraw-Hill, \$3.75), is a novel laid in the future, making use of many imaginary technological advances, and an imaginary society governed on unusual lines. Thus, according to our usual working definition, it's a science fiction novel.

This s.f. novel, then, was enthusiastically reviewed in the major newspaper book departments (and not in "Spaceman's Realm," either, but up front). The reviewers were very careful to say, at the very outset, "This is not really science fiction."

Is it?

Let's examine the story and see. **LEVEL 7** is written as the diary of a military officer who one day is summoned by the C.O. of his "Push-Button Training Camp," and told he is to go on leave after a brief indoctrination period underground. This turns out to be untrue. The narrator gets into a

closed car, is driven to a tunnel guarded by "two huge natural boulders," and down the rabbit-hole he goes. The tunnel leads to a passage, the passage to an elevator, the elevator to another passage and a revolving door, the door to an escalator and the escalator to the first of a series of underground chambers.

Car, elevator, escalator and doors alike move only one way: down. In this curious series of reverse-order prenatal experiences, the narrator and all his fellow inmates have been trapped. Like Alice (who never found a way back either—she woke up instead), they are down to stay.

If war comes, they will survive the attack and press the buttons that launch retaliatory rockets. But even then, they can never come up; whatever happens, they will never see the sun again.

In the next few chapters, we gradually learn more about the un-

derground world. Level 7 is completely self-sufficient, and has supplies to last 500 years. (Level 6 is that of the anti-missile push-button warriors; the five levels above are intended to house civilians of varying degrees of importance, up to Level 1, which is only ten to 60 feet underground and will certainly be shattered in the first five seconds of attack.)

The inmates of Level 7 do not use names, only numbers: the narrator's is X-127. By the use of this and similar devices, Roshwald has managed to avoid giving any overt clue to the nationality of Level 7's builders. It is clear that this intention is allegorical; the book is dedicated "To Dwight and Nikita," and at one point the diarist muses that there is really very little inner difference between the opposing camps: "As for the other levels, there might be the difference that in one country the rich got the better shelter, and in another country the mighty. But was this really such a big difference? I wondered. The rich were mighty and the mighty were rich."

The point is trenchantly made, and yet there is no possible doubt where this story takes place; it is as Slavic as blintzes. Like Zamiatin's *WE*, the nightmare is the socialist nightmare of numbers; the suffocating sense that individual personality is being crushed; that everybody above you is de-

ceiving you, and himself being deceived in turn.

In fact, although the author himself sees it as an anti-war tract (and has turned the latter half of the book into a progressively drearier sermon); and although the jacket of the British edition is plastered with militant endorsements by Bertrand Russell, J. B. Priestley and Linus Pauling, *LEVEL 7*'s theme, and the atmosphere in which it swims, is that of collectivist tyranny.

For those who have read Orwell but not *Zamiatin*, it should be noted that the gloom of 1984 is British gloom. X-127 is a good-natured and rather simple person, with that peculiar combination of gaiety, innocent spirituality and despair that we think of as Slavic; the tone of this narrative is one of resignation and childish wonder. The first half of the book, at any rate, is not only absorbing for its ingenious and complex background, but delightful for its unexpected humor. When, shortly after X-127's arrival, the ubiquitous loudspeakers announce reassuringly, "You need not worry about your friends and relatives outside. They will be notified that you have been killed in a painless accident and that you left no remains," you don't know whether to laugh or cry.

Or, for another example, when X-127 learns of the ingenious arrangement whereby space left

vacant by food consumed is filled with dehydrated sewage, gradually shoving along a "sealed but moving wall," he suddenly exclaims to himself, "What if the wall leaks?"

If the earnestness of the apologists for Level 7 is sinister, it is faintly comic too. The inverse logic that is purely horrifying in Orwell becomes ironically delectable: "Everybody can enjoy the individuality which his personal number symbolizes."

Yet, after all is said, it is the symbol-haunted dream landscapes of LEVEL 7 that give it its distinctive tone, in passages like this:

"Sometimes when I try to relax, take a shower, unharness my thoughts from my daily duties and let them loose on the sunny meadows of my terrestrial past, I suddenly realize that my lips are silently forming words. I speak them out loud, and always they are the same words: 'Attention, please, attention!'" . . .

Well, then, is this science fiction or not? I submit, regretfully, that it is not.

When the editors of Bantam Books tell us that a book is either good or s.f., but cannot be both; when the reviewers of such novels as LEVEL 7, THE LAST CANTICLE and ON THE BEACH assure us that

in spite of superficial resemblances, these are not really s.f., they are perfectly sincere, and they are right.

Science fiction, as Kingsley Amis reminds us in NEW MAPS OF HELL, is a field distinguished and limited by a certain special interest. For us, LEVEL 7 is absorbing partly because of the highly ingenious methods Dr. Roshwald has contrived to keep his prisoners alive and moderately sane in their dungeons, partly because of the fascinating structures of logic and myth they erect to justify their imprisonment. For the general reader, these are incidentals. Make a list of the "science fiction" books which have won wide acceptance in recent years, and you will find they have one thing in common: they are parables, warning of political or military disaster. The remoteness of imagined worlds is what charms a science-fantasy reader: the immediacy of these books is what sells them to the public.

It is futile to be bitter when a reviewer says, "This is not science fiction—it's good!" From his standpoint, it's the simple truth. Therefore for God's sake let us either write parables of atomic doom, or else be content with our small audience.



Snowed in high in the Idaho mountains, an honest moon-shiner doesn't worry about revenue men—no human being could get up there through the drifts. Which made the two strangers quite unworrisome . . . they could have arrived only by saucer—and no revenue man has a flying saucer.

FAIR TRADE

by Avram Davidson

Could it be they want to use it for a bird-cage, maybe?—But I better start at the beginning.

We were cut off from civilization.

Sounds grim, doesn't it? Well, it wasn't—and isn't. Happens every winter, time after time. There are some pretty deep snows in northern Idaho, and it seems like the deepest ones pick the only highway around here to settle on. We're just as pleased—in fact, most of us prefer it. Those that don't tend to move away.

Of course, it's kind of big for a bird-cage, but maybe they got big birds there.

Santiago, Idaho, was named back in the summer of '98. Some wanted to call it McKinley and others held out for Bryan, but the news that Commodore Schley and Admiral Sampson had sunk the Spanish fleet down in Cuba set-

tled that question. Our town isn't a big place no matter how you figure it. From Etienne (Frenchy) Tremblay's gas station to Dora Moriarity's café isn't no more than half a mile. Of course it spreads out a bit on both sides, but no matter how you count the population it still don't add up to much over five hundred people.

Of all the folks in Santiago who welcome the big snows and the chance we have to be all by ourselves and really socialize, I guess Omar Kennicott is the most welcoming. Omar and me always got along good together. For one thing I figure every man's got the right to go his own way and I never try to drench a man with my personal opinion the way you'd drench a sheep for worms.

He is stubborn and I'll be the first to admit that, but that's his affair. So what if he's just about the only citizen in Santiago that

doesn't have indoor plumbing? Folks just have to take that into account if they want to go visit with him. And if he never gets a haircut, all I have to say is, the day compulsory haircuts go into effect I'm heading up the Snake River and leaving no forwarding address.

Live and let live, is my motto.

One reason why Omar likes it when the snow settles deep in the Pass and the plows give up forty miles below in the foothills, one reason is that there are no strangers coming through to yell and hoot at him, "Buffalo Bill!" or "General Custer!" or such like that. Another reason is that he builds up a real big old blaze in both of his stoves up there at his place, and he puts his equipment together and he runs off some of the sweetest, smoothest moonshine a man has ever drunk.

But only when he can be *sure*, you understand, that nobody is sneaking up Route 37 from the Internal Revenue Office in Boise.

Which goes to explain why just about everybody in town, leave alone me, was so surprised when he turned up at the Firehouse Supper and Dance with those two fellows that nobody'd ever seen before.

Or maybe for a small chicken-coop—but do they have chickens? I tell you, it beats me . . .

Not that everybody didn't know exactly what affair was going on

in the Grange Hall, but anyway, there was a big banner hanging up reading SANTIAGO VOLUNTEER F. D. BENEFIT BALL. Right under it was that placard with the blue eagle, cog in one claw and arrows in the other (We Do Our Part), that Frenchy Tremblay tacks up at every event. Folks got tired arguing with him long ago. He was naturalized in '33 and I guess that took its effect on him, and besides, *he* was Fire Chief this year.

The band was tuning up, the coffee was making, the deer meat you could smell it cooking away off, and the soup with dumplings, and in came Omar Kennicott and these two fellows. Each one carrying a gunnysack with what everybody knew right away was a jug in it.

As nothing and no one had been up from the outside in days and days, it had to stand to reason that these fellows must of been with Omar all this time. But nobody had ever seen him associating with one stranger, not to speak of two.

"Hi, there, Charley," he says to me. And I says to him, "Hi, there, Omar." And I kind of smiled at the two fellows and then at him, just to let him know I was agreeable to be introduced if he was and they were, but that I wasn't going to press the point. But not everybody has learned tact and politeness, and there was

more than one I could mention, and not a million miles away either, that gawped and rubber-necked.

Frenchy Tremblay, I'm not speaking of *him*, now, he's got these easily excitable ways, he hustled up and said hello and then he asked, "Who your friends, Omar?" And beamed and smiled so you could hardly take offense, not even if your name was Omar Kennicott and a notorious hard-nose.

"Oh, hello, Eighteen," he said, calling the Chief by his French name like he always does. "These two fellows come over to my place this morning and we been enjoying ourselves all day so much I figured we'd just come on over here and spread the fun around. I guess their car must of broke down. I loaned'm some clothes, as a matter of fact, they was in their underwear. Excuse me, ladies, I just state the facts. Near's I can make out, their names are Ivan and Nelson. I think they must be Swedes or Dutchman or something. Can't talk English. Try'm on French."

This Ivan and Nelson were nice enough looking fellows and they had big long mustaches that reminded me of my Uncle Julius, who was one of those miners got blowed up by that Harry Orchard fellow before he was convicted and got religion. Tremblay tried out in his language, and Gleb

Peterkov tried out in his, and Leo Etchevarria tried in both Spanish and Basque. But nobody got through. Ivan and Nelson just smiled and made funny motions with their hands.

Then Lex Muller, who more or less is the American Legion in Santiago, began to make a long face and scratch his head. "Their *car* broke down, Omar?" he asked. "Now, how could their car break down and they get to your place by this morning?—when *you* know and I know that no car has been within walking distance of here in a week?"

Omar said, maybe they come up by pogo-stick. But Lex kept right on going. "And how come they were in their underwear, Omar? Now, *you* know and I know that they'd of frozen to death if they went more than a mile or two in this weather in their underwear. Now, it seems to me—"

But nobody was really interested in how it seemed to him, and the band broke into music just then and everybody began dancing. Ivan and Nelson didn't, but by the way they gathered around and looked on, they surely enjoyed it. In fact, after the first dance was over, they put on a little dance of their own for us. Never seen anything like it in my life, and I guess nobody else did, either. Funny? I want to tell you —had us in stitches, all right.

All but Lex Muller. He'd taken a kind of dislike to those two. Ivan and Nelson, somehow. When they got done he said, loud and grumpy, "That's a Russian-type dance, in my opinion, if ever I saw one."

Gleb Peterkov said, "That's because you never saw one."

And Dora Moriarity said, "Shame on you, picking on those poor fellows that are so far from their homes and can't even speak the language." And lots of others said, "Yeah, Lex, get off their backs."

Omar kind of muttered, but he lit on the gunnysacks and his face brightened and he began taking the jugs out and some of the men gathered around to watch. Expectant, you might say, and sort of swallowing. Omar had really thumped those corks in hard and there wasn't enough to give his fingers a grip, so he pulled a jack-knife out.

Before he could more than get the blade half-open, one of the strangers, Ivan I think it was, he was a little bit shorter—he sort of stepped in front of Omar and said something cheerful in his own language. He had a thing in his own hand, it looked like a nail-file, kind of. He made three swoops with it and it seemed like that nail-file (or whatever it was) just went *through* the necks of those jugs without stopping or clicking or anything. He handed

Omar three chunks of bottle-necks with corks stuck in them, cut off just as smooth and clean and level as could be.

"Hot damn!" says Fire Chief Tremblay. "You see that? Do it again—"

"Oh, no," Omar protested, kind of huddling over the glassware. "Jugs ain't that easily come by!" He looked kind of sour for a minute. Then he remembered he was the host of these two fellows and he said, "Much obliged to you boys. Somebody got some cups?"

And then Lex Muller did a very funny thing. He took off his wristwatch and held it out to Ivan and with his other hand he pointed to the thing like a nailfile. Ivan caught on right away and they swopped then and there. Well, wouldn't you know it, Tremblay said, "Me, I want one too," and he swopped *his* watch. And in another minute lots of men were saying, "Hey, I bet you them things're valuable," and took off their watches to swop. But Ivan and Nelson just laughed and patted their pockets as if to say, no more: sorry. So a couple of fellows offered to buy them but neither Lex nor Frenchy would sell.

This all left us kind of surprised, so we had a drink in silence when the cups came. Almost as if his mind was on something else, Frenchy Tremblay cut the handle off his cup. He looked

at it lying there and he gave a whoop and he yelled, "Look, everybody, come look at this device which I have just traded off the *voyageur*! Ladies, gentlemen, come, look!"

Turned out it could cut through wood, cloth, steel—anything.

Place was in an uproar.

I guess either Nelson wasn't used to Omar's brand of moonshine, or else he'd soaked up a lot of it real quick, because before anybody knew it he'd give out a couple whoops of his own and tore off his clothes. I mean he tore off Omar's clothes that he'd borrowed. His own were on underneath. In a way I guess they did look like underwear, long sleeves and leggings, but you never saw underwear made from any material like that was—whatever that was—nor in such pretty designs.

First Nelson commenced jumping up and down and hollering a song. I guess it was a song. Then he jumped up and began turning tumblersaults and doing contortion tricks. At first everybody applauded and yelled him on. Then, all of a sudden, there wasn't a sound out of us because it had just hit us that it had been quite a few minutes since Nelson jumped up in the air, and he hadn't come down yet . . . !

If they want it for a souvenir, it's a doggone funny one, is all I got to say.

The first one to speak was Dora Moriarity. "That's what drink will do to you," she said. And then another lady began to scream—"Eee-eee-eee!" and we all turned around and it was Miss Lemack.

Miss Lemack had only been in Santiago a few years. She was an artist-lady and some of the young fellows had got real excited when she asked them to pose, but after it turned out that she made them keep their clothes on and you could hardly recognize yourself anyhow in her pictures, the excitement died down. She minded her own business and she ate these health-foods by mail from Los Angeles.

"I see it all now!" she yelled. "They've come at last! We'll have to notify the Federal Government!"

Nobody was used to paying much attention to Miss Lemack anyway, and these last words sure as Hell didn't meet with no enthusiastic reception. Lots of people in town had no great love for the Federal Government. Omar Kennicott was afraid they would smash his little still up. Brigham Kimball had never forgive them for putting his grandpa in jail for having three wives at once. Leo Etchevarria said "Low tariff on wool" like they were dirty words—which I guess they are, to a sheepman. Tim Newberg and a couple other kids waiting to be

drafted—well, not to enumerate, but as I say, nobody was smiling when I asked her, “Just what do you mean, Miss Lemack, that we have to notify the Federal Government because you see it all, that they’ve come at last? You don’t mean these two fellows have come from Warshington?”

“No, no: from Outer Space.” she yells. “The clothes they wear—the disintegrator implements—the anti-gravity techniques—What more evidence do you want? I’ll let *them* testify!” And she pulled out a big pad and a sharp pencil and she called Ivan over. Some of us gathered around and the rest (most of the people) just stayed looking at Nelson eight feet off the ground with his head where his head had no business being located.

“Look!” says Miss Lemack, drawing quickly—swish, swish, swish—“Look. Look.” Well, I don’t understand nothing about such things myself, but it seems she drew some kind of map of the Solar System and Ivan picked out the Earth right away. She give him the pencil and he drew some kind of map of his own and it seems that—according to him—he and his partner come from somewhere in the bottom-most dribble of the Milky Way.

An antique, maybe? Could that be it? An antique? I just don’t know . . .

Then he turned over a clean

sheet of paper and began to draw some more. A big circle. No, it was a globe. Sort of cut away so’s you could see the insides. Machinery. Two people, real iddy-biddy but you could see it was him and Ivan, what I mean, *clear*? Then he starts making a smooth sort of noise. The engines. Then he goes *bloong—bloong*. Engine trouble. Wobbly motions with his hand. *Ker-plunk!* The space ship, I guess you can call it, makes a crash-landing in the snow not far from the outskirts of Santiago, Idaho. And the charming little Omar Kennicott residence.

“So *that’s* where they come from,” says Omar. “I thought they was Dutchman. Or Swedes.”

But Ivan isn’t finished yet. He draws another space-ship. A great big one. Lots of people inside of it. He calls them up or sends them a radio message, something like that. They get the message. And (here he shows us with the watch) they’ll be along to pick the two of ’m up in a couple of hours.

“Well, I don’t believe a word of it,” says Dora Moriarity. “Stands to reason they couldn’t mean what you think they mean. *My* opinion, they’re advertising one of them now foreign moving pitchers, is what I think.”

Some said one thing and some said another, but Lex Muller, he agreed with Miss Lemack a hundred percent. “Only we *can’t* no-

tify the Federal Government. We're Cut Off here; the phone lines are down like usual, and there isn't even a radio transmitter in the place . . . And in a few hours they'll be gone."

"Well, gosh, I'll sure miss'm," Omar said. "Even if they did just about ruin three good jugs."

Lex gave a kind of hiss. "We've got to make the most of the time we have," he said. "They may never come this way again in our time," he said. "Why, those, um, disintegrators, they may be mere toys, no more than jack-knives in comparison to what their civilization has invented."

I hated to admit it, but right is right. "Lex, you're right," I said.

"Of course I'm right," he said. "How come they stayed so warm in this freezing weather with those mere tights on? How come this other jay-bird can float in thuh air like that in defiance of the gravitational law? To say nothing of the secret of space travel itself, which you bet those Russkies would never let them escape without divulging."

Well, of course, we don't operate like that in this country, as me and one or two others pointed out to him. He didn't like it, but he put it in his craw when he saw the rest of us wouldn't stand for no rough stuff. Besides which (as Leo Etchevarria pointed out), how'd we know but what they might have some secret weapons

stashed away in their pockets—or under their finger-nails, for all we knew?

"I got another plan," Lex said, then. "Primitive as we may be to them, still, we ought to have something they'd like to have. Even if only for a souvenir. The only way we can find out is to show them around. If they seem to like something, we'll give it to'm—then, when we get back to their outfit, we can ask something for a trade for whatever they got."

It seemed like a good idea. So as soon as Ivan got Nelson sobered up (and I surer than Hell wish I knew how he *did* that trick!), off we went. No one felt much like dancing anymore, anyhow.

Of course, look at it this way: What good's a Chinese back-scratcher or a kewpie-doll?

Well, we took those boys into one house after the other. We opened up all the stores. We showed them the newest things in hardware, automobiles, John Deere tractors, clothing, phonographs and records—they just like smiled politely. It seemed like they didn't want anything we want. Not a blessed thing.

And then there was this funny noise in the air. Like a million little bells ringing. And Ivan and Nelson perked right up and we all rushed out of doors. There it was, like a great big moon come

down overhead, with another but smaller little moon—which I guess was the wrecked space ship—just sticking to the side, sort of. It settled down behind Omar's cabin. And there was a lot of goodbyes and handshaking and so on. A big door opened and sucked the small ship inside. A smaller door opened and a couple of men stood there, wearing them funny clothes, too.

They greeted Ivan and Nelson by name. That wasn't just how they said it, but near enough. And, after some quick, last minute business, off they went. And have never been back. At least, not back to Santiago, Idaho.

Lex Muller's scheme fell through, all right. As for the two nail-files, they stopped working after a few days. Ran out of fuel, I guess, or something.

The thing they gave Omar, though, *that's* still working. "Still" is a pretty good word for it, too. It's about as big as a beer-barrel. Omar opens one end and

puts in corn, sugar, yeast—whatever he feels like; fruit, maybe—and closes it up again. Right out the other end, in no time at all, comes the best drinking liquor that has ever been enjoyed on the face of this backward old planet.

If you ask me, Omar has the best of that particular trade. He's made so much money he's put in indoor plumbing. But what gets me is, what on Earth—or anywhere else—did those fellows Ivan and Nelson want with what they took in trade? With the only single item they saw in town that they wanted.

It's not new. It sags to one side and it's real weatherbeaten. And just about the *only* connection it's got with space travel is that little old crescent moon carved in the door.

For a curio-cabinet? For a specimen of native wood-craft? To keep potted plants in? Oh, I tell you, I've thought and I've thought and I've thought, and it's just driving me crazy.



Originally an Illinois farm-boy, later an Illinois motion-picture projectionist, freelance reporter, s.f. magazine collector, and prolific writer of mysteries and science fiction (his last two books were THE LINCOLN HUNTERS and THE MAN IN MY GRAVE), Wilson Tucker is well qualified to tell this particularly convincing story of crime detection plus life on a small spaceship.

TO THE TOMBAUGH STATION

by Wilson Tucker

Toronto: August, 2009

KATHY BRISTOL ENTERED HER supervisor's office by the side door, slipping from the public corridor into his room without having to run the gauntlet of curious faces in the outer offices. She let herself in with her own key, and the supervisor mumbled a perfunctory greeting without glancing up from his paperwork. He said, "Umm, Kate," merely to acknowledge her presence. His desk was littered and untidy.

"Umm, Kate," she retorted. "Five or six people have keys to that door."

"But all of the others are elephants in wooden clogs. And none of the others wears perfume." He paused to sniff. "You've changed it."

"Look at me, governor."

The supervisor turned from his

desk and blinked at the young woman. He blinked again. She reminded him of a tall, extroverted showgirl—the brassy, half-educated kind of girl who supposed that successful showgirls should resemble courtesans. "Umm," he said again. "You have changed." And then he noticed her hair. "I say, you've also changed your hair."

"I like change, governor."

"Yes, I expect so. Come around and sit down." He prowled over the littered desk and finally found the object of his search, which he handed across to her as she took the proffered chair. "This is your script."

"I've read the script," Kate reminded him, but she accepted the volume and thumbed through it once more.

The script consisted of nearly

fifty pages of typed matter, plus numerous handwritten annotations on the margins of several pages; all were stapled together and bound with a stiff blue cover. A man's name—Irvin Webb—and his city of residence was written on the cover, together with the file number assigned to him. The bulky volume was a reasonably complete dossier on that man and his career and his vehicle. It detailed the grim case in which he was presently involved. Printed in minute type on the outside back cover of the dossier was the name and headquarters address of the Interworld Insurance Company. Several employees of the company, working under the direction of the supervisor had compiled the document. Kate Bristol had needed to read it out once to commit the contents to memory.

A colored photograph of Irvin Webb was included in the volume and she studied that photograph anew. She noted the network of harsh lines on his face and neck, and the tiny cancer scars marking his burnt skin—lines and scars that readily identified his poor profession. Irvin Webb was a sky tramp.

"He is long overdue," she said flatly.

The supervisor agreed to that. "Forty-odd, I think. Umm, yes, he's forty-three years old. Five to ten years beyond the ordinary death or retirement date, I would

say. And he knows it, Kate. That certain knowledge may have pushed him over the edge."

"They seldom quit in time." She peered at the eyes in the photograph and found them black, contrasting starkly with the white or grey hair.

"Greed," the supervisor reminded her. "Or aimlessness. They always seem to believe they can find one more cargo, make one more trip. They continue to pay us expensive premiums and continue to fly to the bitter end, seldom realizing the latter affect the former. This Webb, now . . ."

"Compelling motive," the woman suggested.

"Most compelling," her supervisor nodded. "A considerable sum is involved here. With one partner dead and the other in jail—well, there you are."

"What about the one in jail?"

"Forget him. You know absolutely nothing of him."

"All right, governor." She tapped the dossier. "Irvin Webb is our prime suspect?"

"He is; otherwise the assignments would have been different." The supervisor had no compunction on the assignment; he knew the woman to be cold, efficient and tough-minded—he knew her for a huntress. And he had long ago learned, via the grapevine, that at least one man in the outer office had discovered her statuesque body was not to be played

with. He said, "I expect this will be routine. For you, at any rate."

"Routine," she repeated. "Give Webb the works."

"But subtly, of course. Remember that you are only the interrogator; not the judge, nor the jury, nor the executioner. We will leave all that to the proper authorities when you have completed your examination."

"Oh, very subtly," she smiled. "He is an odd character."

"He is a deadly character, if my suspicions are correct."

Kate said thoughtfully, "It was a dirty way to die. A dirty way for anyone to die."

"It was a most unusual way," the supervisor pointed out. "Men have died before in similar fashion, quite by accident. Proven accident. Men have met death in many strange and disquieting ways, but this particular kind of death is revolting—and, just perhaps, ingenious. That is what worries me." He studied his hands on the desktop. "You must ascertain if this man—this Webb—committed murder. And if you find that he did, then you must bring me sufficient evidence to take into court." He looked up quickly at the woman's rouged face. "And I know you well enough, Kate, to know that you relish the job."

She answered him with an old cliché. "I'll hound him to the Tombaugh Station for you."

"I hope that won't be necessary," he said dryly. "Now, please, let us examine the matter of your identity." He opened a desk drawer and removed a sealed envelope. "Open it."

Kate ripped the envelope. A bankbook, a partially-used check book, a birth certificate and an I.D. card tumbled into her lap.

The supervisor said, "Read them, handle them, cover them liberally with your fingerprints. The bankbook is a record of your deposits, of course, and the checkbook will show your current balance posted in the proper place."

"How did I earn all this money?"

"In any way that suits your fancy; it is a matter which cannot be easily proven or disproven. We have assumed that a Webb-inspired investigation—if any—will not probe beyond that Omaha bank." He stared at her new appearance. "You might be an actress, you know. A rather flamboyant creature, not quite deserving top billing."

"Thank you for the flattery. Will this be enough money?"

"We believe so. You will be charged an exorbitant sum, and you should react accordingly, but this amount should be sufficient."

She stared at him. "Exorbitant? Where am I going?"

"You are going to book passage on Webb's vessel."

"But where am I going?"

"I really don't know," was the bland reply. "I wish I did. To the far moons? Titan, perhaps? To the Ice Rings? I don't know, Kate. You are going to any distant place that will require a journey of several weeks. You are going to any far moon where he may have business. You will remain with him for a considerable length of time, and that is certain to involve a flight to somewhere or other. Your objective is sufficient time to gather indisputable evidence, evidence to convince the police and the courts."

"Great Smith, governor, I said I'd hound him to the Tombaugh Station, but I didn't expect to be taken seriously. Do you know where he does business?"

"Certainly. We insure him, his vehicle and his cargo. Kate, if this man is guilty of murdering his associate for the sake of their partnership insurance, he will not simply confess overnight for your convenience. Remember that he is stubborn, and enduring. Stay with him, pry it out of him. I expect it may take considerable time."

She slapped a quick hand on the desktop. "How much is the bounty? I work for money, governor."

"Twenty percent of the principle sum involved."

"And what is the principle sum involved?"

The supervisor named a figure that caused her to whistle with

surprise. "No wonder you want to show misrepresentation! The company is on the hook."

"Oh, now, it isn't too large a figure for men and machines in that trade," he said defensively. "We find these vehicles and their personnel an attractive risk."

"Except when the personnel tries to con you."

"Well said. We simply cannot allow an unjust death to masquerade as an accident. What will people think?"

"They'll think it can happen twice or a dozen times. But I won't get off the ground with these papers."

"Of course not. You did not anticipate the journey in advance; at least, not in time to secure standard clearances. Ask Webb's advice. He will tell you to buy what you need on the black market. Do so."

Kate studied the card and the certificate. "Do I really appear to be thirty-two years old?"

"Much older, I expect."

"You've been married too long, governor; you've lost the tactful touch. All right, I'm thirty-two, I have some money and I want to go barreling out across the solar system. Do you have anything more to show me?"

"Nothing more. Now you show me."

Kate removed her gloves and extended her hands, knowing that the supervisor wanted to see. Her

skin was softly feminine with just a shade of natural tan, the skin of a well-groomed woman in her middle twenties. The man behind the desk sucked in his breath when she parted her fingers. The webbing of skin between the fingers was cracked and rotting, and seemed ready to peel away.

When the supervisor had examined the apparent affliction to his satisfaction, Kate said, "My toes are the same."

"Let me see, please."

She removed her shoes and long colored stockings to reveal her feet. There, the crowded and wrinkled skin between her toes seemed to show an advanced stage of disease.

"It seems to be an adequate job," he commented.

"It is an adequate job."

"And the remaining parts of your body?"

"Adequate," she repeated dryly.

"Sufficient to cause a man to stop and reconsider?"

"Sufficient to stop a man in his tracks unless he is blind." The huntress grinned maliciously. "Irvin Webb isn't blind."

"Well and good. And now, your radio?"

"Buried, and sending," she stated flatly.

The supervisor had the uncomfortable feeling that the woman was laughing at him. He passed his hand over an intercom panel and said, "Radio room."

A distant voice responded. "Yes, sir?"

"Are you now receiving Kate Bristol?"

"Yes, sir. A constant signal mixed with some static, but we attribute that to interference within the building. We have a fix on your office, sir."

"Very well." The supervisor broke the connection. His following sigh revealed his age and his burden. "Well, Kate, we seem to have completed your defenses, and I sincerely hope they *are* adequate. It is useless to pretend I don't worry about you. I do. But it would be equally useless to place a man on this assignment; Webb will not tolerate another man, although he may accept you because of your sex. I am hoping he will.

"Now, Kate, don't take unnecessary risks. Do nothing beyond what is needed to determine his guilt or innocence. I am prepared to accept your decision on that. If you find him innocent the company will put through the check without delay; but if you find him guilty—well, the evidence *must* convince the authorities, *must* be strong enough to give us the legal right to withhold payment. You know, of course, that a beneficiary cannot profit from murder. But whatever the outcome, the bounty will be paid you, of course.

Kate grinned. "Of course. Anything else?"

He was solemn for a moment and then asked, "Have you ever been shipwrecked? Or jettisoned?"

"No. Am I missing something?"

"If either catastrophe should occur, your life will depend on your radio," he said gravely. "Another vehicle cannot follow too closely, for it would stand revealed on his screen; your safety will depend upon how soon we can reach you from an unobserved point in space. Kate, if you go overboard for any reason, depress that panic button on the radio—it will then broadcast a continuous distress signal on several bands. With luck, someone can reach you within a week."

She grinned at the man beyond the desk. "Assuming that I am wearing a lifesuit when I go, and that the suit is stocked with provisions?"

He blinked away the levity. "Naturally. You must be prudent."

"But have you considered the possibility of me throwing *him* overboard?"

The supervisor actually smiled. "Yes, you would probably do that. This man is tough, but you would probably do that, Kate. After all, I chose you." His smile faded. "The best of hunting, Kate."

She winked at him and slipped out the private door.

Irvin Webb pulled worms from the ground and flung them to a hungry beggar.

The beggar was a young robin with speckled wings and a pale yellow belly, too young to be sensibly afraid of man. It performed a nervous, erratic dance on the lawn a scant dozen feet from the kneeling man and watched every vicious bite of the blade into the turf. There—it had happened again. Webb turned another savage scoop of earth and his fingers pulled loose a moist worm, flicking it at the hungry bird. The man stared at the ground between his knees and compared this new hole with Singleton's grave. The lawn around him was pocked with a dozen—a score of freshly dug holes and each one of them was akin to Singleton's grave.

Singleton had been in his grave since early afternoon. The funeral was a crashing bore. Webb had remembered Singleton's dream of a burial on the moon—if he ever died. Young men seldom thought of dying.

Singleton didn't get his wish, of course; he had died some twenty miles above the earth a few days ago, and had been buried six feet beneath it, in an Ontario cemetery, a few hours ago. So much for the dreams of young men. Webb jabbed the spade into the ground again and went on making still another hole.

The robin took flight in sudden alarm.

Webb heard a swift step and a woman's voice.

"Oh, hello there . . ."

Webb turned on his knees and found a woman standing before him, a very tall woman clad in some kind of opaque green fabric. She wore a wide-brimmed hat and a pair of white gloves to match. The gloves had long sleeves which reached to her elbows and beyond, disappearing beneath the sleeves of the dress. Under her large hat she had combed brown hair and a faintly pleasant if heavily made-up face. The woman looked like an actress or a whore.

"I rang," she said, "but there was no response. Perhaps you didn't hear the bell."

"It's disconnected. What do you want?"

She seemed taken aback at his attitude. "I'd like to talk to you."

"Why?"

"Well . . . on a matter of business."

"Is it important?"

"I think so." She frowned and then studied him closely. "That is, if you are Irvin Webb. Are you?"

"I'm Webb. I'm not buying anything."

"And I am not selling anything. May I talk?"

Webb looked her over more carefully and then got up to offer her a lawn chair. She *was* tall, easily matching his own spare six feet, and the tightly covered slowness of her graceful body served to emphasize it. The only square inches of naked flesh to be seen

anywhere were the neck and face, and that was spoiled by the excessive cosmetics. Webb knew a sudden conviction that the woman wasn't as soft as she seemed. He outweighed her by fifty or sixty pounds, and was at least ten years older, but the conviction grew on him that she would likely hold her own in a wrestling match.

"What about the guys at the field?"

She smiled and nodded. The heavy lipstick moved awkwardly with the muscles around her mouth. "I was seeking a ship, and they said you were the only pilot available."

"Tight board," Webb agreed cryptically. "What do you want?"

"I would like to arrange a flight. A charter."

Webb had figured as much, and he also surmised that she represented money. Money was what he needed right now. That damned funeral, as cheap as it was, had taken a chunk from his meagre bank account; and those other funds he was expecting were exasperatingly slow in coming—he had never before been an insurance beneficiary, and he had no knowledge of how soon or how late they paid off.

"Sure," he said. "Where to?"

"Oh, I don't know really. Just anywhere, I guess."

"You can't just fly off into the wild blue yonder. Flights have to be plotted."

"Yes, I understand that." She paused for a moment. "Perhaps to Ganymede?"

"The far moons?" Webb shook his head in dismay. If she really wanted that the fare was as good as lost. "I've only got a can. Didn't they tell you at the field?"

"What is a can?"

"A rebuilt South Bend JB-9."

"But what is *that*?"

"A can—a bucket! A freight job with a two-man crew."

"Well?"

"Two men in the cabin—like this." He held up his two fingers closed together. "The thing is a bucket and there ain't any better name for it. The cabin sleeps two, one up on the other—the man in the top bunk sleeps with his behind rubbing the belly of the man in the bunk below. It feeds two, and you eat sitting on the floor. It carries air and water for two, if you don't breathe and drink too much. Hell, there ain't even a door on the toilet—doors make excess weight. Sister, I've got a bucket."

"But surely there is more to a ship than that. I've ridden on them."

Webb nodded sourly, staring at her extraordinary long legs and wondering why she concealed them in opaque stockings. "Sure you have. You've ridden in those fancy scows to the moon, or you've taken one of the big jobs going out. But this is a bucket! It has room

for fuel and cargo, and never mind the passengers." Webb sighed and gave up the idea of a charter. "I can't cheat on fuel if I want to get somewhere and back again; I can't cheat on cargo and make money. Nobody wastes air pressure on anything outside the crew's cabin so you stay in the cabin all the time—do you follow that?"

"Of course, but—"

"No buts. You wouldn't like my bucket. Go buy a ticket to somewhere. The moon ferry will transfer you to a big job going out."

"Not this month," she contradicted him. "I asked. There is nothing scheduled for nearly four weeks."

"So wait four weeks."

"No!" She opened her purse and let him see the checkbook while she fumbled for a cigarette. "I want to go now."

"You're in a damned big hurry, sister."

"I am accustomed to doing things in a hurry."

But he neglected to answer that because a suspicion was growing in his mind. She was in too much of a hurry and the fancy scows plying the moon run weren't satisfactory to her. Why not? Webb grunted sourly. He could guess at one creasy reason why. He'd heard of it being done, and it was usually done on buckets such as his. The thing was nearly impossible to accomplish on the big scheduled ships because every passen-

ger had to submit to a rigid physical inspection—but it could happen on a bucket like his if he wasn't careful, damned careful.

There was something to the hang of her dress, to the way she concealed her body from the sun—and from him. Her entire ensemble was simply too much of a piece and the suspicion gnawed him.

His surly glance returned to her face. "No."

She almost shouted the rebuttal. "I want to!"

"It's my bucket, sister, and I said no."

"But why not?"

Webb exploded. "I don't have to cite reasons. I don't want you." He cocked his head. "What are you running from?"

"I'm not running from anything."

"The law after you?"

"Certainly not."

"Are you one of those stupid *gafia* people? Are you an escapist? Looking for a new utopia, maybe?"

"Don't be silly. Those people aren't well."

"All right, sister, what is wrong with you?"

"What do you mean by that, Irvin Webb?"

"I mean just this: supposing I jumped you topside? Supposing something happened up there, something messy? What if you got sick? What if you died? How in

hell could I explain that?" Webb jeered. "Go sucker somebody else. You're not going to foul my ship."

The woman was suddenly still, the small feminine movements of her body halted in rigid immobility. Webb could see the cold shock growing on her face.

She whispered, "What are you thinking?"

He said brutally, "I think you're pregnant. I think you want to jump topside and lose it."

Webb was watching her face when he should have been watching the hands—her balled fist caught him across the mouth, rocking him, and a second blow sent him sprawling among the many holes dug into the lawn.

Inside the house his radiophone buzzed.

Webb rolled on his belly and jumped to his feet, backing away. He tasted blood in his mouth and found that his teeth had torn a gash in the soft wet lining of his cheek. Now he watched her warily and knew that he had been wrong about one thing, knew the absurdity of his suspicion. She wasn't pregnant. She was holding the cloth taut across a flat stomach, daring him to repeat the accusation. Webb shrugged and admitted to himself that he was in error—this time. But it *had* been done.

"My mistake," he said curtly, nursing his lips.

"You filthy beast!"

Webb grunted and looked toward the door. The phone was calling him.

She said, "You should apologize."

Carelessly, "I apologize."

"And *mean* it!"

"Oh, go home," he shouted and walked away from her. Webb mounted the single step serving as a threshold and entered the house, allowing the screendoor to bang noisily behind him. Striding through the empty rooms to the phone, he knew again the tomb-like atmosphere of the empty house and decided to sell it, or even abandon it if he couldn't find a buyer. He was the sole occupant now.

The house, like the old freighter squatting on the field not far away, had belonged to the three of them—to Singleton, to Jimmy Cross and to himself, a partnership. But now the partnership was ripped asunder with Singleton in his grave and Cross in jail on suspicion of murder. The house and the ship would be his, all his, if Cross failed to escape a prison sentence. Webb didn't want the house.

He picked up the radiophone. "Webb here." The voice at the far end was recognized and he added, "Hello, Squirrel, what do you want with me?"

The voice told him in half a dozen rapid sentences and Webb

grew excited. "The *hell* they did? After all these years!" He listened to further information and then broke in once more. "Never mind that stuff—load it on. I'll take it, Squirrel, I'll take every long ton you can cram in! Pile it on. . . . What?" A pause. "Money?"

Webb turned and squinted through the doorway. "Hell, yes, I can put up first money. Just you pack in that cargo—pinch it. I want all I can lift. And then get a plotting for me and a place on the booster. Maybe we can make it by midnight. What? Yeah, I'm coming out there now. Hang up and start working, Squirrel."

Webb dropped the phone and spun on his heel, making for the doorway. The woman was waiting where he had left her and was pretending to be interested in the many small holes in the turf. Webb grinned at the holes and again thought of Singleton in his grave.

He pushed through the door said, "Out, eh?"

She quickened. "You will accept my charter, Mr. Webb?"

"You want to go to the far moons?"

"I do. How much will it cost?"

Webb evaded that and asked instead, "Do you have papers?"

"Papers?"

"Flight clearances," he said impatiently. "An I.D. card, health ticket, and so on. The guys at the field will have to see them or you

don't go topside. How about a passport?"

"I'm a North American citizen. I was born in Loveland, Ohio."

"Then you don't need a passport. The field office will issue a tourist card, but you *have* to buy a roundtrip ticket. You can't stay out there."

"How much will it cost?" she asked again.

Webb fell silent, giving the impression of weighing the matter in his mind but she knew the impression to be a false one. She watched as he examined her clothing and guessed at its price, watching him coolly estimate the sum of money she was supposed to represent. He was also studying the lines of her body beneath the clothing but she was prepared for that.

Irvin Webb was a tramp; was little different from a hundred other tramp spacemen she had seen. He was not unique. He wore his white hair cropped close in a burr cut, his skin was darkly browned and his ears were burnt black by careless—and overlong—exposure to radiation behind inadequate shielding. The tiny cancer scars she had seen on the photograph attached to the dossier now stood out prominently, even cruelly on his neck and face, contributing to his inelegance. Webb's eyes were black, and he was actually ugly—not repulsive, merely ugly. She recognized a certain

brutish strength, but she knew his age as forty-three, and they both knew he was long overdue. There were no really *old* men working the skies.

He said at last, "Three thousand."

"Three—" She caught her breath and tried not to lose her temper again. The sum was staggering, despite the earlier warning from her supervisor. "I didn't expect it to be so *much*."

"You're chartering a bucket, sister, not sharing it with a dozen other people."

"But after all, three thousand!"

"Sister, the far moons are expensive. If they'd let you buy a one-way ticket I could knock down on the price, but they won't and I won't. I have to buy fuel, supplies, and a hot brick to fire the fuel. I have to buy tapes for a plotting and *then* pay for the plotting. I have to pay the booster to get me off the ground. In cash. My credit isn't worth a damn around here anymore." He spread his hands. "What's left over is my profit. I split that with my partner."

Kate was of the opinion that a considerable sum would be left over for profit, but she did not voice the opinion. "A partner?" I thought it was your ship?"

"It's in my name because I'm the senior partner, but it's only half mine." He glanced at the gouged turf. "I did own a third, but the number three man died."

"Will your partner accompany us?"

"He will not. He's in jail."

"For heaven's sake! Why?"

Webb grinned crookedly. "Because the number three man died, rather suddenly."

"Oh."

"Yeah, oh. Now, there's one more piece to this deal and you have to agree to it in advance. You said you didn't care where you went so long as it was out. All right, I'll take you out. But I'm choosing the destination and I'm reserving the right to pick up and deliver cargo to that destination. You agree to that."

Kate said wistfully, "I had hoped to see Nereid. I've read so much about it and I've seen pictures of the glass caves. The interior must be a fascinating place."

"Neptune is on the other side of the sun," Webb told her flatly, "and Nereid went along with it. Only the big jobs are going out there this season." He grunted, "The interior of Nereid is just a hole in the ground and I've seen better holes. What about it?"

"Will you also provide my return passage?"

"I have to post bond for your return passage. That's regulations. If you come back with me, I collect the bond but if some other pilot brings you back he gets it."

"Three thousand?" she asked again.

"You can get a moon hop for a lot less."

"No," she said in apparent defeat, "I will pay it."

"I thought you would."

"You seem very sure of yourself, Irvin Webb."

"I am. Are you going to pay by check?"

"Of course."

"Then I'll take it now. I'm going to the field."

She stared at him stung by the implied insult. "Don't you trust anyone?"

"Yes. Me."

Webb stood before her with his feet thrust apart trying to peer through the deliberate opacity of her clothing harshly subjecting her to an undisguised insolence of tongue and manner. Kate thought she understood the reason for that. He had decided that she was an oddball with more money than intelligence; he supposed that she was running away from something, seeking some new but really non-existent Eden among the outer satellites. Very well. Let him continue to believe that, let him continue to think her a fool. He had no consideration for her personal feelings and with one brutal sentence he had robbed her of her dignity; with another he very nearly wiped out the funds in the Omaha bank. He had pretended not to want her charter and yet he was greedy for her money.

"Is there anything else?"

Webb raked her apparel with a critical glance. "You could trim down on the clothing—the less you wear the better. That bucket heats up."

"I beg your pardon?"

"Heat, sister, heat and discomfort. I haven't room for refrigerating gear and I wouldn't waste the money if there was room. Strip that stuff off or you'll regret it." He saw the sudden wary expression and laughed at the woman. "Oh, hell, cover it up if you want to hide it, but keep it thin—the lightweight stuff. Foil coveralls and a pair of magnetic shoes are all you need."

"What do you wear?" Kate asked faintly.

"Shorts." He exposed his arms and the burnt skin on his legs. "That crazy Singleton used to ride naked. The bucket gets hot."

"Singleton?"

"The dead one."

"Did he burn to death because of—what you said."

"He did not. He killed himself by stupidity. Hell, you won't burn much, not in just one trip. Something else: keep the luggage down to one suitcase; I can't afford weight. And that's about it. Get your papers checked, get some doctor to pass you for flight. I'll handle the rest of it when I take you through the field office." He gave her a sidelong glance. "Be prepared to spread some money around."

"What does that mean?"

"You haven't got clearance papers. You're going to have to buy some."

"Oh, yes, I understand."

"I thought you would. All right, get moving—you've got a lot to do. If we're lucky, we jump topside at midnight. The name of my ship is the *Xanthus*. Be there two or three hours ahead of time."

"What a beautiful name, and a strange one. What does it mean?"

"My partner found it in a book," Webb explained. "Xanthus is a buried city or something like that. We use it because it's the only X in the registry. Easy to find and easy to remember."

"I approve of your partner's choice. It is a very lovely name." She hesitated and then asked, "The deceased partner? Mr. Singleton?"

"No—the one in jail. Singleton never read a book in his life; he used up all his intelligence committing suicide."

"Do you read much?"

"I like to read checks."

"Of course." The woman opened her purse and removed the checkbook. "I believe you said three thousand?"

"You know what I said."

Kate wrote out the check and handed it to Webb. He read it twice, smiled, and folded it away in a pocket. "Kate Bristol. I wondered if you had a name."

"I'm sorry, I forgot to introduce myself."

"Miss Bristol?"

"Yes."

"All right; be there about nine tonight. Check in at the purser's cage and put in a call for me. We'll clear away the red tape and get you on board." Webb strode away from the woman. Pausing on the doorstep, he glanced over his shoulder and was surprised to find her still there. "What are you waiting for?" he demanded dourly. "Get those papers squared away."

She snapped shut the purse and then played with the catch. "Mr. Webb, you said the . . . the convenience lacked a door. Would it be possible to place a door on it? After all, we will be together for several weeks—surely you can spare *that* much weight."

He laughed rudely, enjoying her flushed face. "Hell, yes, if you want one."

"Thank you." Kate left him then, walking with the slow measured tread cultivated by tall women to avoid awkwardness. The stately beat of the sharp heels moved around the house and died away in the late afternoon. Webb pulled the check from his pocket to read it once more. Statuesque woman, statuesque money. (And she'd damn well peel off those stifling clothes after a while and he'd get a look at the statuesque body.) The sum and the expectation afforded him a pleasing, buoyant sensation.

Webb waved the check toward

the many holes dug into the turf behind the house. "Look, kid! And you don't get a penny of it. Your bad luck, boy—your stupid bad luck. Remember to watch the air pressure next time, if there is a next time." The check was again tucked away but Webb tarried, looking at the dozens of little graves.

Night was coming on, Singleton. Darkness. But then it had been dark down *there* for several hours, hadn't it? Dismally dark down there since the undertaker fastened the coffin lid and the gravedigger had shoveled dirt into the hole. You should have remembered to watch the pressure. Watch that air pressure, if you're flying buckets in hell now—and don't trust anyone else's handiwork. The first mistake is the last. You're grounded, Singleton.

Kate Bristol said, "So this is the bucket."

"This is the bucket," Webb acknowledged.

"It doesn't seem so small."

"You're not inside yet."

"*Xanthus* is a pretty name," she replied, "but some of the paint is peeling away."

Webb stared briefly at the camouflage on her face and then picked up the suitcase to climb away from her. After a moment of indecision the passenger abandoned her inspection of the ship's exterior and followed him up the ladder

to the airlock, swinging with an easy grace. Webb noted that and remembered the blows on his mouth. He passed through the lock, followed a cramped passageway for a distance and then climbed another ladder. She stayed at his heels. The second climb terminated on a tiny landing. Webb shoved open the hatch beyond the landing and they were in the cabin.

"Surprise," he said sourly.

The cabin was nearly the shape of a truncated cone and about twelve feet wide at the base, its broadest dimension; from the hatchway it stretched forward some eighteen feet to end on a gently curving bulkhead. Above, it was twice the height of a man at the inner wall but again the ceiling sloped to meet the deck at starboard. Two narrow bunks hanging one above the other, and three lockers standing in normal fashion occupied the port wall near at hand. Beyond the lockers a minute galley was fitted into a wall recess, with storage water protruding from the wall directly below it. Someone had pasted an oversize starmap on the forward bulkhead.

The remainder of the inhospitable cabin was given over to the apparatus necessary for operating the ship. The gear was tightly packed into every cranny of the cabin—with some of it hanging overhead—as to suggest that the

room had never known a layout design, that everything was simply thrown in and bolted down when the vessel was otherwise completed. Kate studied the cramped cabin and finally dropped her gaze to the aisle, a relatively unimpeded walking space down the center. She judged it to be six feet wide and perhaps fifteen feet in length, providing one dodged around a squat chunk of machinery occupying the exact center of the cabin. Six by fifteen feet: home for the next few weeks.

"What's that thing in the middle of the floor?"

"That thing in the middle of the *deck* is the auto pilot. The plotting room charts our course on tape and I feed the tape into the pilot. If nobody has made a mistake it gets us there after a while."

"Everything is so small, so cramped."

"It's big enough for me," he said significantly.

Kate asked, "Are we leaving at midnight?"

"No, they're still loading cargo. The tower is saving me a hole on the six o'clock booster. Six in the morning." Webb offered a broad wink and rapped his knuckles on a newly-hung sheet of fiberglass. "Look, I put a door on the head."

"Thank you. And which is my bunk, please?"

"Topside."

She examined it with misgivings, acutely aware of where that

placed the man. "I trust these Van Allen bags are spaceworthy. I don't want to burn."

"They'll do," Webb said. "We go through the belts in a helluva hurry."

"What is your cargo, if I may ask?"

"Hardware—automated stuff, all kinds of robot monkeys." He pounded the bulkhead with heady exhilaration. "I'm taking on an automaton down there big enough to run a radio telescope. It *will* drive a radio telescope; there is enough hardware to keep the thing running forever, I guess. Priority hardware, every scrap of it. Those damned bureaucrats stalled for eight or ten years and then made up their minds yesterday." He clasped his palms together in an avaricious gesture. "They're paying for the priority now—paying through the nose. Bureaucrats like it that way, sudden and expensive. I'll take their money."

Kate knew a pang of apprehension. "Where are we going?"

"The Tombaugh," he chortled triumphantly, "all the way out to the Tombaugh, and its costing those bureaucrats a sweet lot of money!"

She fell back, sharply dismayed.

There was no need to ask for further information on that destination. She knew. The Tombaugh Station was civilization's single outpost on Pluto, the smallest and furthestmost speck of human habi-

tation in the coldest reaches of the solar system. The Tombaugh was an observatory, the only one beyond Callisto, and it was the nearest neighbor to X. She remembered reading that a huge radio telescope was part of the Tombaugh's equipment, together with an astrophotograph, a twenty-four inch reflector, and a Schmidt camera for a program of comet observation. Only a handful of men lived there to maintain the watch.

Pluto was a cruel, inhospitable world; its four thousand mile diameter contained nothing other than a low, dense atmosphere of icy hydrogen and helium, closely hugging frozen methane seas which in turn were imbedded on a rocky core; a world largely unexplored and unmapped; raw, barren, mountainous and all but useless to man. Pluto was inutile and nearly untenable, so remote in space that the sun was but a brilliant, spectacular star. The most recent report she'd read said that at Pluto's perihelion, just past, surface illumination was equal to only three hundred times that of moonlight. The forbidding temperature of almost four hundred degrees below zero discouraged all activity except one: the operation of the observatory.

The Tombaugh was an excellent observatory for its lonely vigil, being perched on a mountainous crag well above the smothering atmosphere of Pluto.

It watched X, the tenth planet of the solar system.

X was the true Trans-Neptune, the planet Lowell had been seeking when he found Pluto. It was only ten years old by popular reckoning and swung in a vast, leisurely orbit more than one thousand million miles beyond Pluto. The skeptics professed to see no reason for ever visiting it. X had an inappreciable albedo and an anticipated large size combined with a low density; it possessed a frigid and lethal atmosphere in keeping with the outer planets, and at least four satellites. Its outermost moon, circling the primary at more than three million miles, had been suggested as the next stepping stone to the stars.

Ten years ago a startled Brazilian radar operator aboard a patrol ship had found X and almost at once, to study it, the Tombaugh Station was erected on Pluto's jutting crags—the most advantageous window imaginable short of an actual landing on that outermost moon. X was the center of scientific discussion and of public fancy. The hottest question concerning it was that one debated in numerous inter-governmental conventions: should the Tombaugh be dismantled, now that it's immediate usefulness was coming to an end?

For Pluto was rapidly pulling away from X, dropping the new planet behind in remote darkness.

For a period of about forty years Pluto was, in effect, the eighth planet from the sun, because its peculiar path brought it inside the orbit of Neptune, and by exerting the utmost effort, small freighters such as Webb's bucket could reach the eccentric wanderer. But now, in the summer months of 2009, Pluto was swiftly nearing the end of its visit; within a short time it would again cross Neptune's orbit for its long retreat outward.

Kate recalled the debated questions: should the Tombaugh be dismantled for salvage value? Or should it be abandoned, at least until Pluto's next return two and a half centuries hence? Or, and this was most tempting, should the station be outfitted for non-human operation, to maintain a robotic sweep of the heavens during its two hundred and forty-eight year orbit about the sun?

Webb's damned bureaucrats had acted at the last possible moment. The most tempting question had carried and they were loading on board a cargo of automatons.

"Look at that goddam thing!"

Kate was jerked from her reverie. She found him forward fussing over the radio, and two shot steps brought her to his side. "What's the matter with it?"

"Look," he bellowed, the damned thing's got a bug!"

She looked but saw only an erratic, jumbled shimmer washing over the screen. It reminded her

of a slow, majestic tide sweeping across an empty beach.

"What kind of bug?"

Webb's reply was a shout. "If I knew that I could do something about it." He jerked the electric cord from its receptacle and began dismantling the unit. "It wasn't like this yesterday!" He pulled on something inside and then swore when his fingers slipped, skinning his knuckles. A moment later a transformer came free and was hurled across the deck. The replacement was accompanied by a rolling commentary which had little bearing on the matter.

"Don't mind me," Kate said. "I know all the words."

Webb ignored her and continued working. But when the new transformer failed to correct the trouble the flow of colorful words doubled, and he started pulling bits and parts from elsewhere in the unit.

"Excuse me," Kate offered at last, "I only thought I knew them all. That remark about Titania and Oberon is new to me. But aren't they of the same sex?"

"Moons, not people," he replied witheringly.

She considered that. "I still don't understand it."

When Webb had done everything he could think of, the erratic tide continued to wash across the radar screen. "I wish Jimmy Cross was here," he said in utter disgust. "This is his meat."

"Who is Jimmy Cross?"

"The one in jail."

"Ah, the other partner. And he is a mechanic?"

Webb ignored the question and moved along the narrow aisle to his miniature teletype. He opened the machine.

**XANTHUS TO TORCON: I
HAVE A RADAR GHOST.
WHOSE FAULT? X**

"What is Torcon?" Kate wanted to know.

"The tower across the field—Toronto Control."

"And X indicates the end of the message?"

"Yes." A bell sounded and a moment later the teletype delivered his answer.

**TORCON TO XANTHUS:
GHOST IS EVERYWHERE.
YOUR FAULT. X**

"Thanks," Webb said sarcastically to the distant teletype operator. "Now why don't you come down here and fix it?" Wearily, he opened a locker to remove a bag of tools. The bag was flung into the aisle and Webb began dismantling the radar unit a second time, resigned to a long task.

Kate Bristol watched him for a while and then, tired of the continual flow of profanity, she climbed into the upper bunk and wriggled into her Van Allen bag. She tried to shut the sound of his voice out of her ears.

She was rudely awakened some hours later when he smacked the underside of the bunk with a heavy fist, jolting her into awareness. There were heavy sounds somewhere in the bowels of the ship and after a moment it seemed to swing like a pendulum. Webb scampered about the cabin, slamming and bolting hatches and retrieving useless tools. She watched him run into the toilet cubicle to make sure the drain locks were closed and then he slammed the door—the new door. The pressure pumps were started and they made a maddening racket within the confines of the tiny cabin. He opened the teletype and the radar, and cursed again. She realized the bug hadn't been removed.

Webb made a final inspection of the cabin and its appointments and slid into the lower bunk. "Strap in," he shouted as he dug a hard finger into her rump, "We're jumping topside."

"Stop poking me! I am strapped in—after all, I'm no novice." But she was also inside the Van Allen bag, forgetting that it wasn't needed as yet. "How high will the booster carry us?"

"About twenty miles, and then throw us away."

Twenty miles. According to those reports, Singleton had lost his life about twenty miles up and the twin vacuum locks had been responsible. Kate asked, "Will we go into orbit?"

"Everybody goes into orbit," Webb replied. "You ain't a green hand, eh? The booster throws us into a plotted orbit, but we're on our own when we climb toward apogee the second time. We high-tail it for Titan."

"Is it always so noisy?"

"You'll get used to that. Live with it for a week and you can hear me whisper." He stopped to listen. She detected no change in the general noise level but he seemed to hear something below. "Here it comes!"

The brutal surge smashed into her stomach and robbed her of wind; queer, annoying fingers of creeping darkness probed her mind. She tried to push them away but failed. The *Xanthus* rode skyward on the booster rocket.

The cabin was measurably quieter.

Irvin Webb sprawled on the deck with his back to the sloping starboard hull and watched the young woman in the radiation sack recover consciousness. The noisy booster which had thrown them into orbit was long gone, dropping earthward, and the cabin seemed relatively peaceful. Webb was amused at his passenger.

She fidgeted uncomfortably in the bag, stretched out her long legs to ease the cramp and then cautiously put her hands through

the opening at the top. A moment later the folds of the sack were pulled away and her cosmetic-laden face appeared. The face peered around the cabin in brief bewilderment and then discovered Webb on the deck. He was wearing nothing more than faded khaki shorts and magnetic shoes. She noted that he hadn't shaved.

"What are you doing out of bed?" she demanded.

"What are you doing in the sack?" he countered. "My engines haven't fired yet. We're in orbit."

"Oh, of course. Where in orbit?"

"Approaching perigee. We'll pass and climb in a little while. You might as well stay there."

"I've never fainted before," she said to herself.

"You've never jumped topside in a bucket before. This isn't the deluxe tour, Bristol, and this ain't no stinking ferryboat. I can't waste time nor money on the featherbed treatment." He waved toward the star map on the forward bulkhead. "The Tombaugh is better than nine weeks away. I expect to get there before it makes ten."

"Nine weeks!" she repeated incredulously.

"One thousand, five hundred and eighty-four hours port-to-port. A shade better than nine weeks, I guess. But cheer up, Bristol, we've already spent an hour or so. See how fast it goes?"

"I'm not frightened, Mr. Webb.

I haven't said anything about quitting."

"No, you haven't," Webb agreed, "But you *are*. I'm dumping you on Titan."

She struggled against the straps. "You are what?"

"Titan is the end of the line for you—charter ended. Titan is my refueling point; I have to lay over a few hours and convert to methane for the big jump. I'll help you down with your suitcase."

"You'll do no such thing!"

He shrugged. "Then carry it yourself."

"That isn't what I meant! I will *not* disembark on Titan. I chartered for the duration."

"Wait and see," he promised. "Titan is the end."

"But why?" she demanded. "Why?"

Webb asked roughly, "What the hell can *you* do on the Tombaugh, Bristol? Take dictation? Play hostess? Polish the dominoes? Bull. Those jokers will be working their fool heads off setting up this new hardware before Pluto runs away with them—did you ever know a star-peep to waste time with a woman when he can play with a telescope?" He was scoffing. "What good will you be out there?"

"I won't be in the way. I will stay on board and come back with this ship, with you."

"This bucket ain't coming back," Webb said.

"You are coming home without your ship?"

"Without," Webb repeated and smote the deck beneath him. "Last trip for this old bucket. Well done, gung ho and all that bilge. There's no refueling depot on Pluto, I can't bring her back." He rubbed his unshaven chin. "If the government had made this decision a couple of years ago it would have been different. I could have managed the round trip after refueling on Titan—I could have taken my time and coasted both ways. But not now, not this trip. Time is too short and the Tombaugh is outward bound. It's running away from me at three miles per second. The only thing to do now is run like hell, set down on the Tombaugh and abandon ship. The old bucket won't rust.

"Will you simply walk away and leave it?"

"I'll walk away and leave it. Done—finished. I'm getting my money out of it, the damned bureaucrats are covering the loss. And that's why you aren't going out there—I can't bring you back."

"But how will you get back?"

"The government has a cruiser standing by. We unload the bucket, help the star-peeps set up their new gear, and then jump for home. We give Pluto back to the icicles or whatever—the robots run the station after that. And

you disembark when I reach refueling orbit over Titan."

"I think it's unfair," Kate protested.

"They can't use speedy typists on the Tombaugh, and you wouldn't volunteer for other things."

"Don't be vulgar!"

Webb got up from the deck to don his suit and check the chronometer. "It's coming up fast now."

"What is your perigee?"

"Twenty-three miles. We just passed it. Singleton got it about here."

A strident clamor from the bowels of the auto pilot echoed his words and cut off her following question. Webb leaped into his bunk and burrowed into the depths of his Van Allen bag. He found himself looking at the curvy underside of the bunk above. "Now, Bristol," he shouted. "Pull that bag over your head when my engines fire."

"What is happening?"

"We're climbing away from perigee and the tapes are taking over—they've moved the hot brick into the furnace and the fuel is heating up. Stay in that bag until I give you the high sign—don't forget there are two zones up there."

"I remember."

The engines fired. They were felt before they were heard, although the two sensations were so close as to be one. There was no

impression of the ship leaping forward or climbing or any other sense of motion. Their bodies sagged gently toward the vessels stern and a moment later their stomachs and eviscera attempted to follow. The sound of the atomic engines permeated the tiny cabin.

Kate ducked into the safety of the leaded cloth bag. . . .

The woman wriggled free of the confining folds of the Van Allen bag and climbed to the deck. Once there she found it necessary to brace her feet and keep a steady-hand on the bunk railing to maintain equilibrium. The cabin was unusually warm and after a cautionary hesitation she removed the airsuit. She was clad in cream colored coveralls.

Webb was forward, scowling at the radar screen. He had already stripped down to the khaki shorts, revealing his blackened, over-exposed skin. Cancer scars like tiny craters marred the visible parts of his body.

"Mr. Webb," she said severely, "I warned you once. There will be no second warning."

His only response was a crooked grin as he swept the lines of the creamy coveralls.

"I don't like being poked, punched or mauled," she continued. "You can tell me what you have to say."

Webb said, "Sure," and turned his attention to the teletype. His

slow message was punched on two fingers.

XANTHUS TO TORCON:
ALL CLEAR. GHOST CON-
TINUES HERE. QUERY. X.

The reply came after a short interval. Webb read it and cursed the Toronto operator for his barely concealed levity. Kate read the reply over his shoulder.

TORCON TO XANTHUS:
GHOST DEPARTED WITH
YOU. LOCAL SCREENS
CLEAR NOW. PACIFY YOUR
POLTERGEIST.

"What the hell is a poltergeist?" Webb growled.

Kate shook her head. "Please don't ask me." Turning to scan the radar, she found pips moving over the screen. "What are those?"

"A couple more buckets—they came up on the booster with us. One is the *Yandro* and the other is the *Skyhook III*. We're all running for the Tombaugh." He looked at the screen with disgust. "What's wrong? What's leaking?"

"I'm sure I don't know."

"Jimmy Cross would fix it in a hurry." And then, surprisingly, he answered a question she had asked quite some time ago. "Yeah, he's a mechanic. And a good one. He could fix or un-fix anything with his eyes shut."

"And Mr. Singleton?"

"What about Singleton? He was a punk kid."

"While we were still in orbit, you said that Singleton got it 'just about here.' You've dropped several hints about the man but you've told me nothing about him. Mr. Webb, what about Singleton? Either tell me what happened to him, or don't mention his name again."

Webb eyed her dourly and grunted. "Come here." He led the way to the toilet cubicle and flung the door open. "See those two levers mounted on the wall? You push one and *then* you push the other. One at a time. It's an airlock and it dumps the waste matter. Simple, eh?"

"Primitive, but simple," she agreed.

"Sure." Webb slammed the door shut, venting his annoyance on the thing. "There's always an hour or two in orbit; a man can knock around and take care of the little things while he's waiting. Singleton got the bright idea that he wanted to use the head. Of all times, he waits until he reaches orbit and then wants to use the head. So he used it. And then the damned fool flushed away his air pressure. He was dead in fifty or a hundred seconds."

"But couldn't someone have—"

"He was alone," Webb cut her off. "He was taking a load to the Arzachel Crater and he was so damned dumb he couldn't get to the moon without killing himself. The kid was naked, he liked to

ride that way, and he was passing time before the Van Allen belts. So he boiled to death in his own juice—blood, saliva, tears, everything boiled."

Kate said faintly, "Your ship should be equipped with safety devices."

"It is," Webb retorted. "Use one hand and press one lever at a time. You can't beat common sense as a safety device. Don't lay on both of them with the length of your arm—that's no way to handle airlock valves."

"But why was the other partner jailed?"

"Suspicion of murder. Jimmy Cross had just overhauled several pieces of gear before the kid took off for the moon, and the cops figure Jimmy did something to foul the kid." Webb rubbed the stubble of beard. "The insurance company must think so too—they haven't paid off yet."

"Is it possible for a mechanic to jam the device?"

"A good mechanic can fix or foul anything," Webb said savagely. "The cops dug around in the bulkheads, looking for wires or something to prove that the two valves were rigged to open together—for all the good it did them. Singleton killed himself and that was that!"

The drive motors cut off abruptly.

Kate reached out a quick hand to steady herself and then braced

her feet apart on the deck. "What's the matter?" she asked in alarm.

"Nothing. We're coasting—it's programmed on the tapes. You may as well get used to it, we'll be doing it off and on all the way." He grinned at her discomfiture. "You can't drive an old bucket like this at speed *all* the time—it might fall apart."

She nodded and sat down on the deck, hugging her boots to hold herself there. She wondered at the mild surprise she had read on his face when the motors stopped.

The old ship bored outward for endless hours and a pattern of life within the cramped confines of the cabin gradually asserted itself. They ate, slept, paced the narrow aisle, sat on it, lay on it, and picked or nagged at threads of conversation. She was plainly bored with the journey but Webb seemed to enjoy the solitude. The *Xanthus* drove for Titan in fitful spurts, destroying time and distance.

Less than a hundred hours from their destination a floater intercepted them.

Webb was awakened in his bunk by Bristol shaking his shoulder. He pushed her off and rolled over to listen to his ship; it was a motion performed by habit each time he regained consciousness, a brief moment of total vigilance during which his senses tested the

sound and feel of the vessel for rightness.

She said, "There are several messages on the teletype you should read, something about a floater. What is a floater?"

"A derelict," Webb grunted and placed the palm of his hand on the bulkhead to listen to the vibrations. "Let the damned thing float—I've got a schedule to keep."

"I think you had better read these, Mr. Webb. And you should look at your radar screen."

He was out of the bunk before she finished, staring at the blip on the screen. "Where did *that* come from?"

"It has been there for several hours."

"Why in the hell didn't you wake me?" he barked. "The damned thing is too close—it might skin me."

"I thought it was that ship you mentioned earlier, the *Yandro*. Aren't they all coming in on Titan to refuel?"

"They won't come that close! Jehosaphat—it's going to skin me for sure." Webb whirled to the auto pilot and stopped the tapes. The bucket was now dropping tail-first toward Titan and he took over manual control to increase deceleration. After several minutes he cut the engines and glanced again at the radar.

"What did the teletype say? Read the last one."

"*Torcon to Xanthus*," she read aloud, "*Alert. Floater off tape Amarcon to Titan. Clamoring. Approximate locus BG 90037YY crossed BA 34345YY. Ownership reward posted Amarcon advise if. X.*"

"I can't understand any part of it," Kate commented.

Webb jotted down the figures and then compared them to his own. "Skinned!" he yelled at her, and again applied decelerating force. While the motors were still firing he turned attention to his steering rockets and loosed jets of pressurized gas, altering course a fraction of a degree. She could see no change in position of the blib on the screen but Webb seemed satisfied for the moment.

"What is Amarcon?" Kate asked. "Which tower is that?"

"Amarillo, Texas. Amarillo launched that ship."

"But what happened to it?"

"How the devil would I know? anything could have happened—maybe it met a rock, there are rocks as big as houses out here." He pulled the typed message from her fingers, studying it. "It's wrecked, because the distress signal is clamoring. Off tape means that the impact, or whatever it was, damaged the auto pilot or ruined his tapes. He's falling free in whatever direction he was kicked."

"What is the meaning of that last line?"

"The owners have posted a recovery bond at Amarillo. Torcon wants to know if I'm going after it."

"Are you?"

Webb eyed the blip carefully. "I might. I just might. I've lost tape now anyway—I'll have to take it into refueling orbit on manual." He swung around to grin at the woman. "I could use the money."

"Of course. I imagine that you are penniless."

The teletypewriter came to excited life to underscore her words. Webb flicked a meaningful finger and she pulled out the sheet to read it.

"Torcon to Xanthus; Emergency repeat emergency. Derelict riding you collision course 46 hours plus minus 12 minutes. Take evasive action. Advise. X."

Webb rammed his hands into his pockets and laughed. "Hell, yes, I'm going after him! You can tell 'em that."

Webb found the silhouette looming before him and threw out his legs to land gently feet-first on the hull, knowing that the noise of his arrival could be heard by anyone within the ship—if it still contained air and if anyone was alive to listen. The derelict vessel was small and slimly rounded and he thought he recognized the type: a fast, sporty job, outshopped at Toledo at premium

prices for people who thought they could afford such jellyboats. Moving carefully, he crawled around the hull and was surprised to find the airlock open. A blinking light in the lock was the only thing to meet his startled gaze.

He slid in, closed the outer valve and punched for entry. The ship's interior opened to him and he found a wide and wasteful corridor serving three rooms. Webb was astonished at the opulent waste—three rooms and a corridor under pressure! A quick glance forward revealed that the third and last room was the pilot's hutch, but nearer at hand were two open doors giving glimpses of private cabins. Webb stepped into the corridor. The first cabin to fall under his scrutiny was empty and he passed it by, noting only that it contained a low bed—not a bunk.

In the second cabin the suited figure of a man lay supine on clean sheets. The man was alive and lifted a hand to wave a weak greeting. Webb returned the greeting and then stepped closer.

The survivor was handcuffed. His other hand was manacled to a small black box and the box was again cuffed to the stanchion supporting the bed.

"I'll be damned!" Webb said aloud. "You a crook?"

"Courier," was the whispered answer. "The pilot has the key."

"I think the pilot stepped out-

side a long ways back," Webb said brutally. He looked around the expensive cabin. The fellow stayed in bed because he was securely fastened to it; he could not reach the galley built into the opposite wall, nor the doorway, nor anyplace that was more than a foot or two distant from the stanchion. "How long have you been there?"

"I don't know," was the tired whisper. "Lost count."

"What's in the black box—must be pretty hot stuff?"

"Don't know," the courier repeated. "I wasn't told."

"Hell of a note," Webb said. "I'll look for a hacksaw or something."

He quit the cabin and went forward to the pilot's cubicle. The place was minute—actually cramped—but it contained everything a man would need or desire to move his ship between planets. In that first sweeping glance Webb knew an overpowering envy of that cockpit—it was the kind of a cockpit (and the kind of a ship) that he would never be able to afford, no matter how much money the damned bureaucrats dumped into his lap.

The radar was still operating and he saw his own bucket on the screen. A key hung above the radar, and Webb pulled it from its fastener in frowning wonder. There was no ignition lock on the control board to receive that key, and he found himself looking

back down the corridor with puzzled concentration. The noise of the teletype brought him around. It was a wonderfully compact model, fitted into a recess in the bulkhead.

**XANTHUS TO TORCON: WEBB
ENROUTE TO DERELICT,
WILL CLAIM BOND. PAYING
PASSENGER ORDERED TO
DISEMBARK TITAN, DESPITE
HER PROTESTS. UNHAPPY. X**

"The hell you are!" he roared in anger. "Now, the *hell* you are. Ain't that too goddam bad?" He ripped the message from the machine and tucked it into a flap pocket.

After a moment he remembered his mission and searched for the auto pilot. It was artfully concealed behind a sliding panel in the bulkhead, and a soft sticky plastic scattered over the base of the robot provided a clue to the riddle of the ship. The tapes were broken, of course, and with their parting the motors had stopped, setting off the distress signal. Webb traced a gloved finger through the fallen plastic and guessed how death had come to the sleek vessel. A hurtling rock or other bit of deadly something had pierced the hull at precisely the wrong spot, smashing through the twin hulls and the inner layer of insulating plastic to strike the auto pilot. Toledo couldn't have prevented that.

Webb checked the pressure gauge and found it normal. After the piercing, then, the pilot had gone topside to repair the puncture, allowing the pressure to rebuild itself. The man's next move should have been to call his tower and reassure them, but this man hadn't returned from his patching chore; he was still out there somewhere in the darkness—the open airlock told that, and the drifting of the ship and the hungry, manacled courier underscored it. The damned fool had gone topside and tumbled off—or was knocked off. Too bad for him. The first mistake is the last and that pilot evidently committed it.

Webb made an entry in the vessel's log to protect his recovery claim and quit the throne room.

The waiting courier revealed his surprise when Webb unlocked the cuffs. "Where did you get the key?"

"Top secret—security regulations, and all that bilge. What do you suppose is in that damned box?" Webb pulled the courier to his feet. "Let's get going." But he was dissatisfied with the courier's slow progress and pulled his feet free of the deck to tow him.

They stopped in the airlock and Webb turned his head to look back. The first nagging doubt struck him there.

It was no more than a small jabbing suspicion but he couldn't shake it off. Planting the courier,

he moved back into the brilliantly lighted corridor and stared the empty length of it. The derelict seemed filled with his quick mistrust. Webb prowled cautiously along the corridor, retracing his earlier route of exploration. Every detail fell beneath his doubting scrutiny. The first cabin with its door hanging awry (the cabin and the bed had been used), the next cabin and its door (of course it had been used, with immaculate sheets on both beds), the remaining cuffs still fastened to the stanchion, the tiny cockpit (complete to the last beautiful appointment). There seemed to be nothing amiss.

But something was.

Webb looked at the radar screen, at the pressure gauge, at the fuel indicators, at the clip that had held the key, at the broken tapes, at the scattered bits of plastic, at the teletype, at the star compass. What could be found wrong with all that? The vessel was in tidy order in those places where order was expected; it was in proper disorder in those places where disorder must be. Why then, should he be pricked with uncertainty? Why should he mistrust the derelict?

The haunting doubt remained.

In foul temper, Webb buckled the survivor to his belt and jumped for the *Xanthus*.

Kate Bristol's eyes widened

when she saw the courier but Webb missed that and the glances exchanged between them. He buckled the man into the lower bunk and said, "Feed him." And then he went forward to the teletypewriter.

**XANTHUS TO PROMISED
LAND TITAN: APPROACHING
YOU NINE HOURS LATE,
SHALL KEEP ASSIGNED OR-
BIT OR WILL YOU SUBSTI-
TUTE? REQUIRE RE-PLOT,
ORBIT TO TOMBAUGH, MUST
CLEAR FAST. TWO PASSEN-
GERS DISEMBARKING TI-
TAN: ONE MONEY & TICKET
GUESTHOUSE, ONE HOSPI-
TAL AMARCON SPONSOR-
SHIP. X**

Not waiting for the reply, Webb dropped tools in his pocket and went below decks to begin the job of converting his engines to methane. The hatch slammed behind him.

Kate pushed herself toward the hatch and listened. When she was certain that Webb was really gone, she sped back to the courier in the bunk. The man was already twisting and squirming in his suit, seeking to reach something concealed inside. In a moment he brought out a tiny key and unlocked the box shackled to his wrist.

"Take this quickly," the courier urged. "Give me your radio. Hurry, before he returns."

"You are the last man I expected to see out here," Kate exclaimed, still surprised at his appearance.

"Never mind that! Give me your radio—quickly!"

"But what are *you* doing here?"

"For heaven's sake, Kate, I'm bringing you a new radio. *Take it.* Yours is defective—hadn't you noticed?" And he pressed into her hand the counterpart to that emergency instrument given her by the communications office of the insurance company. "You're fouling every screen within thousands of miles—hundreds of thousands of miles."

"The ghost!" Kate exclaimed.

"Yes. The boys in Communications realized the error as soon as this ship left Toronto; the interference vanished with your departure. *Give me your radio!*"

She whirled away to vanish behind the newly hung door. The courier watched the closed hatch fearfully, expecting Webb to return before she did. After some moments the woman was back and the courier snatched the defective radio from her grasp, to lock it away in the little black box.

"The radio will be dismantled after I land," he said. "I don't dare touch it now, lest he become suspicious."

"But the derelict, the floater—"

"My ship is not now and never was a derelict. The pilot is still on board and he will continue to drift with the vessel until it is inter-

cepted by the patrol, or until you are safely out of range. He concealed himself below deck. The piece was cut from whole cloth to trap Webb—our people gambled on Webb's greed."

"But it seemed such a genuine collision."

"It *would* have been a genuine collision if Webb had not avoided it; the authenticity was necessary, don't you see? Webb would avoid it, of course, and we knew he would also inspect the floater if it meant additional money to him."

"But what would have happened if Webb simply dodged around you and went on his way?"

"We would have continued floating. But another man with another radio would have met you in orbit over Titan."

"Another one!"

"Certainly. The supervisor was overlooking nothing."

"Too bad," Kate said. "Webb is booting me off the ship at Titan. He's cancelling my charter."

"I doubt that," the courier replied. "The man who will meet you in orbit is an attorney. One of our people. Tell him your troubles if you wish to stay aboard."

The teletypewriter said:

PROMISED LAND TITAN TO
XANTHUS: MAINTAIN AS-
SIGNED ORBIT, SAME NOW
OPEN TO YOU. RE-PLOT
READY SOON. LAUNCH MEET
YOU IN ORBIT TO REMOVE

TWO PASSENGERS. WEL-
COME LADY. X

"A measure of fame, I suppose," Kate commented.

When Webb returned to the cabin she was spooning hot soup into the courier. The man seemed to eat it greedily. Some of the soup spilled down onto his beard.

The government launch *Kteic* approached Webb's ship, matched speeds and locked on. When the crew had secured the transfer tube from airlock to airlock, Kate Bristol and the courier were moved to the launch. Webb did not hide his relief at their going.

"I want to thank you, sir," the courier said in parting. "Taking me off the derelict means more than you know, and I am properly grateful."

Webb waved him off. "Never mind that bilge. Just make sure that joker in Amarillo sends me my money."

"I find that touching, Mr. Webb," Kate intervened. "So much in character. As for myself, I am looking forward to a bath. I have endured more than three hundred and fifty hours on this—this tub, and I need a bath."

"Get the hell off my ship!" Webb roared.

Within minutes after the launch had pulled away another gentle bump sounded on the hull as the methane tanker locked on

topside, to begin refueling operations. Webb snatched up a pair of methane nozzles from the tool locker and sped aft to the engine room to complete the changeover. Not until he was finished did he realize that he hadn't thoroughly inspected that derelict after all—he hadn't gone below for a look at its power plant.

The two ships orbited together for nearly three hours, making the bucket ready for the long jump.

Minutes before departure the launch returned with the new tapes, allotting him one thousand, two hundred and twenty-six hours to reach the Tombaugh. Webb snatched the tapes and fitted them into his auto pilot, completing the job and turning to begin some other task before he realized that the launch had also brought him two newcomers. They stood just inside the hatch, looking at him.

Webb exploded with rage. "I told you to get the hell off ship!" he yelled at Kate Bristol. And to the man beside her, "Who are you? What the hell you doing here?"

"My name is Abraham Calkins, sir. May we come aboard?" He flourished a calling card and handed it to Webb.

"You are aboard—now get off!" Webb read the card. "A jackleg, a damned jackleg!"

A shadow passed over Calkins'

face but his voice remained smooth. "A brief moment, sir, and I shall be on my way. I realize you are facing a deadline of some few minutes, but I represent Miss Bristol in this matter."

"I'm hauling out of here when those tapes fire," Webb retorted. "I've got to catch the Tombaugh—I'm not going to go chasing a dirty ball of ice along the rim of the solar system," He blinked. "What matter?"

"Miss Bristol's passage, sir. The matter of the original charter."

"What the hell are you talking about?"

"I shall make it clear. Miss Bristol chartered this vessel at Toronto for a sum of money agreed upon in advance. The sum was paid and her acceptance is now a matter of record. It was her desire to engage transportation to one of the Outer Moons, and you agreed to lend your vessel for that purpose. You reserved the right to select the ultimate destination, subject to cargo demands, and she agreed to the reservation. All this is correct, is it not?"

"Keep talking—fast."

"Very well. Now then, in due course you took on cargo which was consigned to the Tombaugh Station, on Pluto. Miss Bristol did not cancel the charter upon learning that information, nor did you. There was no refund of monies. Therefore the verbal contract between you, augmented by the

written records on file at Toronto, remained in effect when you left that port. The contract is still binding, sir. The lady still retains charter on this vessel."

"Bully! Are we *all* going to the Tombaugh? This bucket is jumping orbit pretty damned quick."

"I am sorry, sir, but your vessel will not leave orbit without fulfilling the contract." He displayed a legal form in blue binding. "I have here a writ of legal attachment on this vessel. A law enforcement officer is waiting in the launch. Unless I release you, the writ will be served and the launch will stand by to make sure you remain in orbit."

"Damn you, you can't hold me here!"

"I can and will, sir, with the assistance of the officer and the launch." The attorney shrugged. "But you have your legal rights, of course. You are free to contest our claim in the courts. You may return to the Promised Land with us now, if you wish, and I am sure the case can be heard within two or three days."

"I can't wait two or three days," Webb bellowed. "I'm jumping in two or three minutes! *Get clear.*"

"No, sir."

"Damn you, I'm going to Pluto. I only agreed to take her to one of the moons."

Calkins smiled in satisfaction as if he had been waiting for that. "Mr. Webb, surely you know that

Pluto is a satellite, an escaped satellite. It is not impossible that a court of law might define it as an "outer moon" within the context of the contract. It *has* been clearly established that Pluto was once a satellite of Neptune. Well, Mr. Webb?"

Webb fumed. He whirled to read the chronometer and realized that time was running out. "I've got government cargo for the Tombaugh. They want it delivered!"

"Yes, sir, you have exactly that. And I daresay, you did not see fit, to notify your government agency that you had already accepted a charter, prior to accepting their cargo. Nor did you cancel the agreement with my client after you accepted the cargo." The attorney smirked. "I believe a conflict of interest exists there, and it may prove an interesting point in the courts. And another several days, of course."

"I can't wait several days." Webb was sweating. "If I don't jump this damned orbit in the next minute or so I'll lose the Tombaugh. I can't chase it around the sun!"

"Precisely. And so we agree?"

"Dammit, she hasn't any business out there."

"That is not for you or me to say."

An ominous warning sounded in the bowels of the auto pilot and Webb whirled in desperation to punch the safety switch. "Move!"

he snapped at the jackleg. "It's ready to fire."

"My client, sir?"

"Your client can rot in space for all I care. Move!"

"Are you agreeing to complete the charter, sir?"

"I don't care what she does—you get off the ship."

"Yes, sir. Thank you, sir." The attorney turned quickly to shake Bristol's hand. "May I wish you a pleasant voyage?" he jumped for the hatch and the ladder beyond. "This has been most rewarding, sir."

"*Get out!*" Webb watched the chronometer and counted the seconds. "Hurry, damn you, run!" he shouted after the fleeing man. A moment later the airlock closed and the transfer tube was broken. Webb groaned. "*Fifty seconds late.*" He lifted his hand from the safety switch and methane exploded from the nozzles, tearing the *Xanthus* from orbit. Webb was holding onto the auto pilot for support, knowing what was to come, but the sudden thrust hurled his passenger against the after bulkhead.

He refused to speak to her for more than three hundred hours.

"I had a lovely bath at the guest-house," Kate said when the silence became unbearable. "Do I smell nice?"

Webb sulked and made doodles in his log. . . .

And later, "I forgot to take my suitcase with me when I quit the ship. Had you noticed that?"

Webb squatted by the galley fixing himself a meal. . . .

Much later, "It isn't as warm as it was at first. Is that because we are so far away from the sun?"

Webb read old messages on the teletypewriter. . . .

After uncounted hours, "You don't have to like it, Mr. Webb, but at least we can be civilized."

Webb lay in his bunk, studying the curved underside of the bunk above him. She was in it and causing the curve. He reached out a finger and let the nail trace an imaginary line along the posterior silhouette. . . .

After interminable days—or weeks—she asked, "Will it be possible to see the new planet on the radar?"

That one caused a spark. Webb glanced up from the unit and said, "The screen is clear now."

"Well," she exclaimed, "welcome back to the land of the living! I suppose the ghost got tired and just went away."

"Troubles don't just go away," Webb retorted moodily.

"Tell me, will it be possible to catch a glimpse of X? A new planet is a fascinating thing, isn't it? Will we see it on the radar?"

"Maybe, if the wind is right."

"What wind?"

"Oh—the wind. I've seen it a couple of times."

"Really? What was it like?"

"Fascinating," he said shortly.

"Now, please, let's not quarrel. Tell me about the Tombaugh Station. What is *it* like?"

Webb allowed his wandering gaze to drift along the topographical contours of her body. The tight clothing irked him. "Rocks, ice, methane. The same old stuff. Downright dismal place—the seas are frozen methane with little rocky islands sticking up through them. Frozen gas hanging on the rocks that looks like snow."

"But what about the observation?"

"Well, it's a building," Webb said carelessly. "A little building hanging on the side of a mountain. Inside is the star-peeps' gear—telescopes and stuff. Downstairs are the living quarters and the communications rig. And outside, nearby, is the radio telescope. And beyond *that* is a plateau we use for a landing field."

"It doesn't sound very impressive as you tell it."

"Pimple on a mountainside," Webb grunted. "A frozen pimple on a frozen mountainside, with a bunch of half-frozen guys inside sitting around taking pictures. The Tombaugh ain't much, and Pluto is less than that."

"Have you seen the new planet in their telescope?"

"Those jokers won't allow that. You've got to have a union card or be from Cambridge."

"What do the astronomers do there?"

"Work. And sit."

"I mean when they aren't working?"

"I can't say—I never stayed around to watch them," Webb answered testily. "I set out my cargo and run."

"But isn't it frustrating to be so near X and not be allowed to look at it?"

"Nope. I haven't lost anything out yonder." He turned to the star map on the forward bulkhead and looked at the arc representing the orbit of X. Someone had added a marginal notation: *mean 51 A.U.* "That thing will be making its perihelion passage in another hundred years or so, and somebody will try for it. It will be one hell of a long jump but some hero will try it. The system is crawling with witless heroes."

She offered some remark to keep the conversation going but Webb was already lost, sinking into introspection. His attention was drawn to the now faultlessly operating radar. What would Jimmy Cross have made of *that*?

When the bucket reached the half mark—six hundred and thirteen hours after jumping Titan's orbit—Webb was immersed in paper work. Using blank pages from the now almost useless log book, he was busily engaged in totting up the profits of the voyage

beginning with the money Bristol had paid for passage and ending with the reward someone in Amarillo would pay for recovering the courier and his little black box. Webb didn't know exactly how much the reward would be, but in his mind he caused it to be a generous figure and accordingly added a generous figure into the column. On the debit side he deducted the costs of tapes, fuel, provisions, and the renting of the hot brick from the AEC. He liked profits. The end sum was a happy amount. (And still unaccounted for was the pay-off from Singleton's insurance, plus money from the sale of the house.)

Nice. Very nice. Let the bucket rot on Pluto. All this amounted to break-off money. He could quit.

A hundred hours later he was again dwelling on the damnable puzzle of the derelict. Webb was able to recreate sharp mental images of every corner of that sleek ship, and now he probed the images for faults. There *was* a fault there, somewhere. The conviction was too strong to ignore.

And sixty hours after that he was watching Bristol moping about the cabin, and wondering what lay beneath the skin-tight cream-colored coveralls. What was she hiding?

And a hundred and fifteen hours after that Webb again cursed the auto pilot because the tapes and the engines paused for

the briefest moment—they were decelerating—and then went into action with nothing more than a strangled gasp of sound meant to be the prior warnings. The bucket was overdue for the junkpile. (And he found the woman watching him narrowly. Now, why?)

Some eighty hours later Webb pulled and scratched at his itching beard and dozed over the radar. He was impatient for Pluto to show itself.

The courier had worn a beard. Webb blinked and sat up.

The courier had worn a beard. Once more he pawed through the mental images of that derelict because it would not let him rest, would not permit peace of mind. In his imagination he turned over and examined again each item as he had first seen it, turned over every rock and stared at the thing which crawled away. The open lock, the blinking light, the first cabin and then the next, the soft beds, the manacled courier and his beard, the pilot's hutch, the broken tapes, the key, the fallen plastic, the radar, the teletypewriter—Bristol had sent a message from the *Xanthus* while he was visiting the derelict. And he had booted her off ship while orbiting Titan, but she had bounced right back with that damned jackleg. And somewhere along there his radar unit had rid itself of the ghost.

The whole of it was absurd.

Webb closed his eyes, the bet-

ter to picture in vivid detail that courier's cabin. And the pilot's cubicle.

He worried those two images for fifteen or twenty minutes of frowning study, until at last his exclamation broke the silence of the cabin.

"Well, I'll be damned!"

The floater had revealed two flaws, not one.

Those tapes had been broken—or cut—while the auto pilot was at rest *not* while they were in motion and driving the engines. They had stopped in an unnatural manner. *If* the piercing had snapped them in mid-flight those two upper reels would have continued to turn under their own momentum, would have spilled loose tape down onto the base of the mechanism or out onto the deck. But he hadn't found them that way. He had discovered the tapes still neatly coiled on their upper reels, tightly wound. They had been stopped first—and then cut, or broken. The derelict was a fraud.

And the courier had overlooked a tidy detail to his story. His beard was the proper length but the chains to the manacles were not—they did not permit the man to reach the galley, or the doorway, or the toilet. Yet his sheets were clean and his clothing immaculate. (And the missing pilot had probably *not* gone overboard—he was probably hiding somewhere

below decks, perhaps in that never inspected engine room.)

The derelict was a fraud, the pilot was in hiding and the courier had been a feeble liar. Webb roundly cursed himself for a stupid fool.

Kate said lazily, "And then the second pirate spat out a foul oath. I seem to be getting used to it."

Webb shot down the length of the aisle, rummaged in his locker and found the teletype message Kate had sent.

"Still unhappy?" he asked sarcastically, and dangled the paper in her face.

She read the danger signs and sat upright in her bunk, bracing her back against the wall. "You told me to advise Torcon you were investigating the floater."

"I didn't tell you to add this bilge. But it worked, didn't it? That jackleg met the launch and figured out a way to keep you on board—you want to play tourist, you want to see Pluto."

"This may be my only opportunity," she answered mildly. "We will all be dead when the planet comes around again."

"Some of us might be dead this time." Webb stopped talking and listened intently, seeking the source of a muted sound within the ship. It did not come again and Webb opened his fingers to let the paper fall away. He rested his hands on the railing of the upper bunk.

"That floater was a fraud."

"Oh, was it?" Kate asked politely.

"You know it was—you knew it for a fake long before I did. Calkins or that courier told you. Amarillo rigged that ship to resemble a derelict and sent it up to intercept me; somebody behind Amarillo wanted to put the courier on board this bucket. Somebody wanted him on board as desperately as you wanted on, back there in Toronto. As desperately as you worked to get back on while I was orbiting." His mocking grin was entirely devoid of mirth. "This old tub turns out to be pretty popular, like it was a pot of gold or something."

"I find it an interesting ship."

"I find it a rusty one. Why did you want on board?"

"To visit the Tombaugh."

"You didn't know where I was going. Bull!"

"That is a most vulgar habit, Mr. Webb."

"I have lots of vulgar habits—like this one."

Bristol saw it coming but it wasn't at all what she expected and the questing hand caught her off guard. Webb reached out carefully, unbelligerently, to touch her body. The gentle hand explored her breasts.

She jerked away from him. "I will grant any man that first pass, Webb. You've just had it. Don't touch me again."

He nodded with tough satisfaction. "Good! Now we're down to bedrock—let's keep it that way. That wasn't a pass, Bristol. I wanted to see where you hid it."

"Hid what?"

"The telemeter gimmick—the thing that loused up my radar."

"I have no telemeter gimmick, whatever that may be."

"You had one until the courier took it."

"You are mistaken."

"I wasn't mistaken about that fouled screen—Torcon wasn't mistaken about theirs. You had a telemeter."

"I did not." She saw his fingers curling on the bunk railing and knew the culmination was coming. It could no longer be avoided.

Webb said bleakly, "You are a police agent."

"I am not."

"You're a police agent," he repeated with naked hatred. "You can't pin a murder rap on Jimmy Cross so you're trying to pin it on me. You refuse to believe that stupid kid killed himself and now you want me to hang for it."

"I am *not* a police agent."

"Liar!" Webb leaped at her.

The auto pilot echoed his shout with a soft burning sound as the tapes eased off and stopped, killing the drive. The *Xanthus* went into free fall as Webb leaped, catching him by wild surprise. He realized too late what the muted, unidentified sound had been.

Webb shot over the rim of the bunk, unable to control his trajectory and his head butted the woman in the stomach. Bristol gasped with pain and parted her lips to suck in air. She twisted from beneath his thrashing body and managed to sit up. The movement shoved him backward. Webb threw out both hands to catch himself, caught the railing and then climbed into the bunk with her, clawing at the concealing cloth.

"Let's see what you're hiding, sister!"

She put a hard fist into his face and pushed, but he rolled away and lunged again, intent on the open neckline of the creamy coveralls. Bristol swung with an uppercut, laying open the side of his jaw. Webb's bellow thundered about the cabin. The blow had propelled him backward but as his flying body shot away his fingers caught at the cloth, tearing open her suit to the waistline. Bristol's carefully simulated skin disease was revealed to his startled gaze.

His feet struck the opposite wall and he used the wall as a springboard, driving himself toward the bunk again. Webb came over the rail in eager desire and fell into the fury of her anger. She hit him in the face with a short, savage thrust, repeated it, and followed that with a side-hand stroke aimed at his exposed throat. Webb opened his mouth to say,

"Damn—" and she kicked him in the stomach with every pound of strength she could muster. He cried out in sudden agony. His body zoomed across the cabin a second time and smashed against the bulkhead. Dull red droplets from his crushed nose drifted gently toward the air intake.

Bristol sprang from the bunk, miscalculated her leap and fell on him, carrying his unconscious body to the deck.

Presently the engines resumed their deceleration firing, again without forewarning.

Irvin Webb opened his eyes and saw the sagging webwork of the bunk above him. He realized his passenger was in the bunk, but he couldn't care less. Only dimly conscious of his motions, he put a hand against the hull and listened to the operating ship. The movement caused a painful reaction throughout the network of muscles in his abdomen and he let the hand fall to the bunk. He was loosely strapped down.

His muttered, "Hell and Jehoshaphat, woman, what did you do to me?" was blurred and indistinct because his lips wouldn't function properly.

From above she answered. "In your own colorful language, Webb, I damned near killed you."

Slowly, with pain overriding every small action, Webb opened the straps and rolled over on his

stomach. He was stopped there because the searing agony in his lower regions demanded a cessation of movement. After a long while he raised his head to stare at the chronometer but it was only a distant, unfocussed blur. Abruptly he was sick.

"Bristol?"

She came out of the upper bank and landed with a lithe grace beside him. "Yes, Webb?"

"Can't see the chronometer. What does it read?" Webb was stunned when she told him. Again he unbuckled the belt to climb out and again he felt sickness rising in him.

She pushed him back. "Stay there."

"No time, damn you! Dead orbit coming."

"The tapes will take care of the orbit, Webb."

"Like hell they will! We're fifty seconds late; the stinking jackleg did that." His aching tongue stopped the flow of words and it was many minutes before he could speak again. "Whipped by a woman," was the mournful whisper.

"First and last time, I hope. You weren't a pretty sight. But I did manage to feed you a little."

"Gotta get up. Beat that dead orbit." Webb pulled himself from the bunk and then clung to the stanchion. Sickness filled his mouth but he forced it down again. His legs wobbled, threaten-

ing to dump him on the deck. "Give me a hand."

"Get back in the bunk, or else this ship will land a dead man on the Tombaugh."

"If I can't get to that manual this bucket will spill us all over the Tombaugh—stupid fool. I said we're running fifty seconds late."

"You've said it several times. And it means a difference of only a hundred and fifty miles."

Webb put a hand over his eyes to shut out the light. "Hundred and fifty miles affects my orbit," he told her wearily. "Knocks the hell out of it. We always come in on target over the trailing limb, and the trailing limb marks the perigee. When the tapes put us into orbit Pluto will be a hundred and fifty miles farther away." He had to stop again, waiting for breath and for strength. "We'll be dancing in the damndest orbit ever! Too wild and too wide. And the devil only knows what the apogee will be."

"But what are you trying to do?"

"Bring it in on manual. Change orbit. Figure the decleration and find a new orbit. Then keep right on orbiting until I can find the Tombaugh and set her down."

"I *thought* you were being overly melodramatic," she replied cheerfully. "We *can* land on the Tombaugh, after all. I have confidence in you, Webb."

He seemed to find that funny but the weak attempt at laughter was no more than a choking gurgle. "Oh, hell no, there's nothing to worry about. Nothing at all. Do you suppose they'll wait for us?"

"Who?"

"Those jokers on the Tombaugh? Those star-peeps sweating out their new gear? How long do you think they'll sit there, watching us whirl around over their heads? A week? Two weeks? Damn it, woman, I have to *find* a favorable orbit to get near them, and I have to *find* the Tombaugh plateau to land on—without coming down smack on top of their lousy telescopes."

"But you know where it is, you've been there."

"I've always found it with updated tapes, you stupid idiot. I've always orbited by the tape and sat down by the tape. I've never hit the Tombaugh *wild* before." He relapsed into the choking, feeble laughter. "*I know where it is—I've been there.* Bristol, you stink."

His legs buckled, throwing him to the deck.

Kate Bristol picked him up and carried him to the board. There was no chair for him to sit in so she had to hold him there.

The aged freighter lifted over the trailing limb of Pluto, climbing away from perigee and beginning its seventy-second circuit of the frozen planet. Below it, some-

where on the barren wastes, the radio tower alongside the Tom-baugh Station hurled a steady guidance signal into the skies. As the *Xanthus* cleared the horizon, voice signals resumed, offered up by the personnel of the half dozen ships already nesting on the plateau.

"Webb—hey there, Webb, ain't you ever coming down?"

"Shut up, Busby," Webb retorted. "I'm sweating."

"Sweating!" the master of the *Yandro* whooped. And to all those listening he added, "Webb's got a woman up there—he's afraid to bring her down and let us look-see."

"Come on, Webb, you can't stay up there forever."

"Tell you what," said a new voice, "give him an even hundred passes and then we'll shoot him down."

"Send the woman down, Webb. You stay there."

"Shuddup!" Webb roared at them. "Busby—you there? Listen, Busby, I figured two more passes and I can pull her tail feathers. Lend a hand now."

The voices fell silent and Busby was heard again. "Sure, Webb. Come on in—they want your gear."

Watching the chronometer and listening to the guidance signal from the plateau, Webb poised an expectant thumb over the firing button and waited. The bucket

hurtled tail first along its useless orbit, driving now for the ridiculous apogee. Webb hung over the board, his nerves taut. He was no longer conscious of the woman behind him, holding him there. At that moment when the radio signal reached its peak and broke he stabbed at the button, holding it down four seconds. The engines burst into brief and noisy life and then they were done, throwing the vessel back into free fall in a new orbit.

The four seconds had been painful, sharply reminding him of his battered groin and he was grateful for the respite when they were over. The radio signal faded as the ship passed over the far horizon. Webb's head sank to his chest and he rediscovered the arms around him.

"Brace yourself, Bristol. Rough one coming up."

"I'm ready, Webb. Good luck."

"Luck!" was the muttered reply.

The *Xanthus* rounded the planet and shot for the new horizon, seeking the feeble light of the distant sun. It lifted over the trailing limb of Pluto, climbing away from perigee and beginning the seventy-fourth circuit of the ice-locked world. The radio signal came in loud.

"Webb," the voice reached his ears, "you're over the horizon on a direct line. Keep it there." A short period of tense silence. "Soon now, Webb. You're skinning the

ice mountains. Set up your trim."

"Not yet—not yet. I've got eighteen seconds."

"I don't think so, Webb. Less than fifteen from the line of it."

"Eighteen here, Busby. Figured down to the decimal."

The freighter plunged heavily onward, climbing out of perigee in a shallow arc and soaring without sound to a high point above the Tombaugh tower. Webb trimmed the cold jets fore and aft, setting up for positional change. He watched the chronometer and kept an ear tuned to the beeping signal, calculating the precise instant the tone would break. Sweat beaded his forehead and blurred vision.

"Webb?" the nervous talker broke in.

"Six seconds," Webb flung back at the ground.

"I think you're overshooting, Webb."

"Now five, four, three, two, one—" and he rammed his thumb down on the firing button, unwittingly cursing it in his anxiety to drive it home. The engines hesitated and then coughed when they should have flamed.

"Webb, damn you, goose it!"

Webb pushed the harder, seeking inanely to recapture the lost moment. The vacillating engines fired. His free hand swept out and punched for the jet trim and then he clung to the board, knowing the jolt that was coming. The wom-

an clung to him, bracing him. The shock came when the old ship reared skyward and then sat down on its flaming tail, riding it down. Webb hung on and watched the radar screen.

Busby screamed at him. "Webb—overshoot!"

"Pull out!" someone else belated in his ears. "Pull your trim or you'll hit the rocks. Pull out now!"

Webb stared at the screen and discovered the plateau and its huddle of ships far to starboard. The Tombaugh and its radio tower jutted up behind them. Savagely, quickly, with the instinctive movement born of naked fear, Webb worked the jets and sought to turn the ship on its axis, parallel to the ground below him. He felt the cold jets firing, exerting a minute lift on the vessel, and then the still flaming tail section struck a mountain peak. A harsh buckling sound reverberated through the ship.

Webb clung to the board, knowing the worst had hit him. He felt a shudder run through the hull, accompanied by a drumming crack even in the absence of an outside atmosphere, and the entire tail section of the bucket fell away. The engines were lost. The freighter paused and seemed to hang suspended, and then dropped. The man and woman toppled to the pitching deck, both of them grabbing for any handhold to offer itself.

The *Xanthus* fell on the rugged slope of the mountain that had speared it and rolled with sickening motion, tumbling downward until it struck and ricocheted off a boulder pack at the bottom. The portside tanks splintered and fell away. Still pushed by its own momentum, the freighter skidded wildly across an unseen shoreline and then shot outward over a sea of frozen methane. A great rock thrusting up through the sea ripped the ship from bow to stern, scattering cargo over the ice. The *Xanthus* skidded wildly across the sea.

Against a sky rich with stars the distant sun was a bright giant, an incredibly large and brilliant star but yet one without a perceptible disc. It cast a puny light over the packed snow and marked a dull reflection on the frozen sea. Near at hand slim needles of rock jutted up through the ice while beyond the needles and beyond the alien sea, an unknown number of miles away, massive mountain ranges ringed the horizon and built up solid white peaks to catch the meager sunlight. The little world was motionless and deathly still.

She could look back along their path and distinguish dark objects scattered in the wake; she could see the sun, remote and barely friendly, lying now in a shallow dish between two mountain crags; she could glance about her and see

a world which had not changed—except for a mote known as the Tombaugh Station—in all the years that man had known it existed. She turned and stared at the wretched hulk behind her. The wreck of the *Xanthus* was beached well above the shoreline of a nameless island, twisted and broken in crazy fashion. The full sunlight enabled her to pick out the name painted on the hull.

She stared down at her radio, resting on a rock. If they were fortunate its clamoring signal could be heard.

Kate Bristol clambered over the wreckage and entered the ship, pulling the hatch snug behind her. Darkness enveloped the cabin, for which she was thankful. That tiny portion of the vessel was still tight.

"Bristol?"

"Are you still alive? Are you unkillable, Webb?" She inched along the unseen deck until she found his body. "I was afraid your suit had ripped."

"What were you doing outside?"

"Setting up my radio. A distress signal, Webb, not a telemeter gimmick."

"Radio," he repeated thoughtfully. "Well—maybe."

She understood his meaning. "We shouldn't be too difficult to find."

"Maybe," he said again and lapsed into silence.

"Try to stay awake; it's very cold in here."

"Still want to hang me, cop?"
There was no rancor.

"For the last time, Webb: I am not a police agent. I was put aboard for a purpose, but not a police purpose."

"Who else is interested?" he asked cynically.

"Your insurance company. And what a loss *this* is!"

Webb stared into the blackness above him. "Ah!" The sound carried many subtle meanings. "They don't want to pay off for Singleton's death—they're going to screw me out of my break-off money!"

Bristol said, "They don't intend to pay a beneficiary who happens to be a murderer."

"What's the difference? You've tapped me."

"Wrong again, Webb. I've tapped Jimmy Cross."

"*Bull.*" The two words ran together sounded like one.

"Please stop using that vulgar term." She located his shoulder on the deck near her knee and tapped it for emphasis. "Listen to this, Webb. I am going to say it once and only once. It makes little difference whether you choose to believe it or not; I don't have to convince you, only my superiors."

"James Cross deliberately rigged your auto pilot to cause Singleton's death, and to cause yours as well. If you weren't such a stubborn idiot you would have discovered that for yourself, as I did. Time

and again, Webb, you were taken by surprise when the tapes stopped or started without giving prior warning. You were caught off guard when you leaped the rail for me, and went into free fall."

"Old age—the damn ship was falling apart."

"It has fallen apart," she pointed out. "But the auto pilot was given a helpful push. I found a printed circuit in the base of that machine, and I found a short loop of thinly insulated wire touching a part of the circuit. I think you call the wire a jumper. The jumper had been so placed that it rubbed against one channel; insulation had burned off the jumper at that point and the channel had burned through. Your warning system operated fitfully at first, Webb, and then it failed to operate at all. I have also read your ship's manuals and the diagrams. There should be no jumper at that point."

"When the hell did you do all that?"

"While you were visiting the derelict, and again while you lay unconscious in your bunk a few hours ago. I know what I am saying, Webb. Your partner sabotaged the ship."

"It could be a patching job," he said thinly.

"It was a patching job, a most ingenious patching job. But there's more, Webb. I did something more while you were visiting the derelict. I experimented with the drain

valves. I tried in every possible manner to trip both levers simultaneously, using only one hand and arm—even using one leg and foot. It is impossible. The levers are positioned in such a manner that it is impossible. You would have realized that if you weren't so insistent on branding Singleton a dunce. A simultaneous flushing can be accomplished only by using both hands, or by a man falling across them. A man standing in the cubicle could be caught off guard, and be knocked across the levers."

She felt Webb's body stiffen with surprise.

"You're catching on, Webb. Singleton died because he lacked your experience. You warned me when time was drawing near to quit the orbit, you knew by the feel and the sounds what was to happen. But Singleton lacked your experience, and perhaps your common sense, and when the device failed that first time he was trapped and thrown. It was his terrible bad luck to be in the cubicle when it failed." She shook her head, forgetting that he could not see in the darkness. "Not you, Webb. Jimmy Cross. My report will name Jimmy Cross."

Webb broke the silence. "I'm sorry, Bristol."

"No apologies accepted. I bought my passage."

"You've got a refund coming," he said with faint bitterness. "Ev-

erybody's got a refund coming." When she said nothing to that, he asked, "What do you think of the place—outside?"

"I want to go home," she answered truthfully.

"Me, too." He squirmed on the deck, seeking but not finding a more comfortable position. "Wish to hell I could sit up."

"Stay where you are. There is some heavy object pinning your legs. We need a rescue party."

"If it comes," Webb grunted, and knew why he had lost all sense of feeling in his legs. He wondered blackly if he would also lose his legs. "Grounded, dammit."

"I suggest that you stay home, after this debacle."

"Last trip—I've got break-off money."

After a time he asked wearily, "Hear anything on your radio? Mine's busted."

"I thought I heard voices a bit ago. I'm not sure."

"Say, Bristol?"

"Yes, Webb?"

"Where did you hide that distress radio?"

"Don't be naive, Webb."

Webb dozed off and then became aware of what he was doing. He jerked himself awake with a start.

"Maybe we'll run into each other again," he offered hopefully. His moving fingers found her knee.

"I doubt that very much," Bristol said and moved the knee.





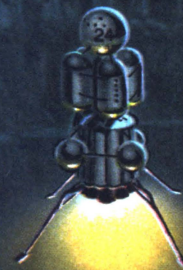
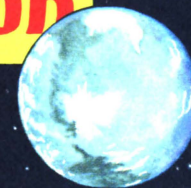
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