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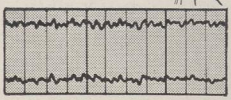
Astounding SCIENCE FICTION

Double Star

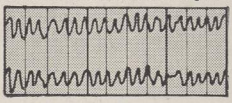
BY ROBERT A. HEINLEIN

DORMIPHONE

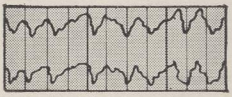
A Great Scientific Discovery



Brain in concentrated thought.



Brain in relaxation.



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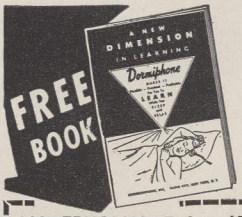

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Astounding
SCIENCE FICTION

VOLUME LVI • NUMBER 6 **February 1956**

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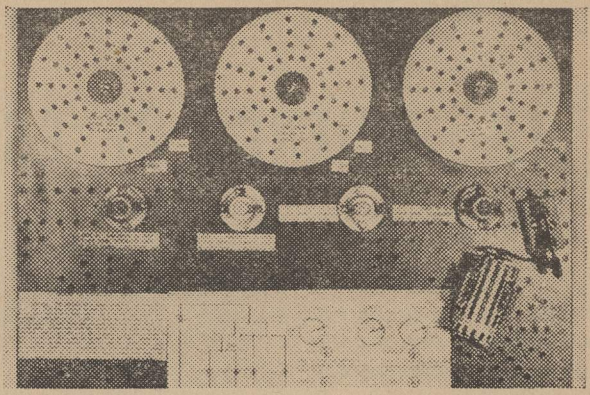

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EDITORIAL

THE SCIENCE OF PSIONICS

This is going to be an article about articles; I'm presenting you, the readers, with one of my own, personal, editorial problems, because it is, essentially, ours—yours and mine—yet I alone can take immediate action on it. I am the executive officer in this system; you're the electorate. You determine the policy; I have the problem of trying to find out what you've determined, and then carrying it out.

We published a letter signed T. O. Jothun, in the September, 1955 issue; the name was a protected pen name, as many realized. The letter discussed experiments involving the use of high-frequency radio radiations and ESP, and suggested an article on the subject. I have seen the article; unfortunately, the author has interesting material, but, like many another scientist, can't use the special technology of a different field of human activity. He's about as competent a writer of articles as he is a surgeon; no one expects every man to be an expert surgeon, and there is, equally, no reason to expect every man to be a trained and expert writer.

However—that letter drew more reader-response than any other item in the magazine. It's clear that there is a very strong and dynamic interest in the type of material Jothun offered. So be it; Jothun is not, by any means, the only source. There is, in fact, far more such activity taking place than is realized; the problem is that there is no medium of communication by which the workers in that field can communicate to each other, or with the public. No standard scientific journal can handle the material, because it isn't science. It isn't physics, chemistry, medicine, electronics. It's easy to go down the entire list of sciences, and define it by exclusion; it isn't any of them.

One of the great problems of the whole ESP-psionics field is that it can, to date, be defined only by ex-

(*Continued on page* 156)

We're Looking For People Who Like To Draw!

by Albert Dorne

FAMOUS MAGAZINE ILLUSTRATOR

DO YOU LIKE TO DRAW? If you do —America's 12 Most Famous Artists are looking for you. We want you to test your art talent!

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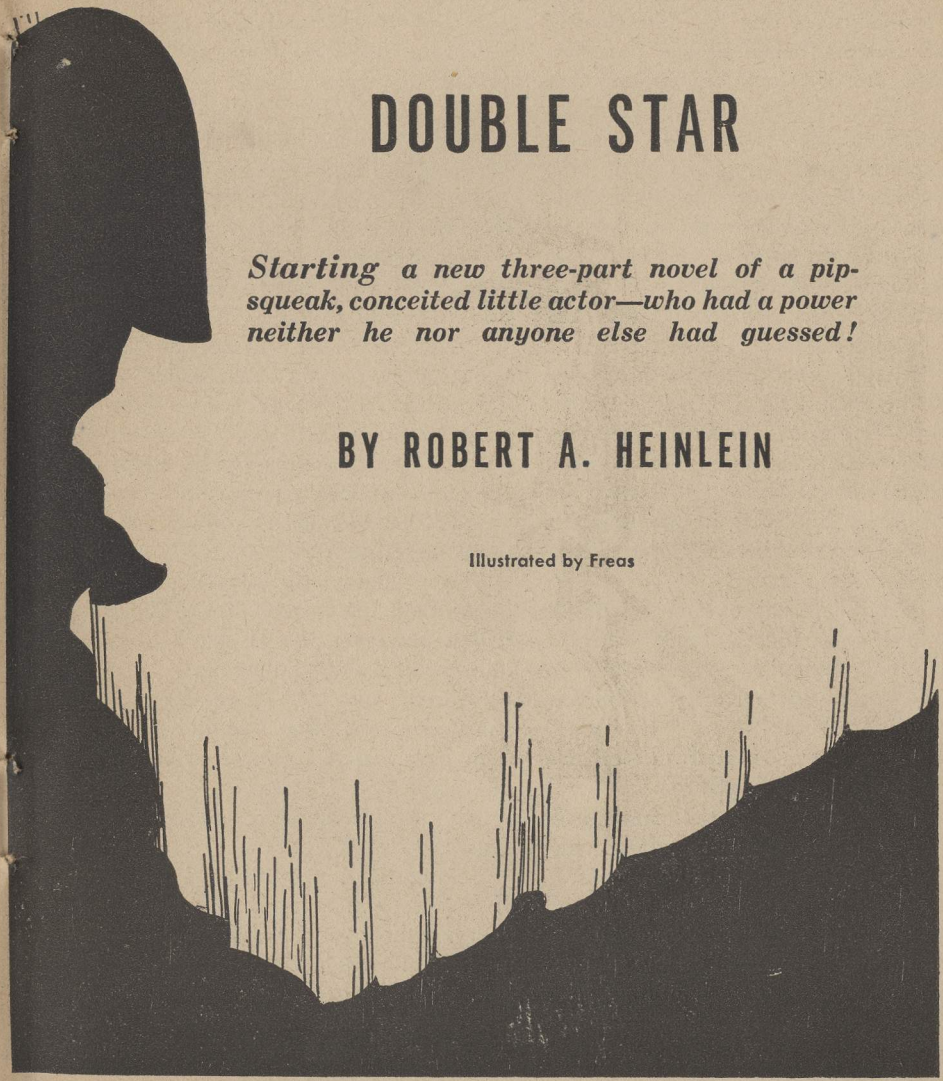
DOUBLE STAR

Starting a new three-part novel of a pip-squeak, conceited little actor—who had a power neither he nor anyone else had guessed!

BY ROBERT A. HEINLEIN

Illustrated by Freas



I

If a man walks in, dressed like a hick and acting as if he owns the place, he's a spaceman.

It is a logical necessity. His profession makes him feel like boss of all creation; when he sets foot dirtside he is slumming among the peasants. As for his sartorial inelegance, a man who is in uniform nine-tenths of the time and is more used to deep space than to civilization can hardly be expected to know how to dress properly. He is a sucker for the alleged tailors who swarm around every spaceport peddling "ground outfits."

I could see that this big-boned fellow had been dressed by Omar the Tentmaker—padded shoulders that were too big to start with, shorts cut so that they crawled up his hairy thighs as he sat down, a ruffled chemise that might have looked well on a cow.

But I kept my opinion to myself and bought him a drink with my last half Imperial, considering it an investment, spacemen being the way they are about money. "Hot jets!" I said as we touched glasses. He gave me a quick glance.

That was my initial mistake in dealing with Dak Broadbent. Instead of answering, "Clear space!" or "Safe grounding!" as he should have, he looked me over and said softly, "A nice sentiment, but to the wrong man. I've never been out."

That was another good place to keep my mouth shut. Spacemen did not often come to the bar of Casa Mañana; it was not their sort of hotel and it's miles from the port. When one shows up in ground clothes, seeks a dark corner of the bar, and objects to being called a spaceman, that's *his* business. I had picked that spot myself so that I could see without being seen—I owed a little money here and there at the time, nothing important but embarrassing. I should have assumed that he had his reasons, too, and respected them.

But my vocal cords lived their own life, wild and free. "Don't give me that, shipmate," I replied. "If you're a groundhog, I'm Mayor of Tycho City. I'll wager you've done more drinking on Mars," I added, noticing the cautious way he lifted his glass—a dead giveaway of low-gravity habits—"than you've ever done on Earth."

"Keep your voice down!" he cut in, without moving his lips. "What makes you sure that I am a *voyageur?* You don't know me."

"Sorry," I said. "You can be anything you like. But I've got eyes. You gave yourself away the minute you walked in."

He said something under his breath. "How?"

"Don't let it worry you. I doubt if anyone else noticed. But I see things other people don't see." I handed him my card, a little smugly perhaps. "There is only one Lorenzo Smythe, the One-Man Stock Company. Yes, I'm 'The Great Loren-

zo' . . . stereo, canned opera, legit —'Pantominist and Mimicry Artist Extraordinary.'"

He read my card and dropped it into a sleeve pocket—which annoyed me; those cards had cost me money, genuine imitation hand engraving. "I see your point," he said quietly, "but what was wrong with the way I behaved?"

"I'll show you," I said. "I'll walk to the door like a groundhog and come back the way you walk. Watch." I did so, making the trip back in a slightly exaggerated version of his walk to allow for his untrained eye—feet sliding softly along the floor as if it were deck-plates, weight carried forward and balanced from the hips, hands a trifle forward and clear of the body, ready to grasp.

There are a dozen other details which can't be set down in words; the point is, you have to *be* a spaceman when you do it, with a spaceman's alert body and unconscious balance—you have to live it. A city man blunders along on smooth floors all his life, steady floors with Earth-normal gravity, and will trip over a cigarette paper, like as not. Not so a spaceman.

"See what I mean?" I asked, slipping back into my seat.

"I'm afraid I do," he admitted sourly. "Did I walk like that?"

"Yes."

"Hm-m-m . . . maybe I should take lessons from you."

"You could do worse," I admitted.

He sat there, looking me over, then started to speak—changed his mind and wriggled a finger at the bartender to refill our glasses. When the drinks came, he paid for them, drank his, and slid out of his seat all in one smooth motion. "Wait for me," he said quietly.

With a drink he had bought sitting in front of me I could not refuse. Nor did I want to; he interested me. I liked him, even on ten minutes acquaintance; he was the sort of big ugly-handsome galoot that women go for and men take orders from.

He threaded his way gracefully through the room and passed a table of four Martians near the door. I didn't like Martians. I did not fancy having a thing that looks like a tree trunk topped off by a sun helmet claiming the privileges of a man. I did not like the way they grew pseudo-limbs; it reminded me of snakes crawling out of their holes. I did not like the fact that they could look all directions at once without turning their heads—if they had had heads, which of course they don't. And I could not *stand* their smell!

Nobody could accuse me of race prejudice. I didn't care what a man's color, race, or religion was. But men were men, whereas Martians were *things*. They weren't even animals to my way of thinking. I'd rather have had a wart hog around me any day. Permitting them in restaurants

and bars used by men struck me as outrageous. But there was the Treaty, of course, so what could I do?

These four had not been there when I came in, or I would have whiffed them. For that matter, they certainly could not have been there a few moments earlier when I had walked to the door and back. Now there they were, standing on their pedestals around a table, pretending to be people. I had not even heard the air-conditioning speed up.

The free drink in front of me did not attract me; I simply wanted my host to come back so that I could leave politely. It suddenly occurred to me that he had glanced over that way just before he had left so hastily and I wondered if the Martians had anything to do with it. I looked over at them, trying to see if they were paying attention to our table —but how could you tell what a Martian was looking at or what it was thinking? That was another thing I didn't like about them.

I sat there for several minutes, fiddling with my drink and wondering what had happened to my spaceman friend. I had hoped that his hospitality might extend to dinner, and, if we became sufficiently *simpatico,* possibly even to a small temporary loan. My other prospects were—I admit it!—slender. The last two times I had tried to call my agent his autosecretary had simply recorded the message, and, unless I deposited coins in the door, my room would not open to me that night—that was how low my fortunes had ebbed: reduced to sleeping in a coin-operated cubicle.

In the midst of my melancholy ponderings a waiter touched me on the elbow. "Call for you, sir."

"Eh? Very well, friend, will you fetch an instrument to the table?"

"Sorry, sir, but I can't transfer it. Booth twelve in the lobby."

"Oh. Thank you," I answered, making it as warm as possible since I was unable to tip him. I swung wide around the Martians as I went out.

I soon saw why the call had not been brought to the table; number twelve was a maximum-security booth, sight, sound, and scramble. The tank showed no image and did not clear even after the door locked behind me. It remained milky until I sat down and placed my face within pickup, then the opalescent clouds melted away and I found myself looking at my spaceman friend.

"Sorry to walk out on you," he said quickly, "but I was in a hurry. I want you to come at once to room twenty-one-oh-six of the Eisenhower."

He offered no explanation. The Eisenhower is just as unlikely a hotel for spacemen as Casa Mañana. I could smell trouble. You don't pick up a stranger in a bar and then insist that he come to a hotel room—well, not one of the same sex, at least.

"Why?" I asked.

The spaceman got that look peculiar to men who are used to being obeyed without question; I studied it with professional interest—it's not the same as anger; it is more like a thundercloud just before a storm. Then he got himself in hand and answered quietly, "Lorenzo, there is no time to explain. Are you open to a job?"

"Do you mean a *professional* engagement?" I answered slowly. For a horrid instant I suspected that he was offering me . . . well, *you* know—a *job*. Thus far I had kept my professional pride intact, despite the slings and arrows of outrageous fortune.

"Oh, professional, of course!" he answered quickly. "This requires the best actor we can get."

I did not let my relief show in my face. It was true that I was ready for *any* professional work—I would gladly have played the balcony in "Romeo and Juliet"—but it does not do to be eager. "What is the nature of the engagement?" I asked. "My calendar is rather full."

He brushed it aside. "I can't explain over the phone. Perhaps you don't know it, but any scrambler circuit can be unscrambled—with the proper equipment. Shag over here fast!"

He was eager; therefore I could afford not to be eager. "Now really," I protested, "what do you think I am? A bellman? Or an untried juvenile anxious for the privilege of carrying a spear? *I* am Lorenzo!" I threw up my chin and looked offended. "What is your offer?"

"Uh . . . damn it, I *can't* go into it over the phone. How much do you get?"

"Eh? You are asking my professional salary?"

"Yes, yes!"

"For a single appearance? Or by the week? Or an option contract?"

"Uh, never mind. What do you get by the day?"

"My minimum fee for a one-evening date is one hundred Imperials." This was simple truth. Oh, I have been coerced at times into paying some scandalous kickbacks, but the voucher never read less than my proper fee. A man has his standards. I'd rather starve.

"Very well," he answered quickly, "one hundred Imperials in cash, laid in your hand the minute you show up here. But hurry!"

"Eh?" I realized with sudden dismay that I could as easily have said two hundred, or even two-fifty. "But I have not agreed to accept the engagement."

"Never mind that! We'll talk it over when you get here. The hundred is yours even if you turn us down. If you accept—well, call it a bonus, over and above your salary. Now will you sign off and get over here?"

I bowed. "Certainly, sir. Have patience."

Fortunately the Eisenhower is not too far from the Casa, for I did not even have a minum for tube fare. However, although the art of stroll-

ing is almost lost, I savor it—and it gave me time to collect my thoughts. I was no fool; I was aware that when another man is too anxious to force money on one, it is time to examine the cards, for there is almost certainly something illegal, or dangerous, or both, involved in the matter. I was not unduly fussy about legality *qua* legality; I agreed with the Bard that the Law is often an idiot. But in the main I had stayed on the right side of the street.

But presently I realized that I had insufficient facts, so I put it out of my mind, threw my cape over my right shoulder and strode along, enjoying the mild autumn weather and the rich and varied odors of the metropolis. On arrival I decided to forego the main entrance and took a bounce tube from the sub-basement to the twenty-first floor, I having at the time a vague feeling that this was not the place to let my public recognize me. My *voyageur* friend let me in. "You took long enough," he snapped.

"Indeed?" I let it go at that and looked around me. It was an expensive suite, as I had expected, but it was littered and there were at least a dozen used glasses and as many coffee cups scattered here and there; it took no skill to see that I was merely the latest of many visitors. Sprawled on a couch, scowling at me, was another man whom I tabbed tentatively as a spaceman. I glanced inquiringly but no introduction was offered.

"Well, you're here, at least. Let's get down to business."

"Surely. Which brings to mind," I added, "there was mention of a bonus, or retainer."

"Oh, yes." He turned to the man on the couch. "Jock, pay him."

"For what?"

"Pay him!"

I now knew which one was boss —although, as I was to learn, there was usually little doubt when Dak Broadbent was in a room. The other fellow stood up quickly, still scowling, and counted out to me a fifty and five tens. I tucked it away casually without checking it and said, "I am at your disposal, gentlemen."

The big man chewed his lip. "First, I want your solemn oath not even to talk in your sleep about this job."

"If my simple word is not good, is my oath better?" I glanced at the smaller man, slouched again on the couch. "I don't believe we have met. I am Lorenzo."

He glanced at me, looked away. My barroom acquaintance said hastily, "Names don't matter in this."

"No? Before my revered father died he made me promise him three things: First, never to mix whiskey with anything but water; second, always to ignore anonymous letters; and lastly, never to talk with a stranger who refuses to give his name. Good day, sirs." I turned toward the door, their hundred Imperials warm in my pocket.

"Hold it!" I paused. He went on,

"You are perfectly right. My name is—"

"Skipper!"

"Stow it, Jock. I'm Dak Broadbent; that's Jacques Dubois glaring at us. We're both *voyageurs*—master pilots, all classes, any acceleration."

I bowed. "Lorenzo Smythe," I said modestly, "jongleur and artist—care of the Lambs Club." I made a mental note to pay my dues.

"Good. Jock, try smiling for a change. Lorenzo, you agree to keep our business secret?"

"Under the rose. This is a discussion between gentlemen."

"Whether you take the job or not?"

"Whether we reach agreement or not. I am human, but, short of illegal methods of questioning, your confidences are safe with me."

"I am well aware of what neodexocaine will do to a man's forebrain, Lorenzo. We don't expect the impossible."

"Dak," Dubois said urgently, "this is a mistake. We should at least—"

"Shut up, Jock. I want no hypnotists around at this point. Lorenzo, we want you to do an impersonation job. It has to be so perfect that no one—I mean *no one*—will ever know it took place. Can you do that sort of a job?"

I frowned. "The first question is not 'Can I' but 'Will I?' What are the circumstances?"

"Uh, we'll go into details later. Roughly, it is the ordinary doubling job for a well-known public figure. The difference is that the impersonation will have to be so perfect as to fool people who know him well and must see him close up. It won't be just reviewing a parade from a grandstand, or pinning medals on girl scouts." He looked at me shrewdly. "It will take a real artist."

"No," I said at once.

"Huh? You don't know anything about the job yet. If your conscience is bothering you, let me assure you that you will not be working against the interests of the man you will impersonate—nor against anyone's legitimate interests. This is a job that really needs to be done."

"No."

"Well, for Pete's sake, why? You don't even know how much we will pay."

"Pay is no object," I said firmly. "I am an actor, not a double."

"I don't understand you. There are lots of actors picking up spare money making public appearances for celebrities."

"I regard them as prostitutes, not colleagues. Let me make myself clear. Does an author respect a ghost writer? Would you respect a painter who allowed another man to sign his work—for *money?* Possibly the spirit of the artist is foreign to you, sir, yet perhaps I may put it in terms germane to your own profession. Would you, simply for *money,* be content to pilot a ship while some other man, not possessing your high art, wore the uniform, received the

credit, was publicly acclaimed as the master? Would you?"

Dubois snorted. "How much money?"

Broadbent frowned at him. "I think I understand your objection."

"To the artist, sir, kudos comes first. Money is merely the mundane means whereby he is enabled to create his art."

"Hm-m-m . . . all right, so you won't do it just for the money. Would you do it for other reasons? If you felt that it had to be done and you were the only one who could do it successfully?"

"I concede the possibility; I cannot imagine the circumstances."

"You won't have to imagine them; we'll explain them to you."

Dubois jumped up off the couch. "Now see here, Dak, you can't—"

"Cut it, Jock! He has to know."

"He doesn't have to know now —and here. And you haven't any right to jeopardize everybody else by telling him. You don't know a thing about him."

"It's a calculated risk." Broadbent turned back to me.

Dubois grabbed his arm, swung him around. "Calculated risk be damned! Dak, I've strung along with you in the past—but this time, before I'll let you shoot off your face, well, one or the other of us isn't going to be in any shape to talk."

Broadbent looked startled, then grinned coldly down at Dubois. "Think you're up to it, Jock old son?"

Dubois glared up at him, did not flinch. Broadbent was a head taller and outweighed him by twenty kilos. I found myself for the first time liking Dubois; I am always touched by the gallant audacity of a kitten, the fighting heart of a bantam cock, or the willingness of a little man to die in his tracks rather than knuckle under—and, while I did not expect Broadbent to kill him, I did think that I was about to see Dubois used as a dust rag.

I had no thought of interfering. Every man is entitled to elect the time and manner of his own destruction.

I could see tension grow. Then suddenly Broadbent laughed and clapped Dubois on the shoulder. "Good for you, Jock!" He turned to me and said quietly, "Will you excuse us a few moments? My friend and I must make heap big smoke."

The suite was equipped with a hush corner, enclosing the autograph and the phone. Broadbent took Dubois by the arm and led him over there; they stood and talked urgently.

Sometimes such facilities in public places like hotels are not all that they might be; the sound waves fail to cancel out completely. But the Eisenhower is a luxury house and in this case, at least, the equipment worked perfectly; I could see their lips move but I could hear no sound.

But I could indeed see their lips

move. Broadbent's face was toward me and Dubois I could glimpse in a wall mirror. When I was performing in my famous mentalist act, I found out why my father had beaten my tail until I learned the silent language of lips—in my mentalist act I always performed in a brightly lighted hall and made use of spectacles which—but never mind; I could read lips.

Dubois was saying: "Dak, you bloody, stupid, unprintable, illegal-and-highly-improbable obscenity, do you want us both to wind up counting rocks on Titan? This conceited pipsqueak will spill his guts."

I almost missed Broadbent's answer. Conceited indeed! Aside from a cold appreciation of my own genius I felt that I was a modest man.

Broadbent: ". . . Doesn't matter if the game is crooked when it's the only game in town. Jock, there is nobody else we can use."

Dubois: "All right, then get Doc Scortia over here, hypnotize him and shoot him the happy juice. But don't tell him the score—not until he's conditioned, not while we are still on dirt."

Broadbent: "Uh, Scortia himself told me that we could not depend on hypno and drugs, not for the performance we need. We've got to have his co-operation, his intelligent co-operation."

Dubois snorted. "What intelligence? Look at him. Ever see a rooster strutting through a barnyard? Sure, he's the right size and shape and his skull looks a good bit like the chief's—but there is nothing behind it. He'll lose his nerve, blow his top, and give the whole thing away. He can't play the part—he's just a ham actor!"

If the immortal Caruso had been charged with singing off key, he could not have been more affronted than I. But I trust I justified my claim to the mantle of Burbage and Booth at that moment; I went on buffing my nails and ignored it . . . merely noting that I would some day make friend Dubois both laugh and cry within the span of twenty seconds. I waited a few moments more, then stood up and approached the hush corner. When they saw that I intended to enter it, they both shut up. I said quietly, "Never mind, gentlemen, I have changed my mind."

Dubois looked relieved. "You don't want the job."

"I mean that I accept the engagement. You need not make explanations. I have been assured by friend Broadbent that the work is such as not to trouble my conscience —and I trust him. He has assured me that he needs an actor. But the business affairs of the producer are not my concern. I accept."

Dubois looked angry but shut up. I expected Broadbent to look pleased and relieved; instead he looked worried. "All right," he agreed, "let's get on with it. Lorenzo, I don't know exactly how long we will need you. No more than a few days, I'm

certain . . . and you will be on display only an hour or so once or twice in that time."

"That does not matter, as long as I have time to study the role—the impersonation. But approximately how many days will you need me? I should notify my agent."

"Oh, no! Don't do that."

"Well . . . how long? As much as a week?"

"It will be less than that—or we're sunk."

"Eh?"

"Never mind. Will a hundred Imperials a day suit you?"

I hesitated, recalling how easily he had met my minimum just to interview me . . . and decided this was a time to be gracious. I waved it aside. "Let's not speak of such things. No doubt you will present me with an honorarium consonant with the worth of my performance."

"All right, all right." Broadbent turned away impatiently. "Jock, call the field. Then call Langston and tell him we're starting Plan Mardi Gras. Synchronize with him. Lorenzo—" He motioned for me to follow and strode into the bath. He opened a small case and demanded, "Can you do anything with this junk?"

"Junk" it was—the sort of overpriced and unprofessional make-up kit that is sold over the counter to stage-struck youngsters. I stared at it with mild disgust. "Do I understand, sir, that you expect me to start an impersonation *now?* Without time for study?"

"Huh? No, no, no! I want you to change your face—on the outside chance that someone might recognize you as we leave here. That's possible, isn't it?"

I answered stiffly that being recognized in public was a burden that all celebrities were forced to carry. I did not add that it was certain that countless people would recognize the Great Lorenzo in any public place.

"O. K. So change your phiz so it's not yours." He left abruptly.

I sighed and looked over the child's toys he had handed me, no doubt thinking they were the working tools of my profession—grease paints suitable for clowns, reeking spirit gum, crepe hair which seemed to have been raveled from Aunt Maggie's parlor carpet. Not an ounce of Silicoflesh, no electric brushes, no modern amenities of any sort. But a true artist can do wonders with a burnt match, or oddments such as one might find in a kitchen—and his own genius. I arranged the lights and let myself fall into creative reverie.

There are several ways to keep a well-known face from being recognized. The simplest is misdirection. Place a man in uniform and his face is not likely to be noticed—do you recall the face of the last policeman you encountered? Could you identify him if you saw him next in mufti? On the same principle is the attention-getting special feature. Equip a man with an enormous nose, disfigured perhaps with *acne rosacea;* the vulgar will stare in fascination at the nose itself, the polite will turn away—but neither will see the face.

I decided against this primitive maneuver because I judged that my employer wished me not to be noticed at all, rather than remembered for an odd feature without being recognized. This is much more difficult; anyone can be conspicuous but it takes real skill not to be noticed. I needed a face as commonplace, as impossible to remember, as the true face of the immortal Alec Guinness. Unfortunately my aristocratic features are entirely too distinguished, too handsome—a regrettable handicap for a character actor. As my father used to say, "Larry, you are too damned pretty! If you don't get off your lazy duff and learn the business, you are going to spend fifteen years as a juvenile, under the mistaken impression that you are an actor—then wind up selling candy in the lobby. 'Stupid' and 'pretty' are the two worst vices in show business—and you're *both.*"

Then he would take off his belt and stimulate my brain. Father was a practical psychologist and believed that warming the *glutei maximi* with a strap drew excess blood away from a boy's brain. While the theory may have been shaky, the results justified the method; by the time I was fifteen I could stand on my head on a slack wire and quote page after page of Shakespeare and Shaw—or steal a scene simply by lighting a cigarette.

I was deep in the mood of creation when Broadbent stuck his face in. "Good grief!" he snapped. "Haven't you done anything yet?"

I stared coldly. "I assumed that you wanted my best creative work —which cannot be hurried. Would you expect a *Cordon Bleu* to compound a new sauce on the back of a galloping horse?"

"Horses be damned!" He glanced at his watch finger. "You have six more minutes. If you can't do anything in that length of time, we'll just have to take our chances."

Well! Of course I prefer to have plenty of time—but I had understudied my father in his quick-change creation "The Assassination of Huey Long," fifteen parts in seven minutes . . . and had once played it in nine seconds less time than he did. "Stay where you are!" I snapped back at him. "I'll be with you at once." I then put on "Benny Gray," the colorless handy man who does the murders in "The House With No Doors" . . . two quick strokes to put dispirited lines into my cheeks from nose to mouth corners, a mere suggestion of bags under my eyes, and Factor's No. 5 sallow over all, taking not more than twenty seconds for everything—I could have done it in my sleep; "House" ran on boards for ninety-two performances before they recorded it.

Then I faced Broadbent and he gasped. "Good God! I don't believe it."

I stayed in "Benny Gray" and did not smile acknowledgment. What Broadbent could not realize was that the grease paint really was not necessary. It makes it easier, of course, but I had used a touch of it primarily because he expected it; being one of the yokels he naturally assumed that make-up consisted of paint and powder.

He continued to stare at me. "Look here," he said in a hushed voice, "could you do something like that for *me?* In a hurry?"

I was about to say no, when I realized that it presented an interesting professoinal challenge. I had been tempted to say that if my father had started in on him at five he might be ready now to sell cotton candy at a punkin' doin's, but I thought better of it. "You simply want to be sure that you will not be recognized?" I asked.

"Yes, yes! Can you paint me up, or give me a false nose, or something?"

I shook my head. "No matter what we did with make-up, it would simply make you look like a child dressed up for 'Trick or Treat.' You can't act and you can never learn, at your age. We won't touch your face."

"Huh? But with this beak on me—"

"Attend me. Anything I could do to that lordly nose would just call attention to it, I assure you. Would it suffice if an acquaintance looked at you and said, 'Say, that big fellow reminds me of Dak Broadbent. It's not Dak, of course, but looks a little like him.' Eh?"

"Huh? I suppose so. As long as he was sure it wasn't me. I'm supposed to be on . . . well, I'm not

supposed to be on Earth just now."

"He'll be quite sure it is not you, because we'll change your walk. That's the most distinctive thing about you. If your walk is wrong, it cannot possibly be *you* . . . so it must be some other big-boned, broad-shouldered man who looks a bit like you."

"O. K., show me how to walk."

"No, you could never learn it. I'll force you to walk the way I want you to."

"How?"

"We'll put a handful of pebbles or the equivalent in the toes of your boots. That will force you back on your heels and make you stand up straight. It will be impossible for you to sneak along in that cat-footed spaceman's crouch. Mm-m-m . . . I'll slap some tape across your shoulder blades to remind you to keep your shoulders back, too. That will do it."

"You think they won't recognize me just because I'll walk differently?"

"Certain: An acquaintance won't know why he is sure it is not you, but the very fact that the conviction is subconscious and unanalyzed will put it beyond reach of doubt. Oh, I'll do a little something to your face, just to make you feel easier—but it isn't necessary."

We went back into the living room of the suite. I was still being "Benny Gray" of course; once I put on a role it takes a conscious effort of will to go back to being myself. Dubois was busy at the phone; he looked up, saw me, and his jaw dropped. He hurried out of the hush locus and demanded, "Who's *he?* And where's that actor fellow?" After his first glance at me, he had looked away and not bothered to look back—"Benny Gray" is such a tired, negligible little guy that there is no point in looking at him.

"What actor fellow?" I answered in Benny's flat, colorless tones. It brought Dubois' eyes back to me. He looked at me, started to look away, his eyes snapped back, then he looked at my clothes. Broadbent guffawed and clapped him on the shoulder.

"And *you* said he couldn't act!" He added sharply, "Did you get them all, Jock?"

"Yes." Dubois looked back at me, looked perplexed, and looked away.

"O. K. We've got to be out of here in four minutes. Let's see how fast you can get me fixed up, Lorenzo."

Dak had one boot off, his blouse off, and his chemise pulled up so that I could tape his shoulders when the light over the door came on and the buzzer sounded. He froze. "Jock? We expecting anybody?"

"Probably Langston. He said he was going to try to get over here before we left." Dubois started for the door.

"It might not be him. It might be—" I did not get to hear Broadbent say who he thought it might be as Dubois dilated the door. Framed in the doorway, looking like

a nightmare toadstool, was a Martian.

For an agony-stretched second I could see nothing but the Martian. I did not see the human standing behind him, nor did I notice the life wand the Martian cradled in his pseudolimb.

Then the Martian flowed inside, the man with him stepped in behind him, and the door relaxed. The Martian squeaked, "Good afternoon, gentlemen. Going somewhere?"

I was frozen, dazed, by acute xenophobia. Dak was handicapped by disarranged clothing. But little Jock Dubois acted with a simple heroism that made him my beloved brother even as he died—he flung himself at that life wand. Right at it—he made no attempt to evade it.

He must have been dead, a hole burned through his belly you could poke a fist through, before he hit the floor. But he hung on and the pseudolimb stretched like taffy—then snapped, broken off a few inches from the monster's neck, and poor Jock still had the life wand cradled in his dead arms.

The human who had followed that stinking, reeking thing into the room had to step to one side before he could get in a shot—and he made a mistake. He should have shot Dak first, then me. Instead he wasted his first one on Jock and he never got a second one, as Dak shot him neatly in the face. I had not even known Dak was armed.

Deprived of his weapon, the Martian did not attempt to escape. Dak bounced to his feet, slid up to him and said, "Ah, Rrringriil. I see you."

"I see you, Captain Dak Broadbent," the Martian squeaked, then added, "you will tell my nest?"

"I will tell your nest, Rrringriil."

"I thank you, Captain Dak Broadbent."

Dak reached out a long, bony finger and poked it into the eye nearest him, shoving it on home until his knuckles were jammed against the brain case. He pulled it out and his finger was slimed with a green ichor. The creature's pseudolimbs crawled back into its trunk in reflex spasm but the dead thing continued to stand firm on its base. Dak hurried into the bath; I heard him washing his hands. I stayed where I was, almost as frozen by shock as the late Rrringriil.

Dak came out, wiping his hands on his shirt, and said, "We'll have to clean this up. There isn't much time." He could have been speaking of a spilled drink.

I tried to make clear in one jumbled sentence that I wanted no part of it, that we ought to call the cops, that I wanted to get away from there before the cops came, that he knew what he could do with his crazy impersonation job, and that I planned to sprout wings and fly out the window. Dak brushed it all aside. "Don't jitter, Lorenzo. We're on minus minutes now. Help me

get the bodies into the bathroom."

"Huh? Good God, man! Let's just lock up and run for it. Maybe they will never connect us with it."

"Probably they wouldn't," he agreed, "since neither one of us is supposed to be here. But they would be able to see that Rrringriil had killed Jock—and we can't have *that*. Not now we can't."

"Huh?"

"We can't afford a news story about a Martian killing a human. So shut up and help me."

I shut up and helped him. It steadied me to recall that "Benny Gray" had been the worst of sadistic psychopaths, who had enjoyed dismembering his victims. I let "Benny Gray" drag the two human bodies into the bath while Dak took the life wand and sliced Rrringriil into pieces small enough to handle. He was careful to make the first cut below the brain case so the job was not messy, but I could not help him with it—it seemed to me that a dead Martian stunk even worse than a live one.

The oubliette was concealed in a panel in the bath just beyond the bidet; if it had not been marked with the usual radiation trefoil it would have been hard to find. After we had shoved the chunks of Rrringriil down it—I managed to get my spunk up enough to help—Dak tackled the messier problem of butchering and draining the human corpses, using the wand and, of course, working in the bathtub.

It is amazing how much blood a man holds. We kept the water running the whole time; nevertheless it was bad. But when Dak had to tackle the remains of poor little Jock, he just wasn't up to it. His eyes flooded with tears, blinding him, so I elbowed him aside before he sliced off his own fingers, and let "Benny Gray" take over.

When I had finished and there was nothing left to show that there had ever been two other men and a monster in the suite, I sluiced out the tub carefully and stood up. Dak was in the doorway, looking as calm as ever. "I've made sure the floor is tidy," he announced. "I suppose a criminologist with proper equipment could reconstruct it . . . but we are counting on no one ever suspecting. So let's get out of here. We've got to gain almost twelve minutes somehow. Come on!"

I was beyond asking where or why. "All right. Let's fix your boots."

He shook his head. "It would slow me up. Right now speed is more essential than not being recognized."

"I am in your hands." I followed him to the door; he stopped and said, "There may be others around. If so, shoot first—there's nothing else you can do." He had the life wand in his hand, with his cloak drawn over it.

"Martians?"

"Or men. Or both."

"Dak, was Rrringriil one of those four at the Mañana Bar?"

"Certainly. Why do you think I

went around Robinson's barn to get you out of there and over here? They either tailed you, as we did, or they tailed me. Didn't you recognize him?"

"Heavens, no! Those monsters all look alike to me."

"And *they* say *we* all look alike. The four were Rrringriil, his conjugate-brother Rrringlath, and two others from his nest, of divergent lines. But shut up. If you see a Martian, shoot. You have the other gun?"

"Uh, yes. Look, Dak, I don't know what this is all about. But as long as those beasts are against you, I'm with you. I despise Martians."

He looked shocked. "You don't know what you are saying. We're not fighting Martians; those four are renegades."

"Huh?"

"There are lots of good Martians . . . almost all of them. Shucks, even Rrringriil wasn't a bad sort in most ways—I've had many a fine chess game with him."

"What? In that case, I'm—"

"Stow it. You're in too deep to back out. Now quick, march, straight to the bounce tube. I'll cover our rear."

I shut up. I was in much too deep —that was unarguable.

We hit the sub-basement and went at once to the express tubes. A two-passenger capsule was just emptying; Dak shoved me in so quickly that I did not see him set the control combination. But I was hardly surprised when the pressure let up from my chest and I saw the sign blinking *JEFFERSON SKYPORT—All Out.*

Nor did I care what station it was, as long as it was as far as possible from Hotel Eisenhower. The few minutes we had been crammed in the vactube had been long enough for me to devise a plan—sketchy, tentative, and subject to change without notice as the fine print always says . . . but a plan. It could be stated in two words: Get Lost!

Only that morning I would have found the plan very difficult to execute; in our culture a man with no money at all is baby helpless. But with a hundred slugs in my pocket I could go far and fast. I felt no obligation to Dak Broadbent. For reasons of his own—not *my* reasons!—he had almost got me killed, then had crowded me into covering up a crime, made me a fugitive from justice. But we had evaded the police, temporarily at least, and now, simply by shaking off Broadbent, I could forget the whole thing, shelve it as a bad dream. It seemed most unlikely that I could be connected with the affair, even if it were discovered—fortunately a gentleman always wears gloves, and I had had mine off only to put on make-up and later during that ghastly housecleaning.

Aside from the warm burst of adolescent heroics I had felt when I thought Dak was fighting Martians I had no interest in his schemes . . . and even that sympathy had

shut off when I found that he liked Martians in general. His impersonation job I would not now touch with the proverbial eleven-foot pole. To hell with Broadbent! All I wanted out of life was money enough to keep body and soul together and a chance to practice my art; cops-and-robbers nonsense did not interest me . . . poor theater at best.

Jefferson Port seemed handmade to carry out my scheme. Crowded and confused, with express tubes spiderwebbing from it, in it, if Dak took his eyes off me for half a second I would be half way to Omaha. I would lie low a few weeks, then get in touch with my agent and find out if any inquiries had been made about me.

Dak saw to it that we climbed out of the capsule together, else I would have slammed it shut and gone elsewhere at once. I pretended not to notice and stuck close as a puppy to him as we went up the belt to the main hall just under the surface, coming out between the Pan-Am desk and American Skylines. Dak headed straight across the waiting room floor toward Diana, Ltd., and I surmised that he was going to buy tickets for the Moon shuttle—how he planned to get me aboard without passport or vaccination certificate I could not guess but I knew that he was resourceful. I decided that I would fade into the furniture while he had his wallet out; when a man counts money there are at least a few seconds when his eyes and attention are fully occupied.

But we went right on past the Diana desk and through an archway marked *Private Berths.* The passageway beyond was not crowded and the walls were blank; I realized with dismay that I had let slip my best chance, back there in the busy main hall. I held back. "Dak? Are we making a jump?"

"Of course."

"Dak, you're crazy. I've got no papers, I don't even have a tourist card for the Moon."

"You won't need them."

"Huh? They'll stop me at 'Emigration.' Then a big, beefy cop will start asking questions."

A hand about the size of a cat closed on my upper arm. "Let's not waste time. Why should you go through 'Emigration,' when officially you aren't leaving? And why should I, when officially I never arrived? Quick march, old son."

I am well muscled and not small, but I felt as if a traffic robot were pulling me out of a danger zone. I saw a sign reading MEN and I made a desperate attempt to break it up. "Dak, half a minute, please. Got to see a man about the plumbing."

He grinned at me. "Oh, yes? You went just before we left the hotel." He did not slow up, nor let go of me.

"Kidney trouble—"

"Lorenzo, old son, I smell a case of cold feet. Tell you what I'll do. See that cop up ahead?" At the end

of the corridor, in the private berths station, a defender of the peace was resting his big feet by leaning over a counter. "I find I have a sudden attack of conscience. I feel a need to confess . . . about how you killed a visiting Martian and two local citizens . . . about how you held a gun on me and forced me to help you dispose of the bodies. About—"

"You're crazy!"

"Almost out of my mind with anguish and remorse, shipmate."

"But . . . you've got nothing on me."

"So? I think my story will sound more convincing than yours. I know what it is all about and you don't. I know all about you and you know nothing about me. For example—" He mentioned a couple of details in my past that I would have sworn were buried and forgotten. All right, so I did have a couple of routines useful for stag shows that are not for the family trade—a man has to eat. But that matter about Bebe; that was hardly fair, for I certainly had not known that she was under age. As for that hotel bill, while it is true that bilking an "innkeeper" in Miami Beach carries much the same punishment as armed robbery elsewhere, it is a very provincial attitude—I would have paid if I had had the money. As for that unfortunate incident in Seattle—well, what I am trying to say is that Dak did know an amazing amount about my background but he had the wrong slant on most of it. Still—

"So," he continued, "let's walk right up to yon gendarme and make a clean breast of it. I'll lay you seven to two as to which one of us is out on bail first."

So we marched up to the cop and on past him. He was talking to a female clerk back of the railing and neither one of them looked up. Dak took out two tickets reading: "GATE PASS — MAINTENANCE PERMIT—Berth K127," and stuck them into the monitor. The machine scanned them, a transparency directed us to take an upper-level car, code King One Two Seven; the gate let us through and locked behind us as a recorded voice said: "Watch your step, please, and heed radiation warnings. The Terminal Company is not responsible for accidents beyond the gate."

Dak punched an entirely different code in the little car; it wheeled around, picked a track and we took off out under the field. It did not matter to me, I was beyond caring.

When we stepped out of the little car it went back where it came from. In front of me was a ladder disappearing into the steel ceiling above. Dak nudged me. "Up you go." There was a scuttle hole at the top and on it a sign: RADIATION HAZARD—Optimax *13* Seconds. The figures had been chalked in. I stopped. I have no special interest in offspring but I am no fool. Dak grinned and said, "Got your lead britches on? Open it, go through at once, and straight up the ladder into the ship. If you don't stop to

scratch, you'll make it with at least three seconds to spare."

I believe I made it with five seconds to spare. I was out in the sunlight for about ten feet, then I was inside a long tube in the ship. I used about every third rung.

The rocketship was apparently small. At least the control room was quite cramped; I never got a look at the outside. The only other spaceship I had ever been in was the Moon shuttle *Evangeline* and her sister ship the *Gabriel,* that being the year in which I had incautiously accepted a lunar engagement on a co-op basis—our impressario had had a notion that a juggling, tightrope, and acrobatic routine would go well in the one-sixth gee of the Moon, which was correct as far as it went, but he had not allowed rehearsal time for us to get used to low gravity. I had to take advantage of the "Distressed Travelers Act" to get back and I had lost my wardrobe.

There were two men in the control room; one was lying in one of three acceleration couches fiddling with dials, the other was making obscure motions with a screwdriver. The one in the couch glanced at me, said nothing. The other one turned, looked worried, then said past me, "What happened to Jock?"

Dak almost levitated out of the hatch behind me. "No time!" he snapped. "Have you compensated for his mass?"

"Yes."

"Red, is she taped? Tower?"

The man in the couch answered lazily, "I've been recomputing every two minutes. You're clear with the tower. Minus forty, uh, seven seconds."

"Out of that bunk! Scram! I'm going to catch that tick!"

Red moved lazily out of the couch as Dak got in. The other man shoved me into the co-pilot's couch and strapped a safety belt across my chest. He turned and dropped down the escape tube. Red followed him, then stopped with his head and shoulders out. "Tickets, please!" he said cheerfully.

"Blast it!" Dak loosened a safety belt, reached for a pocket, got out the two field passes we had used to sneak aboard and shoved them at him.

"Thanks," Red answered. "See you in church. Hot jets and so forth." He disappeared with leisurely swiftness; I heard the air lock close and my eardrums popped. Dak did not answer his farewell; his eyes were busy on the computer dials and he made some minor adjustment.

"Twenty-one seconds," he said to me. "There'll be no rundown. Be sure your arms are inside and that you are relaxed. The first step is going to be a honey."

I did as I was told, then waited for *hours* in that curtain-going-up tension. Finally I said, "Dak?"

"Shut up!"

"Just one thing: where are we going?"

"Mars." I saw his thumb jab at a red button and I blacked out.

II

What is so funny about a man being drop sick? Those dolts with cast-iron stomachs always laugh—I'll bet they would laugh if grandma broke both legs.

I was space sick, of course, as soon as the rocketship quit blasting and went into free fall. I came out of it fairly quickly, as my stomach was practically empty—I'd eaten nothing since breakfast—and was simply wanly miserable the remaining eternity of that awful trip. It took us an hour and forty-three minutes to make rendezvous, which is roughly equal to a thousand years in purgatory to a groundhog like myself.

I'll say this for Dak, though: he did not laugh. Dak was a professional and he treated my normal reaction with the impersonal good manners of a flight nurse—not like those flat-headed, loud-voiced jackasses you'll find on the passenger list of a Moon shuttle. If I had my way, those healthy self-panickers would be spaced in mid-orbit and allowed to laugh themselves to death in vacuum.

Despite the turmoil in my mind and the thousand questions I wanted to ask we had almost made rendezvous with a torchship, which was in parking orbit around Earth, before I could stir up interest in anything. I suspect that if one were to

inform a victim of spacesickness that he was to be shot at sunrise his only answer would be, "Yes? Would you hand me that sack, please?"

But I finally recovered to the point where, instead of wanting very badly to die, the scale had tipped so that I had a flickering, half-hearted interest in continuing to live. Dak was busy most of the time at the ship's communicator, apparently talking on a very tight beam for his hands constantly nursed the directional control like a gunner laying a gun under difficulties. I could not hear what he said, nor even read his lips, as he had his face pushed into the rumble box. I assumed that he was talking to the long-jump ship we were to meet.

But when he pushed the communicator aside and lit a cigarette I repressed the stomach retch that the mere sight of tobacco smoke had inspired and said, "Dak, isn't it about time you told me the score?"

"Plenty of time for that on our way to Mars."

"Huh? I don't want to go to Mars," I protested feebly. "I would never have considered your crazy offer if I had known it was on Mars."

"Suit yourself. You don't have to go."

"Eh?"

"The air lock is right behind you. Get out and walk. Mind you close the door."

I did not answer the ridiculous suggestion. He went on, "But if you can't breathe space the easiest thing to do is to go to Mars . . . and I'll see that you get back. The *Can Do*—that's this bucket—is about to rendezvous with the *Go For Broke,* which is a high-gee torchship. About seventeen seconds and a gnat's wink after we make contact the *Go For Broke* will torch for Mars . . . for we've *got* to be there by Wednesday."

I answered with the petulant stubbornness of a sick man. I'm not going to Mars. I'm going to stay right in this ship. Somebody has to take it back and land it on Earth. You can't fool me."

"True," Broadbent agreed. "But you won't be in it. The three blokes who are supposed to be in this ship —according to the records back at Jefferson Field—are in the *Go For Broke* right now. This is a three-man ship as you've noticed. I'm afraid you will find them stuffy about giving up a place to you. And besides, how would you get back through Immigration?"

"I don't care! I'd be back on ground."

"And in jail, charged with everything from illegal entry to mopery and dopery in the spaceways. At the very least they would be sure that you were smuggling and they would take you to some quiet back room and run a needle in past your eyeball and find out just what you were up to. They would know what questions to ask and you wouldn't be able to keep from answering. But you wouldn't be able to implicate me, for good old Dak Broadbent

hasn't been back to Earth in quite a spell and has unimpeachable witnesses to prove it."

I thought about it sickly, both from fear and the continuing effects of spacesickness. "So you would tip off the police? You dirty, slimy—" I broke off for lack of an adequately insulting noun.

"Oh, no! Look, old son, I might twist your arm a bit and let you think I would cry copper—but I never would. But Rrringriil's conjugate-brother Rrringlath certainly knows that old 'Griil went in that door and failed to come out. He will tip off the nosies. Conjugate-brother is a relationship so close that we will never understand it, since we don't reproduce by fission."

I didn't care whether Martians reproduced like rabbits or the stork brought them in a little black bag. The way he told it I could never go back to Earth, and I said so. He shook his head. "Not at all. Leave it to me and we will slide you back in as neatly as we slid you out. Eventually you will walk off that field or some other field with a gate pass which shows that you are a mechanic who has been making some last-minute adjustment . . . and you'll have greasy coveralls and a tool kit to back it up. Surely an actor of your skill can play the part of a mechanic for a few minutes?"

"Eh? Why, certainly! But—"

"There you are! You stick with ol' Doc Dak; he'll take care of you. We shuffled eight guild brothers in this current caper to get me on Earth and both of us off; we can do it again. But you would not stand a chance without *voyageurs* to help you." He grinned. "Every *voyageur* is a free-trader at heart. The art of smuggling being what it is, we are all of us always ready to help out one another in a little innocent deception of the port guards. But a person outside the lodge does not ordinarily get such co-operation."

I tried to steady my stomach and think about it. "Dak, is this a smuggling deal? Because—"

"Oh, no! Except that we are smuggling *you*."

"I was going to say that I don't regard smuggling as a crime."

"Who does? Except those who make money off the rest of us by limiting trade. But this is a straight impersonation job, Lorenzo, and you are the man for it. It wasn't an accident that I ran across you in that bar; there had been a tail on you for two days. As soon as I hit dirt I went where you were." He frowned. "I wish I could be sure our honorable antagonists had been following *me,* and not you."

"Why?"

"If they were following me they were trying to find out what I was after—which is O. K., as the lines were already drawn; we knew that we were mutual enemies. But if they were following *you,* then they *knew* what I was after . . . an actor who could play the role."

"But how could they know that? Unless you told them?"

"Lorenzo, this thing is big, much bigger than you imagine. I don't see it all myself . . . and the less you know about it until you must, the better off you are. But I can tell you this: a set of personal characteristics was fed into the big computer at the System Census Bureau at the Hague and the machine compared them with the personal characteristics of every male professional actor alive. It was done as discreetly as possible but somebody might have guessed . . . and talked. The specifications amounted to identification both of the principal and the actor who could double for him, since the job had to be *perfect.*"

"Oh. And the machine told you that I was the man for it?"

"Yes. You . . . and one other."

This was another good place for me to keep my mouth shut. But I could not have done so if my life had depended on it . . . which in a way it did. I just had to know who the other actor was who was considered competent to play a role which called for my unique talents. "This other one? Who is he?"

Dak looked me over; I could see him hesitate. "Mm-m-m . . . fellow by the name of Orson Trowbridge. Know him?"

"*That* ham!" For a moment I was so furious that I forgot my nausea.

"So? I hear that he is a very good actor."

I simply could not help being indignant at the idea that anyone should even think about that oaf Trowbridge for a role for which I was being considered. "That arm-waver! That word-mouther!" I stopped, realizing that it was more dignified to ignore such colleagues —if the word fits. But that popinjay was so conceited that—well, if the role called for him to kiss a lady's hand, Trowbridge would fake it by kissing his own thumb instead. A narcissist, a poser, a double fake —how could such a man *live* a role?

Yet such is the injustice of fortune that his sawings and rantings had paid him well while real artists went hungry. "Dak, I simply cannot see why you considered him for it."

"Well, we didn't want him; he is tied up with some long-term contract that would make his absence conspicuous and awkward. It was lucky for us that you were . . . uh, 'at liberty.' As soon as you agreed to the job I had Jock send word to call off the team that was trying to arrange a deal with Trowbridge."

"I should think so!"

"But—see here, Lorenzo, I'm going to lay it on the line. While you were busy whooping your cookies after *brennschluss* I called the *Go For Broke* and told them to pass the word down to get busy on Trowbridge again."

"*What?*"

"You asked for it, shipmate. See here, a man in my racket contracts to herd a heap to Ganymede, that means he will pilot that pot to Ganymede or die trying. He doesn't get faint-hearted and try to welch while

the ship is being loaded. You told me you would take this job—no 'ifs' nor 'ands' nor 'buts'—you took the job. A few minutes later there is a fracas; you lose your nerve. Later you try to run out on me at the field. Only ten minutes ago you were screaming to be taken back dirtside. Maybe you are a better actor than Trowbridge. I wouldn't know. But I know we need a man who can be depended on not to lose his nerve when the time comes. I understand that Trowbridge is that sort of bloke. So if we can get him, we'll use him instead, pay you off and tell you nothing and ship you back. Understand?"

Too well I understood. Dak did not use the word—I doubt if he would have understood it—but he was telling me that I was not a trouper. The bitter part about it was that he was justified. I could not be angry; I could only be ashamed. I had been an idiot to accept the contract without knowing more about it—but I had agreed to play the role, without conditions nor escape clauses. Now I was trying to back out, like a rank amateur with stage fright.

"The show must go on" is the oldest tenet of show business. Perhaps it has no philosophical verity, but the things men live by are rarely subject to logical proof. My father had believed it—I had seen him play two acts with a burst appendix and then take his bows before he had let them rush him to a hospital. I could see his face now, looking at me with the contempt of a trouper for a so-called actor who would let an audience down.

"Dak," I said humbly, "I am sorry. I was wrong."

He looked at me sharply. "You'll do the job?"

"Yes." I meant it sincerely. Then I suddenly remembered a factor which could make the part as impossible for me as the role of Snow White in "The Seven Dwarfs." "That is . . . well, I *want* to. But—"

"But what?" he said scornfully. "More of your damned temperament?"

"No, no! But you said we were going to Mars. Dak, am I going to be expected to do this impersonation with Martians around me?"

"Eh? Of course. How else on Mars?"

"Uh . . . but, Dak, I can't *stand* Martians! They give me the heebie-jeebies. I wouldn't want to . . . I would try not to . . . but I might fall right out of the characterization."

"Oh. If that is all that is worrying you, forget it."

"Huh? But I can't forget it. I can't help it. I—"

"I said, 'Forget it.' Old son, we knew you were a peasant in such matters—we know all about you. Lorenzo, your fear of Martians is as childish and irrational as a fear of spiders or snakes. But we had anticipated it and it will be taken care of. So forget it."

"Well . . . all right." I was not much reassured, but he had flicked

me where it hurt. "Peasant"—why, *"peasants"* were the audience! So I shut up.

Dak pulled the communicator to him, did not bother to silence his message with the rumble box: "Dandelion to Tumbleweed . . . cancel Plan Inkblot. We will complete Mardi Gras."

"Dak?" I said, as he signed off.

"Later," he answered. "I'm about to match orbits. The contact may be a little rough, as I am not going to waste time worrying about chuck holes. So pipe down and hang on."

And it *was* rough. By the time we were in the torchship I was glad to be comfortably back in free fall again; surge nausea is even worse than everyday drop sickness. But we did not stay in free fall more than five minutes; the three men who were to go back in the *Can Do* were crowding into the transfer lock even as Dak and I floated into the torchship. The next few moments were extremely confused. I suppose I am a groundhog at heart for I disorient very easily when I can't tell the floor from the ceiling. Someone called out, "Where is he?" Dak replied, "Here!" The same voice replied, "Him?" as if he could not believe his eyes.

"Yes, yes!" Dak answered. "He's got make-up on. Never mind, it's all right. Help me get him into the cider press."

A hand grabbed my arm, towed me along a narrow passage and into a compartment. Against one bulkhead and flat to it were two bunks, or "cider presses," the bathtub-shaped, hydraulic, pressure-distribution tanks used for high acceleration in torchships. I had never seen one before but we had used quite convincing mock-ups in the space opus "The Earth Raiders."

There was a stenciled sign on the bulkhead behind the bunks: *WARNING ! ! ! Do Not Take More Than Three Gravities Without a Gee Suit. By Order of*— I rotated slowly out of range of vision before I could finish reading it and someone shoved me into one cider press. Dak and the other man were hurriedly strapping me against it when a horn somewhere nearby broke into a horrid hooting. It continued for several seconds, then a voice replaced it: "Red warning! Two gravities! Three minutes! Red Warning! Two gravities! Three minutes!" Then the hooting started again.

Through the racket I heard Dak ask urgently, "Is the projector all set? The tapes ready?"

"Sure, sure!"

"Got the hypo?" Dak squirmed around in the air and said to me, "Look, shipmate, we're going to give you a shot. It's all right. Part of it is Nullgrav, the rest is a stimulant—for you are going to have to stay awake and study your lines. It will make your eyeballs feel hot at first and it may make you itch, but it won't hurt you."

"Wait, Dak, I—"

"No time! I've got to smoke this

scrap heap!" He twisted and was out the door before I could protest. The second man pushed up my left sleeve, held an injection gun against the skin, and I had received the dose before I knew it. Then he was gone. The hooting gave way to: "Red warning! Two gravities! Two minutes!"

I tried to look around but the drug made me even more confused. My eyeballs did feel hot and my teeth as well and I began to feel an almost intolerable itching along my spine . . . but the safety straps kept me from reaching the tortured area—and perhaps kept me from breaking an arm at acceleration. The hooting stopped again and this time Dak's self-confident baritone boomed out: "Last red warning! Two gravities! One minute! Knock off those pinochle games and spread your fat carcasses—we're goin' to smoke!" The hooting was replaced this time by a recording of Arkezian's "Ad Astra," opus 61 in C major. It was the controversial London Symphony version with the fourteen-cycle "scare" notes buried in the timpani. Battered, bewildered, and doped as I was, they seemed to have no effect on me—you can't wet a river.

A mermaid came in the door. No scaly tail, surely, but a mermaid is what she looked like. When my eyes refocused I saw that it was a very likely-looking and adequately mammalian young woman in singlet and shorts, swimming along head first in a way that made clear that free fall was no novelty to her. She glanced at me without smiling, placed herself against the other cider press and took hold of the hand grips—she did not bother with safety belts. The music hit the rolling finale and I felt myself grow very heavy.

Two gravities is not bad, not when you are floating in a liquid bed. The skin over the top of the cider press pushed up around me, supporting me inch by inch; I simply felt heavy and found it hard to breathe. You hear these stories about pilots torching at ten gravities and ruining themselves and I have no doubt that they are true—but two gravities, taken in the cider press, simply makes one feel languid, unable to move.

It was some time before I realized that the horn in the ceiling was speaking to me. "Lorenzo! How are you doing, shipmate?"

"All right." The effort made me gasp. "How long do we have to put up with this?"

"About two days."

I must have moaned, for Dak laughed at me. "Quit bellyaching, chum! My first trip to Mars took thirty-seven weeks, every minute of it free fall in an elliptical orbit. You're taking the luxury route, at a mere double gee for a couple of days . . . with a one-gee rest at turnover, I might add. We ought to charge you for it."

I started to tell him what I thought of his humor in scathing green-room idiom, then recalled

that there was a lady present. My father had taught me that a woman will forgive any action, up to and including assault with violence, but is easily insulted by language; the lovelier half of our race is symbol-oriented—very strange, in view of their extreme practicality. In any case, I have never let a taboo word pass my lips when it might offend the ears of a lady since the time I last received the back of my father's hard hand full on my mouth . . . father could have given Professor Pavlov pointers in reflex conditioning.

But Dak was speaking again. "Penny! You there, honey chile?"

"Yes, captain," the young woman with me answered.

"O. K., start him on his homework. I'll be down when I have this firetrap settled in its groove."

"Very well, captain." She turned her head toward me and said in a soft, husky, contralto voice, "Dr. Capek wants you simply to relax and look at movies for several hours. I am here to answer questions as necessary."

I sighed. "Thank goodness someone is at last going to answer questions!"

She did not answer, but raised an arm with some difficulty and passed it over a switch. The lights in the compartment died out and a sound-and-stereo image built up in front of my eyes. I recognized the central figure—just as any of the billions of citizens of the Empire would have recognized him—and I realized at last how thoroughly and mercilessly Dak Broadbent had tricked me.

It was Bonforte.

The Bonforte, I mean—the Right Honorable John Joseph Bonforte, former Supreme Minister, leader of the loyal opposition, and head of the Expansionist coalition . . . the most loved—and the most hated!—man in the entire Solar System.

My astonished mind made a standing broad-jump and arrived at what seemed a logical certainty. Bonforte had lived through at least three assassination attempts . . . or so the news reports would have us believe. At least two of his escapes had seemed almost miraculous. Suppose they were not miraculous? Suppose they had all been successful—but dear old Uncle Joe Bonforte had always been somewhere else at the time?

You could use up a lot of actors that way.

III

I had never meddled in politics. My father had warned against it. "Stay out of it, Larry," he had told me solemnly. "The publicity you get that way is bad publicity. The peasants don't like it." I had never voted . . . not even after the amendment of '98 made it easy for the floating population—which includes, of course, most members of the profession—to exercise franchise.

However, insofar as I had political leanings of any sort, they cer-

tainly did not lean toward Bonforte. I considered him a dangerous man and very possibly a traitor to the human race. The idea of standing up and getting killed in his place was—how shall I put it?—distasteful to me.

But . . . *what* a role!

I had once played the lead in "L'Aiglon" and I had played Caesar in the only two plays about him worthy of the name. But to play such a role *in life* . . . well, it is enough to make one understand how a man could go to the guillotine in another man's place . . . just for the chance to play, even for a few moments, the ultimately exacting role, in order to create the supreme, the perfect, work of art.

I wondered who my colleagues had been who had been unable to resist that temptation on those earlier occasions? They had been artists, that was certain, though their very anonymity was the only tribute to the success of their characterizations. I tried to remember just when the earlier attempts on Bonforte's life had taken place and which colleagues, who might have been capable of the role, had died or dropped out of sight at those times. But it was useless. Not only was I not too sure of the details of current political history but also actors simply fade out of view with depressing frequency; it is a chancy profession even for the best of us.

I found that I had been studying closely the characterization.

I realized I could play it. Hell, I could play it with one foot in a bucket and a smell of smoke back stage. To begin with, there was no problem of physique; Bonforte and I could have swapped clothes without a wrinkle. These childish conspirators who had shanghaied me had vastly overrated the importance

of physical resemblance, since it means nothing if not backed up by art—and need not be at all close if the actor is competent. But I admit that it does help and their silly game with the computer machine had resulted—quite by accident!—in selecting a true artist, as well as one who was in measurements and bony structure the twin of the politician. His profile was much like mine; even his hands were long, narrow, and aristocratic like mine—and hands are harder than faces.

That limp, supposedly the result of one of the attempts on his life—nothing to it! After watching him for a few minutes I knew that I could get up from that bed—at one gravity, that is—and walk in precisely the same way and never have to think about it. The way he had of scratching his collarbone and then brushing his chin, the almost imperceptible *tic* which preceded each of his sentences—such things were no trouble; they soaked into my subconscious like water into sand.

To be sure, he was fifteen or twenty years older than I was, but it is easier to play a role older than oneself than one younger. In any case, age to an actor is simply a matter of inner attitude; it has nothing to do with the steady march of catabolism.

I could have played him on boards, or read a speech in his place, within twenty minutes. But this part, as I understood it, would be more than such an interpretation; Dak had hinted that I would have to convince people who knew him well, perhaps in intimate circumstances. This is surpassingly more difficult. Does he take sugar in his coffee? If so, how much? Which hand does he use to strike a cigarette and with what gesture? I got the answer to that one and planted it deep in my mind even as I phrased the question; the simulacrum in front of me struck a cigarette in a fashion that convinced me that he had used matches and the old-fashioned sort of gasper for years before he had gone along with the march of so-called progress.

Worst of all, a man is not a single complexity; he is a *different* complexity to every person who knows him . . . which means that, to be successful, an impersonation must change for each "audience"—for each acquaintance of the man being impersonated. This is not merely difficult; it is statistically impossible. Such little things could trip one up. What shared experiences does your principal have with acquaintance John Jones? With a hundred, or a thousand, John Joneses? How could an impersonator possibly know?

Acting *per se,* like all art, is a process of abstracting, of retaining only significant detail. But in impersonation *any* detail can be significant. In time, something as silly as not crunching celery could let the cat out of the bag.

Then I recalled with glum conviction that my performance probably need be convincing only long enough for a marksman to draw a bead on me.

But I was still studying the man I was to replace—what else could I do?—when the door opened and I heard Dak in his proper person call out, "Anybody home?" The lights came on, the three-dimensional vision faded, and I felt as if I had been wrenched from a dream. I turned my head; the young woman called Penny was struggling to lift her head from the other hydraulic bed and Dak was standing braced in the doorway.

I looked at him and said wonderingly, "How do you manage to stand up?" Part of my mind, the professional part that works independently, was noting how he stood and filing it in a new drawer marked: "How a Man Stands Under Two Gravities."

He grinned at me. "Nothing to it. I wear arch supports."

"Hm-m-m!"

"You can stand up, if you want to. Ordinarily we discourage passengers from getting out of the boost tanks when we are torching at anything over one-and-a-half gees—too much chance that some idiot will fall over his own feet and break a leg. But I once saw a really tough weight-lifter type climb out of the press and walk at five gravities . . . but he was never good for much afterwards. But two gees is O. K.—about like carrying another man piggyback." He glanced at the young lady. "Giving him the straight word, Penny?"

"He hasn't asked anything yet."

"So? Lorenzo, I thought you were the lad who wanted all the answers?"

I shrugged. "I cannot now see that it matters, since it is evident that I will not live long enough to appreciate them."

"Eh? What soured your milk, old son?"

"Captain Broadbent," I said bitterly, "I am inhibited in expressing myself by the presence of a lady; therefore I cannot adequately discuss your ancestry, personal habits, morals, and destination. Let it stand that I knew what you had tricked me into as soon as I became aware of the identity of the man I am to impersonate. I will content myself with one question only: who is about to attempt to assassinate Bonforte? Even a clay pigeon should be entitled to know who is shooting at him."

For the first time, I saw Dak register surprise. Then he laughed so hard that the acceleration seemed to be too much for him; he slid to the deck and braced his back against a bulkhead, still laughing.

"I don't see anything funny about it," I said angrily.

He stopped and wiped his eyes. "Lorrie old son, did you honestly think that I had set you up as a sitting duck?"

"It's obvious." I told him my deductions about the earlier assassination attempts.

He had the sense not to laugh again. "I see. You thought it was a job about like food taster for a Middle Ages king. Well, we'll have

to try to straighten you out; I don't suppose it helps your acting to think that you are about to be burned down where you stand. Look, I've been with the chief for six years. During that time I *know* he has never used a double . . . nevertheless I was present on two occasions when attempts were made on his life —one of those times I shot the hatchet man. Penny, you've been with the chief longer than that. Has he ever used a double before?"

She looked at me coldly. "Never. The very idea that the chief would let anybody expose himself to danger in his place is . . . well, I ought to slap your face; that's what I ought to do!"

"Take it easy, Penny," Dak said mildly. "You've both got jobs to do and you are going to have to work with him. Besides, his wrong guess isn't too silly, not from the outside. By the way, Lorenzo, this is Penelope Russell. She is the chief's personal secretary, which makes her your number-one coach."

"I am honored to meet you, mademoiselle."

"I wish I could say the same!"

"Stow it, Penny. Lorenzo, I concede that doubling for John Joseph Bonforte isn't as safe as riding in a wheelchair—shucks, as we both know, several attempts have been made to close out his life insurance. But that is not what we are afraid of this time. Matter of fact, this time, for political reasons you will presently understand, the laddies we are up against won't dare to try to kill the chief . . . or to kill you when you are doubling for the chief. They are playing rough—as you *know!*—and they would kill me, or even Penny, for the slightest advantage. They would kill you right now, if they could get at you. But when you make this public appearance *as the chief* you'll be safe; the circumstances will be such that they can't afford to kill."

He studied my face. "Well?"

I shook my head. "I don't follow you."

"No, but you will. It is a complicated matter, involving Martian ways of looking at things. Take it for granted; you'll know all about it before we get there."

I still did not like it. Thus far Dak had told me no outright lies that I knew of—but he could lie effectively by not telling all that he knew, as I had learned the bitter way. I said, "See here, I have no reason to trust you, nor to trust this young lady—if you will pardon me, miss. But, while I haven't any liking for Mr. Bonforte, he does have the reputation for being painfully, even offensively, honest. When do I get to talk to *him?* As soon as we reach Mars?"

Dak's ugly, cheerful face was suddenly shadowed with sadness. "I'm afraid not. Didn't Penny tell you?"

"Tell me what?"

"Old son, that's why we've got to have a double for the chief. They've kidnaped him."

My head ached, possibly from the double weight, or perhaps from too many shocks. "Now you know," Dak went on. "You know why Jock Dubois didn't want to trust you with it until after we raised ground. It is the biggest news story since the first landing on the Moon, and we are sitting on it, doing our damnedest to keep it from ever being known. We hope to use you until we can find him and get him back. Matter of fact, you have already started your impersonation. This ship is not really the *Go For Broke;* it is the chief's private yacht and traveling office, the *Tom Paine.* The *Go For Broke* is riding a parking orbit around Mars, with its transponder giving out the recognition signal of this ship—a fact known only to its captain and comm officer—while the *Tommie* tucks up her skirts and rushes to Earth to pick up a substitute for the chief. Do you begin to scan it, old son?"

I admit that I did not. "Yes, but . . . see here, captain, if Mr. Bonforte's political enemies have kidnaped him, why keep it secret? I should expect you to shout it from the housetops."

"On Earth we would. At New Batavia we would. On Venus we would. But here we are dealing with Mars. Do you know the legend of Kkkahgral the Younger?"

"Eh? I'm afraid I don't."

"You must study it; it will give you insight into what makes a Martian tick. Briefly, this boy Kkkah was to appear at a certain time and place, thousands of years ago, for a very high honor—like being knighted. Through no fault of his own—the way we would look at it—he failed to make it on time. Obviously the only thing to do was to kill him—by Martian standards. But because of his youth and his distinguished record some of the radicals present argued that he should be allowed to go back and start over. But Kkkahgral would have none of it. He insisted on his right to prosecute the case himself, won it, and was executed. Which makes him the very embodiment, the patron saint, of propriety on Mars."

"That's crazy!"

"Is it? We aren't Martians. They are a very old race and they have worked out a system of debts and obligations to cover every possible situation—the greatest formalists conceivable. Compared with them, the ancient Japanese, with their *giri* and *gimu,* were outright anarchists. Martians don't have 'right' and 'wrong'—instead they have propriety and impropriety, squared, cubed, and loaded with gee juice. But where it bears on this problem is that the chief was about to be adopted into the nest of Kkkahgral the Younger himself. Do you scan me now?"

I still did not. To my mind this Kkkah character was one of the more loathsome items from "Le Grand Guignol." Broadbent went on, "It's simple enough. The chief is probably the greatest practical student of Martian customs and psychology. He has been working up to this for

years. Comes local noon on Wednesday at Lacus Soli the ceremony of adoption takes place. If the chief is there and goes through his paces properly, everything is sweet. If he is not there—and it makes no difference at all why he is not there—his name is mud on Mars, in every nest from pole to pole . . . and the greatest interplanetary and inter-racial political coup ever attempted falls flat on its face. Worse than that, it will backfire.

"My guess is that the very least that will happen is for Mars to withdraw even from its present loose association with the Empire. Much more likely there will be reprisals and human beings will be killed—maybe every human on Mars. Then the extremists in the Humanity Party would have their way and Mars would be brought into the Empire by force—but only after every Martian was dead. And all set off just by Bonforte failing to show up for the adoption ceremony. Martians take these things very seriously."

Dak left as suddenly as he had appeared and Penelope Russell turned on the picture projector again. It occurred to me fretfully that I should have asked him what was to keep our enemies from simply killing *me,* if all that was needed to upset the political applecart was to keep Bonforte—in his proper person, or through his double—from attending some barbaric Martian ceremony. But I had forgotten to ask—perhaps I was subconsciously afraid of the answer.

But shortly I was again studying Bonforte, watching his movements and gestures, feeling his expressions, subvocalizing the tones of his voice, while floating in that detached, warm reverie of artistic effort. Already I was "wearing his head."

I was panicked out of it when the images shifted to one in which Bonforte was surrounded by Martians, touched by their pseudolimbs. I had been so deep inside the picture that I could actually *feel* them myself . . . and the stink was unbearable. I made a strangled noise and clawed at it. *"Shut it off!"*

The lights came up and the picture disappeared. Miss Russell was looking at me. "What in the world is the matter with you?"

I tried to get my breath and stop trembling. "Miss Russell . . . I am very sorry . . . but please . . . don't turn that on again. I can't *stand* Martians."

She looked at me as if she could not believe what she saw but despised it anyhow. "I told them," she said slowly and scornfully, "that this ridiculous scheme would not work."

"I am very sorry. I cannot help it."

She did not answer but climbed heavily out of the cider press. She did not walk as easily at two gravities as Dak did, but she managed. She left without another word, closing the door as she went.

She did not return. Instead the

door was opened by a man who appeared to be inhabiting a giant kiddie stroller. "Howdy there, young fellow!" he boomed out. He was sixtyish, a bit too heavy, and bland; I did not have to see his diploma to be aware that his was a "bedside" manner.

"How do you do, sir?"

"Well enough. Better at lower acceleration." He glanced down at the contrivance he was strapped into. "How do you like my corset-on-wheels? Not stylish, perhaps, but it takes some of the strain off my heart. By the way, just to keep the record straight, I'm Dr. Capek, Mr. Bonforte's personal therapist. I know who you are. Now what's this we hear about you and Martians?"

I tried to explain it clearly and unemotionally.

Dr. Capek nodded. "Captain Broadbent should have told me. I would have changed the order of your indoctrination program. The captain is a competent young fellow in his way but his muscles run ahead of his brain on occasion . . . he is so perfectly normal an extrovert that he frightens me. But no harm done. Mr. Smythe, I want your permission to hypnotize you. You have my word as a physician that it will be used only to help you in this matter and that I will in no wise tamper with your personal integration." He pulled out an old-fashioned pocket watch of the sort that is almost a badge of his profession and took my pulse.

I answered, "You have my permission readily, sir . . . but it won't do any good. I can't go under." I had learned hypnotic techniques myself, during the time I was showing my mentalist act, but my teachers had never had any luck hypnotizing me. A touch of hypnotism is very useful to such an act, especially if the local police aren't too fussy about the laws the medical association has hampered us with.

"So? Well, we'll just have to do the best we can, then. Suppose you relax, get comfortable, and we'll talk about your problem." He still kept the watch in his hand, fiddling with it and twisting the chain, after he had stopped taking my pulse. I started to mention it, since it was catching the reading light just over my head, but decided that it was probably a nervous habit of which he was not aware and really too trivial a matter to call to the attention of a stranger.

"I'm relaxed," I assured him. "Ask me anything you wish. Or free association, if you prefer."

"Just let yourself float," he said softly. "Two gravities makes you feel heavy, doesn't it? I usually just sleep through it myself. It pulls the blood out of the brain, makes one sleep . . . we'll be heavy . . . we'll the drive again. We'll all have to sleep . . . we'll be heavy . . . we'll have to sleep—"

I started to tell him that he had better put his watch away . . . or it would spin right out of his hand. Instead I fell asleep.

When I woke up, the other acceleration bunk was occupied by Dr. Capek. "Howdy, Bub," he greeted me. "I got tired of that confounded perambulator and decided to stretch out here and distribute the strain."

"Uh, are we back on two gravities again?"

"Eh? Oh, yes! We're on two gravities."

"I'm sorry I blacked out. How long was I asleep?"

"Oh, not very long. How do you feel?"

"Fine. Wonderfully rested, in fact."

"It frequently has that effect. Heavy boost, I mean. Feel like seeing some more pictures?"

"Why, certainly, if you say so, doctor."

"O. K." He reached up and again the room went dark.

I was braced for the notion that he was going to show me more pictures of Martians; I made up my mind not to panic. After all, I had found it necessary on many occasions to pretend that they were not present; surely motion pictures of them should not affect me—I had simply been surprised earlier.

They were indeed stereos of Martians, both with and without Mr. Bonforte. I found it possible to study them with detached mind, without terror or disgust.

Suddenly I realized that I was *enjoying* looking at them!

I let out some exclamation and Capek stopped the film. "Trouble?"

"Doctor . . . you hypnotized me!"

"You told me to."

"But I can't be hypnotized."

"Sorry to hear it."

"Uh . . . so you managed it. I'm not too dense to see that." I added, "Suppose we try those pictures again? I can't really believe it."

He switched them on and I watched and wondered. Martians were not disgusting, if one looked at them without prejudice; they weren't even ugly. In fact they possessed the same quaint grace as a Chinese pagoda. True, they were not human in form, but neither is a bird of paradise—and birds of paradise are the loveliest things alive.

I began to realize, too, that their pseudolimbs could be very expressive; their awkward gestures showed some of the bumbling friendliness of puppies. I knew now that I had looked at Martians all my life through the dark glasses of hate and fear.

Of course, I mused, their stench would still take getting used to, but —and then I suddenly realized that I was smelling them, the unmistakable odor . . . and I didn't mind it a bit! In fact I liked it. "Doctor!" I said urgently. "This machine has a 'smelly' attachment—doesn't it?"

"Eh? I believe not. No, I'm sure it hasn't—too much parasitic weight for a yacht."

"But it must. I can smell them very plainly."

"Oh, yes." He looked slightly shamefaced. "Bub, I did one thing

to you that I hope will cause you no inconvenience."

"Sir?"

"While we were digging around inside your skull it became evident that a lot of your neurotic orientation about Martians was triggered by their body odor. I didn't have time to do a deep job so I had to offset it. I asked Penny—that's the youngster who was in here before—for a loan of some of the perfume she uses. I'm afraid that, from here on out, Bub, Martians are going to smell like a Parisian house of joy to you. If I had had time I would have used some homelier pleasant odor, like ripe strawberries or hotcakes and syrup. But I had to improvise."

I sniffed. Yes, it did smell like a heavy expensive perfume . . . and yet, damn it, it was unmistakably the reek of Martians. "I like it."

"You can't help liking it."

"But you must have spilled the whole bottle in here. The place is drenched with it."

"Huh? Not at all. I merely waved the stopper under your nose a half hour ago, then gave the bottle back to Penny and she went away with it." He sniffed. "The odor is gone now. 'Jungle Lust' it said on the bottle. Seemed to have a lot of musk in it. I accused Penny of trying to make the crew space-happy and she just laughed at me." He reached up and switched off the stereopix. "We've had enough of those for now. I want to get you onto something more useful."

When the pictures faded out, the fragrance faded with them, just as it does with "smelly" equipment. I was forced to admit to myself that it was all in the head. But, as an actor, I was intellectually aware of that truth anyhow.

When Penny came back in a few minutes later, she had a fragrance exactly like a Martian.

I loved it.

IV

My education continued in that room—Mr. Bonforte's guest room, it was—until turnover. I had no sleep, other than under hypnosis, and did not seem to need any. Either Doc Capek or Penny stuck with me and helped me the whole time. Fortunately my man was as thoroughly photographed and recorded as perhaps any man in history and I had, as well, the close co-operation of his intimates. There was endless material; the problem was to see how much I could assimilate, both awake and under hypnosis.

I don't know at what point I quit disliking Bonforte. Capek assured me—and I believe him—that he did not implant a hypnotic suggestion on this point; I had not asked for it and I am quite certain that Capek was meticulous about the ethical responsibilities of a physician and hypnotherapist. But I suppose that it was an inevitable concomitant of the role—I rather think I would learn to like Jack the Ripper if I studied

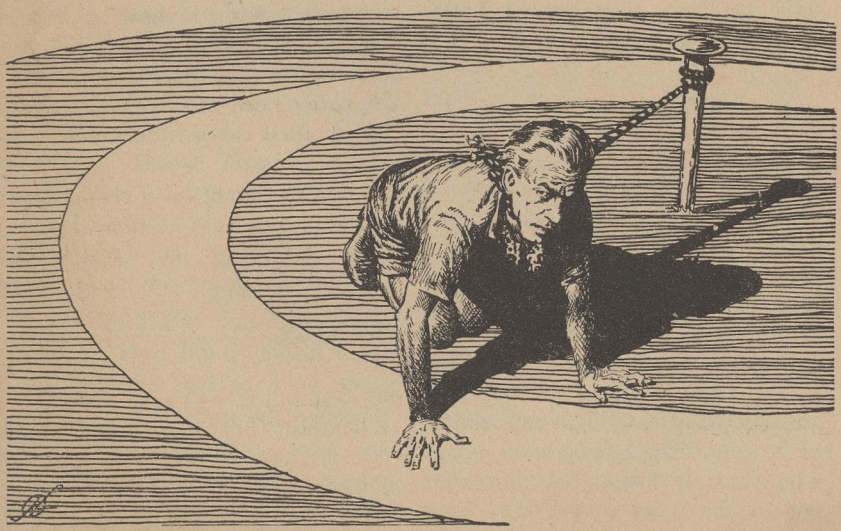
for the part. Look at it this way: to learn a role truly, you must for a time become that character. And a man either likes himself, or he commits suicide, one way or another.

"To understand all is to forgive all"—and I was beginning to understand Bonforte.

At turnover we got that one-gravity rest that Dak had promised. We never were in free fall, not for an instant; instead of putting out the torch, which I gather they hate to do while underway, the ship described what Dak called a 180-degree skew turn. It leaves the ship on boost the whole time and is done rather quickly, but it has an oddly disturbing effect on the sense of balance. The effect has a name something like "Coriolanus." Coriolis?

All I know about spaceships is that the ones that operate from the surface of a planet are true rockets but the *voyageurs* call them "tea kettles" because of the steam jet of water or hydrogen they boost with. They aren't considered real atomic-power ships even though the jet is heated by an atomic pile. The long-jump ships such as the *Tom Paine*, torchships that is, are—so they tell me—the real thing, making use of E equals MC-squared, or is it M equals EC-squared? You know—the thing Einstein invented.

Dak did his best to explain it all to me, and no doubt it is very interesting to those who care for such things. But I can't imagine why a gentleman should bother with such. It seems to me that every time those scientific laddies get busy with their slide rules life becomes more complicated. What was wrong with things the way they were?



During the two hours we were on one gravity I was moved up to Bonforte's cabin. I started wearing his clothes and his face and everyone was careful to call me "Mr. Bonforte" or "Chief" or (in the case of Dr. Capek) "Joseph," the idea being, of course, to help me build the part.

Everyone but Penny, that is . . . she simply would not call me "Mr. Bonforte." She did her best to help, but she could not bring herself to that. It was clear as scripture that she was a secretary who silently and hopelessly loved her boss, and she resented me with a deep, illogical, but natural bitterness. It made it hard for both of us, especially as I was finding her most attractive. No man can do his best work with a woman constantly around him who despises him. But I could not dislike her in return; I felt deeply sorry for her—even though I was decidedly irked.

We were on a try-out-in-the-sticks basis now, as not everyone in the *Tom Paine* knew that I was not Bonforte. I did not know exactly which ones knew of the substitution, but I was allowed to relax and ask questions only in the presence of Dak, Penny, and Dr. Capek. I was fairly sure that Bonforte's chief clerk, Mr. Washington, knew but never let on; he was a spare, elderly mulatto with the tight-lipped masque of a saint. There were two others who certainly knew, but they were not in the *Tom Paine;* they were standing by and covering up from the *Go For Broke,* handling press releases and routine dispatches—Bill Corpsman who was Bonforte's front man with the news services and Roger Clifton. I don't know quite how to describe Clifton's job. Political deputy? He had been minister-without-portfolio, you may remember, when Bonforte was Supreme Minister, but that says nothing. Let's put it symbolically; Bonforte handed out policy and Clifton handed out patronage.

This small group had to know; if any others knew it was not considered necessary to tell me. To be sure, the other members of Bonforte's staff and all the crew of the *Tom Paine* knew that something odd was going on; they did not necessarily know what it was. A good many people had seen me enter the ship—but as "Benny Gray." By the time they saw me again I was already "Bonforte."

Someone had had the foresight to obtain real make-up equipment, but I used almost none. At close range make-up can be seen; even Silicoflesh cannot be given the exact texture of skin. I contented myself with darkening my natural complexion a couple of shades with Semiperm and wearing his face, from inside. I did have to sacrifice quite a lot of hair and Dr. Capek inhibited the roots. I did not mind; an actor can always wear hair pieces—and I was sure that this job was certain to pay me a fee that

would let me retire for life, if I wished.

On the other hand I was sometimes queasily aware that "life" might not be too long . . . there are those old saws about the man who knew too much and the other one about dead men and tales. But truthfully I was beginning to trust these people. They were all darn nice people—which told me as much about Bonforte as I had learned by listening to his speeches and seeing his pix. A political figure is not a single man, so I was learning, but a compatible team. If Bonforte himself had not been a decent sort he would not have had these people around him.

The Martian language gave me my greatest worry. Like most actors, I had picked up enough Martian, Venusian, Outer Jovian, et cetera, to be able to fake in front of a camera or on stage. But those rolled or fluttered consonants are very difficult. Human vocal cords are not as versatile as a Martian's tympanus, I believe, and, in any case, the semiphonetic spelling-out of those sounds in Roman letters, for example "kkk" or "jjj" or "rrr," have no more to do with the true sounds than the "g" in "gnu" has to do with the inhaled click with which a Bantu pronounces "gnu." "Jjj," for instance, closely resembles a Bronx cheer.

Fortunately, Bonforte had no great talent for other languages . . . and I am a professional; my ears really hear, I can imitate any sound, from a buzz saw striking a nail in a chunk of firewood to a setting hen disturbed on her nest. It was necessary only to acquire Martian as poorly as Bonforte spoke it. He had worked hard to overcome his lack of talent, and every word and phrase of Martian that he knew had been sight-sound recorded so that he could study his mistakes.

So I studied his mistakes, with the projector moved into his office and Penny at my elbow to sort out the spools for me and answer questions.

Human languages fall into four groups: inflecting ones as in Anglo-American, positional as in Chinese, agglutinative as in Old Turkish, polysynthetic (sentence-units) as in Eskimo . . . to which, of course, we now add alien structures as wildly odd and as nearly impossible for the human brain as non repetitive or emergent Venusian. Luckily Martian is analogous to human speech forms. Basic Martian, the trade language, is positional and involves only simple, concrete ideas . . . like the greeting: "I see you." High Martian is polysynthetic and very stylized, with an expression for every nuance of their complex system of rewards and punishments, obligations and debts. It had been almost too much for Bonforte; Penny told me that he could read those arrays of dots they use for writing quite easily but of the spoken form of High Martian he could say only a few hundred sentences.

Brother, how I studied those few he had mastered!

The strain on Penny was even greater than it was on me. Both she and Dak spoke some Martian but the chore of coaching me fell on her as Dak had to spend most of his time in the control room; Jock's death had left him shorthanded. We dropped from two gravities to one for the last few million miles of the approach, during which time he never came below at all. I spent it learning the ritual I would have to know for the adoption ceremony, with Penny's help.

I had just completed running through the speech in which I was to accept membership in the Kkkah nest—a speech not unlike that, in spirit, with which an orthodox Jewish boy assumes the responsibilities of manhood, but as fixed, as invariable, as Hamlet's Soliloquy. I had read it, complete with Bonforte's mispronunciations and facial *tic;* I finished and asked, "How was that?"

"That was quite good," she answered seriously.

"Thanks, Curly Top." It was a phrase I had lifted from the language-practice spools in Bonforte's files; it was what Bonforte called her when he was feeling mellow—and it was perfectly in character.

"Don't you dare call me that!"

I looked at her in honest amazement and answered, still in character, "Why, Penny, my child!"

"Don't you call me *that,* either! You *fake!* You *phony!* You . . . *actor!*" She jumped up, ran as far as she could, which was only to the door . . . and stood there, faced away from me, her face buried in her hands and her shoulders shaking with sobs.

I made a tremendous effort and lifted myself out of the character—pulled in my belly, let my own face come up, answered in my own voice. "Miss Russell!"

She stopped crying, whirled around, looked at me, and her jaw dropped. I added, still in my normal self, "Come back here and sit down."

I thought she was going to refuse, then she seemed to think better of it, came slowly back and sat down, her hands in her lap but with her face that of a little girl who is "saving up more spit."

I let her sit for a moment, then said quietly, "Yes, Miss Russell, I am an actor. Is that a reason for you to insult me?"

She simply looked stubborn.

"As an actor, I am here to do an actor's job. You know why. You know, too, that I was tricked into taking it . . . it is not a job I would have accepted with my eyes open, even in my wildest moments. I hate having to do it considerably more than you hate having me do it—for despite Captain Broadbent's cheerful assurances I am not at all sure that I will come out of it with my skin intact . . . and I'm awfully fond of my skin; it's the only one

I have. I believe, too, that I know why you find it hard to accept me. But is that any reason for you to make my job harder than it has to be?"

She mumbled. I said sharply, "Speak up!"

"It's dishonest! It's *indecent!*"

I sighed. "It certainly is. More than that, it is impossible—without the whole-hearted support of the other members of the cast. So let's call Captain Broadbent down here and tell him. Let's call it off."

She jerked her face up and said, "Oh, no! We can't do that."

"Why can't we? A far better thing to drop it now than to present it and have it flop. I can't give a performance under these conditions. Let's admit it."

"But . . . but . . . we've *got* to! It's necessary."

"Why is it necessary, Miss Russell? Political reasons? I have not the slightest interest in politics . . . and I doubt if you have any really deep interest. So why must we do it?"

"Because . . . because *he*—" She stopped, unable to go on, strangled by sobs.

I got up, went over, and put a hand on her shoulder. "I know. Because if we don't, something that *he* has spent years building up will fall to pieces. Because he can't do it himself and his friends are trying to cover up and do it for him. Because his friends are loyal to him. Because *you* are loyal to him. Nevertheless it hurts you to see someone else in the place that is rightfully his. Besides that, you are half out of your mind with grief and worry about him. Aren't you?"

"Yes." I could barely hear it.

I took hold of her chin and tilted her face up. "I know why you find it so hard to have me here, in his place. You love him. But I'm doing the best job for him I know how. *Confound it, woman!—do you have to make my job six times harder by treating me like dirt?*"

She looked shocked. For a moment I thought she was going to slap me. Then she said brokenly, "I am sorry. I am very sorry. I won't let it happen again."

I let go her chin and said briskly, "Then let's get back to work."

She did not move. "Can you forgive me?"

"Huh? There's nothing to forgive, Penny. You were acting up because you love him and you were worried. Now let's get to work. I've got to be letter-perfect—and it's only hours away." I dropped at once back into the role.

She picked up a spool and started the projector again. I watched him through it once, then did the acceptance speech with the sound cut out but stereo on, matching my voice —*his* voice, I mean—to the moving image. She watched me, looking from the image back to my face with a dazed look on her own. We finished and I switched it off myself. "How was that?"

"That was perfect!"

I smiled his smile. "Thanks, Curly Top."

"Not at all . . . 'Mr. Bonforte'."

Two hours later we made rendezvous with the *Go For Broke.*

Dak brought Roger Clifton and Bill Corpsman to my cabin as soon as the *Go For Broke* had transferred them. I knew them from pictures. I stood up and said, "Hello, Rog. Glad to see you, Bill." My voice was warm but casual; on the level at which these people operated, a hasty trip to Earth and back was simply a few days separation and nothing more. I limped over and offered my hand. The ship was at the moment under low boost as it adjusted to a much tighter orbit than the *Go For Broke* had been riding in.

Clifton threw me a quick glance, then played up. He took his cigar out of his mouth, shook hands, and said quietly, "Glad to see you back, chief." He was a small man, bald-headed and middle-aged, and looked like a lawyer and a good poker player.

"Anything special while I was away?"

"No. Just routine. I gave Penny the file."

"Good." I turned to Bill Corpsman, again offered my hand.

He did not take it. Instead he put his fists on his hips, looked up at me, and whistled. "Amazing! I really do believe we stand a chance of getting away with it." He looked me up and down, then said, "Turn around, Smythe. Move around. I want to see you walk."

I found that I was actually feeling the annoyance that Bonforte would have felt at such uncalled-for impertinence, and, of course, it showed in my face. Dak touched Corpsman's sleeve and said quickly, "Knock it off, Bill. You remember what we agreed?"

"Chicken tracks!" Corpsman answered. "This room is soundproofed. I just want to make sure he is up to it. Smythe, how's your Martian? Can you spiel it?"

I answered with a single squeaking polysyllabic in High Martian, a sentence meaning roughly, "Proper conduct demands that one of us leave!"—but it means far more than that, as it is a challenge which usually ends in someone's nest being notified of a demise.

I don't think Corpsman understood it, for he grinned and answered, "I've got to hand it to you, Smythe. That's good."

But Dak understood it. He took Corpsman by the arm and said, "Bill, I told you to knock it off. You're in my ship and that's an order. We play it straight from here on—every second."

Clifton added, "Pay attention to him, Bill. You know we agreed that was the way to do it. Otherwise somebody might slip."

Corpsman glanced at him, then shrugged. "All right, all right. I was just checking up—after all, this was my idea." He gave me a one-sided

smile and said, "Howdy, Mr. Bonforte. Glad to see you back."

There was a shade too much emphasis on "Mister" but I answered, "Good to be back, Bill. Anything special I need to know before we go down?"

"I guess not. Press conference at Goddard City after the ceremonies." I could see him watching me to see how I would take it.

I nodded. "Very well."

Dak said hastily, "Say, Rog, how about that? Is it necessary? Did you authorize it?"

"I was going to add," Corpsman went on, turning to Clifton, "before the skipper here got the jitters, that I can take it myself and tell the boys that the chief has dry laryngitis from the ceremonies . . . or we can limit it to written questions submitted ahead of time and I'll get the answers written out for him while the ceremonies are going on. Seeing that he looks and sounds so good close up I would say to risk it. How about it, Mr. . . . 'Bonforte?' Think you can swing it?"

"I see no problem involved in it, Bill." I was thinking that if I managed to get by the Martians without a slip I would undertake to ad-lib double-talk to a bunch of human reporters as long as they wanted to listen. I had good command of Bonforte's speaking style by now and at least a rough notion of his policies and attitudes—and I need not be specific.

But Clifton looked worried. Before he could speak the ship's horn brayed out, "Captain is requested to come to the control room. Minus four minutes."

Dak said quickly, "You all will have to settle it. I've got to put this sled in its slot . . . I've got nobody up there but young Epstein." He dashed for the door.

Corpsman called out, "Hey, skip! I wanted to tell you—" He was out the door and following Dak without waiting to say good-by.

Roger Clifton closed the door Corpsman had left open, came back and said slowly, "Do you want to risk this press conference?"

"That is up to you. I want to do the job."

"Mm-m-m . . . then I'm inclined to risk it—if we use the written-questions method. But I'll check Bill's answers myself before you have to give them."

"Very well." I added, "If you can find a way to let me have them ten minutes or so ahead of time, there shouldn't be any difficulty. I'm a very quick study."

He inspected me. "I quite believe it . . . chief. All right, I'll have Penny slip the answers to you right after the ceremonies. Then you can excuse yourself to go to the men's room and just stay there until you are sure of them."

"That should work."

"I think so. Uh, I must say I feel considerably better now that I've seen you. Is there anything I can do for you?"

"I think not, Rog. Yes, there is, too. Any word about . . . *him?*"

"Eh? Well, yes and no. He's still in Goddard City; we're sure of that. He hasn't been taken off Mars, nor even out in the country. We blocked them on that, if that was their intention."

"Eh? Goddard City is not a big place, is it? Not more than a hundred thousand? What's the hitch?"

"The hitch is that we don't dare admit that you . . . I mean that *he* . . . is missing. Once we have this adoption thing wrapped up, we can put you out of sight, then announce the kidnaping as if it had just taken place—and make them take the city apart rivet by rivet. The city authorities are all Humanity Party appointees, but they will have to cooperate—after the ceremony. It will be the most whole-hearted co-operation you ever saw, for they will be deadly anxious to produce him before the whole Kkkahgral nest swarms over them and tears the city down around their ears."

"Oh. I'm still learning about Martian psychology and customs."

"Aren't we all!"

"Rog? Mm-m-m . . . what leads you to think that he is still alive? Wouldn't their purpose be better served—and with less risk—just by killing him?" I was thinking queasily how simple it had turned out to be to get rid of a body, if a man was ruthless enough.

"I see what you mean. But that, too, is tied up with Martian notions about 'propriety'." (He used the Martian word) "Death is the one acceptable excuse for not carrying out an obligation. If he were simply killed, they would adopt him into the nest after his death—and then the whole nest and probably every nest on Mars would set out to avenge him. They would not mind in the least if the whole human race were to die or be killed—but to kill this one human being to keep him from being adopted, that's another kettle of fish entirely. Matter of obligation and propriety . . . in some ways a Martian's response to a situation is so automatic as to remind one of instinct. It is not, of course, since they are incredibly intelligent. But they do the damnedest things." He frowned and added, "Sometimes I wish I had never left Sussex."

The warning hooter broke up the discussion by forcing us to hurry to our bunks. Dak had cut it fine on purpose; the shuttle rocket from Goddard City was waiting for us when we settled into free fall. All five of us went down, which just filled the passenger couches—again a matter of planning, for the Resident Commissioner had expressed the intention of coming up to meet me and had been dissuaded only by Dak's message to him that our party would require all the space.

I tried to get a better look at the Martian surface as we went down, as I had had only one glimpse of it, from the control room of the *Tom Paine*—since I was supposed to have been there many times I

could not show the normal curiosity of a tourist. I did not get much of a look; the shuttle pilot did not turn us so that we could see until he leveled off for his glide approach and I was busy then putting on my oxygen mask.

That pesky Mars-type mask almost finished us; I had never had a chance to practice with it—Dak did not think of it and I had not realized it would be a problem; I had worn both spacesuit and aqualung on other occasions and I thought this would be about the same. It was not. The model Bonforte favored was a mouth-free type, a Mitsubushi "Sweet Winds" which pressurizes directly at the nostrils—a nose clamp, nostril plugs, tubes up each nostril which then run back under each ear to the supercharger on the back of your neck. I concede that it is a fine device, once you get used to it, since you can talk, eat, drink, et cetera, while wearing it. But I would rather have a dentist put both hands in my mouth.

The real difficulty is that you have to exercise conscious control on the muscles that close the back of your mouth, or you hiss like a teakettle, since the thing operates on a pressure difference. Fortunately the pilot equalized to Mars-surface pressure once we all had our masks on, which gave me twenty minutes or so to get used to it. But for a few moments I thought the jig was up, just over a silly piece of gadgetry. But I reminded myself that I had worn the thing hundreds of times before and that I was as used to it as I was to my toothbrush. Presently I believed it.

Dak had been able to avoid having the Resident Commissioner chit-chat with me for an hour on the way down but it had not been possible to miss him entirely; he met the shuttle at the skyfield. The close timing did keep me from having to cope with other humans, since I had to go at once into the Martian City. It made sense, but it seemed strange that I would be safer among Martians than among my own kind.

But it seemed even stranger to be on Mars.

TO BE CONTINUED

Problem facing the National Manpower Study Commission:

How many trained technicians must be graduated in one year to offset the loss of two men the world lost in the last twelve months—Albert Einstein and Enrico Fermi?

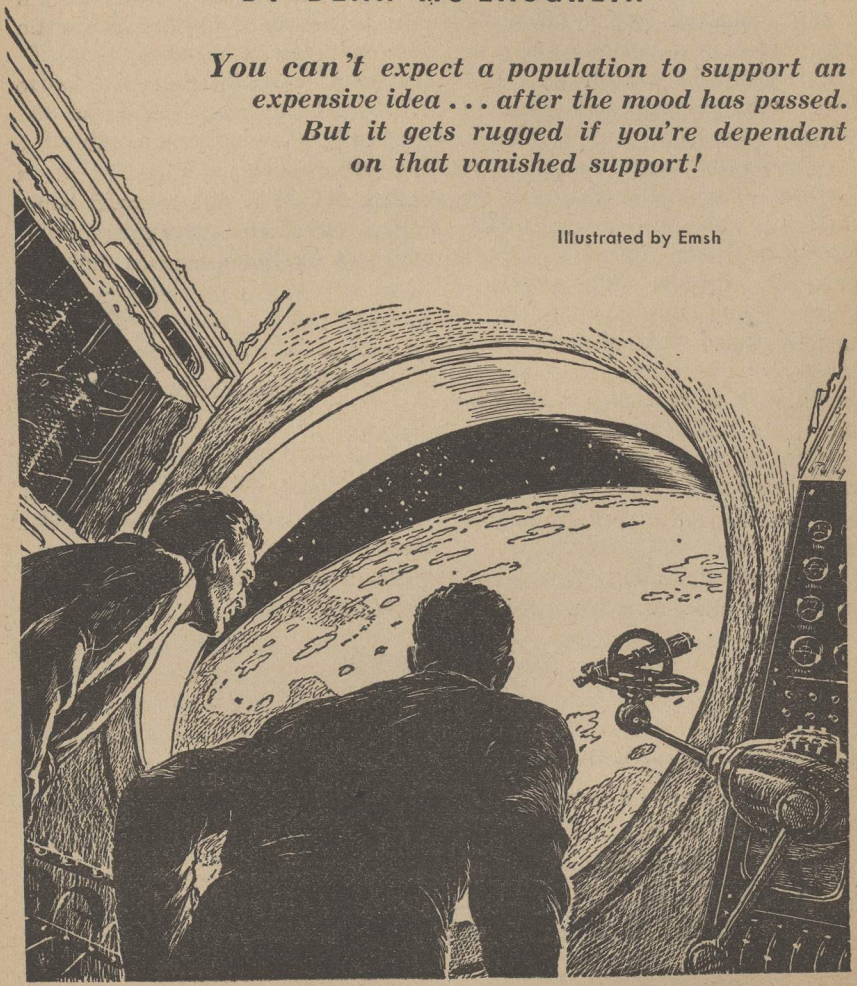
The existence of the question in part explains the greatly increased interest in studies of the nature of *creative* thought.

THE LAST THOUSAND MILES

BY DEAN MC LAUGHLIN

You can't expect a population to support an expensive idea . . . after the mood has passed. But it gets rugged if you're dependent on that vanished support!

Illustrated by Emsh



"I don't know if I can do it," Roger Sherman confessed. "If I had a choice, I'd say no. I wouldn't try. But I guess I've got to."

"It's the only chance we have," Captain Milburn reminded him. "Don't worry about it. We're sure you can do it."

"Well I'm not," Sherman argued.

"If anyone can do it, Roger, you can." The captain was firm.

"I . . . I just don't know," Sherman repeated, just to be sure the captain understood.

A crewman with a cutting torch drifted up to them and caught a handhold on a beam. "What about that bulkhead there?" He pointed at a section of the wall.

Captain Milburn glanced at it for only a moment. "Yeah. Take it," he decided. "Take the whole wall."

"Right," the crewman responded. He pushed off.

"This ship isn't *built* to hit atmosphere," Sherman argued. "It's like . . . like trying to fly a plane under water."

"But you think you can do it," Captain Milburn said.

"I don't know. I wish I did. I think *maybe* I can do it, but I don't know."

The captain shrugged. "We'll just have to try. *I* think you can do it."

"It's your decision, sir. God knows, I wouldn't want to make it."

"It's your job, Roger. You can back out if you want to. I don't want to force you if you don't think it's possible."

He broke off there. The man with the cutting torch was attacking a thick beam that cut across the face of the wall.

"Hey, leave that," he yelled.

The crewman looked up guiltily.

"That beam's what braces this piggy bank against the jet," Captain Milburn told him. "Without it, when Roger puts the shove under us, it'll mush this ship together like a tin can somebody stepped on."

"Well then, whattaya want me to do?" the crewman demanded.

Wayne Staples drifted into the compartment. He was wearing a spacesuit and he had the helmet under his arm. He waited unobtrusively while Milburn finished with the crewman.

"Take the plates," Milburn ordered. "Take every plate in the ship, but leave those beams alone!"

"Yes, sir," the crewman said.

Milburn turned to Staples. "Yeah? What is it?"

"We've finished searching the orbitbase, sir," Wayne Staples reported.

"Well?" the captain demanded. "Find anything?"

"Oh, yes, sir," Staples said quickly. "It's like walking in a tomb. They left everything there. I even found a guy's toothbrush."

"I didn't send you to look for toothbrushes," the captain reminded him.

"I know that, sir," Staples said, quashed. "It's been empty a long time, sir. The air's all gone out of it."

Sherman couldn't wait any longer. "What about the tanks?" he asked. "Was there any water?"

He wasn't really hopeful, but he *had* to ask. The *Jove* needed water if he was going to pilot it down. Every drop was worth its weight in blood.

"There wasn't much," Staples admitted. "Most of it was evaporated away, but there was a little left. Frozen, of course, but that's all right. It'll be easier to handle that way."

"How much?" Sherman pressed him.

Staples shrugged. "I don't know," he said carelessly. "A couple, three tons. Something like that."

"Every ounce counts," Milburn said. "Get it aboard. Can you manage it all right?"

"It'll be some trouble," Staples admitted. "But we'll do it. Somehow."

"Good," Milburn said. "And try to get a better figure on how much there is. It may be the difference between making it and not making it. What about the black plaster? Find any?"

"Oh, sure. Lots of it."

"Is there *enough?*" Milburn prodded.

"Enough to cover the ship five times," Staples assured plainly.

"That's what I wanted to know," Milburn snapped. "We'll need every bit of it. Get it aboard. What else did you find?"

"There was a stock of scout projectiles and mounts," Staples offered.

"We'll want those, too," Milburn said.

Roger Sherman got tired of it. He kicked off and drifted over to the astrodome. The cover plate was off and the view was faced toward Earth. Earth was big. It filled all the view except a crescent rim of night-and-stars in the upper left-hand side, and there was a lot more of Earth he couldn't see.

It was only a thousand miles down, and it was good to see. After being away for so long, after having gone so far, it was a welcome sight. The oceans were blue and the land was green and brown and gray, and the rivers were thin lines of blue through the richest green. It was Earth, and it was beautiful.

It made him feel sick. It was so terribly unfair. They had gone farther than any men had gone before —all the way out to Jupiter—and come home again. Come home like Ulysses, after seven years.

. . . And found they were forgotten. The orbitbase was empty. Even the air was gone from it. There was no ship to carry them the last thousand miles. They had only the *Jove,* which had borne them for all the millions of miles they had gone, but which had never been built to go that terrible last thousand miles home.

A thousand miles and the barrier of atmosphere — atmosphere that burned a meteor to nothing in the flick of an eyelash—atmosphere that had destroyed half a hundred ships

without a trace before men learned how to build them and how to pilot them down from safe, sterile space.

So they would try it anyway—try going down in the *Jove.* Maybe it was suicide, but they had to do it.

Because there were no other ships. Because there wouldn't be any other ships. Because the groundhogs had scrapped every ship there ever was, and left the orbitbase to float alone and empty out in space like the cast-off shell of a sucked egg.

Sherman wanted to cry. Oh! the stupid . . . stupid—

. . . The fearful thousand miles. Earth spread below him, just out of reach, a thousand miles down. It was like a mirage in the desert.

"What are the chances?" Captain Milburn asked soberly.

Sherman muttered bitterly: "Why did they have to do it?"

"Do it?" Milburn echoed. "Scrap the ships? Abandon the orbitbase? I don't know, Roger. Maybe they were afraid — because space was something they didn't understand. But I don't think so. That never was much of a reason for men to give up a thing. No—I guess they just didn't care. It didn't mean anything to them."

"Didn't mean anything!" Sherman cried. "My God—!"

"Oh, in the beginning it meant something. It was a challenge—a dare. But once they proved they could do it— Hillary never climbed Everest again. I guess there's a point there, somewhere."

"Yeah. Somewhere," Sherman muttered.

"What are the chances, Roger?" the captain asked again.

"I tell you, sir. I just don't know."

"But there *is* a chance."

"Of course there's a chance. Or I wouldn't try."

"That's what I wanted, Roger. If anyone can do it, you can. If it's humanly possible, Roger, you can do it."

"I wonder if Blair and Ellis knew that."

"Are you still fretting over that, Roger? Hell, man. That was three years ago!"

"Yes! But I didn't try!" Sherman protested. "By God, I didn't even try!"

It was out there—all the way out there—where Jupiter filled half the sky. It was an ugly thing—striped like a kid's ball with dirty colors, and the red spot like the mouth of some unspeakable beast.

While the *Jove* held its orbit around the planet, its shuttles carried the explorers to its moons and even to the fringes of the planet's atmosphere. And one of the shuttles blew up.

Royce, at the communicator, was the first to know about it. He was talking with the shuttle when it followed its orbit around behind Jupiter. He waited the proper length of time for the shuttle to come back into line-of-sight, and then tried to re-establish contact.

He couldn't do it. The shuttle

wasn't there. Half an hour later, he picked up the suit-radios of Blair and Ellis, the two men who had been in the shuttle. The signals were weak and mushy, and Royce didn't need to hear what Blair and Ellis were saying to know what had happened.

For one thing, they were in too close to Jupiter—much closer than the shuttle's orbit would have put them.

Roger Sherman ordered the other shuttle got ready the instant he heard it. He hurried to the communications cell. Captain Milburn was already there.

Royce managed to fix their positions by gauging the direction of their signals and figuring the distance by the time between a signal-over and a reply. With a couple of fixes, Sherman roughed-out their trajectories, and a third fix on each confirmed his figures.

Sherman was already jotting more figures when Captain Milburn said, "Can you go pick them up?"

"No," Sherman muttered, and went on jotting figures.

"Blair says he's got four and a half hours' air," Royce reported. "He wants to know how soon you'll pick them up."

"Tell him he's got plenty," Sherman said. "He'll hit atmosphere in three and a quarter."

To the captain, he said, "There's nothing I can do." He passed over his sheet of figures. "The only orbit that would get me to them before they hit air would burn more than the shuttle's tanks hold. I'm not going after them."

"Shall I tell them?" Royce wanted to know.

Captain Milburn gestured, shushing him. "Don't tell them." And to Sherman, "You're sure?"

"I'm sure."

"Check the figures again."

"I checked them, sir."

"I said check them again," Milburn ordered.

Sherman took the paper and checked his calculations. There was nothing wrong with them. He gave the sheet to the captain. "You check them, sir."

Milburn crumpled the paper and threw it away. Weightless, it floated in the air.

"What do I tell them?" Royce asked.

"Tell them—" the captain began, and stopped. He nudged Sherman. "You tell them."

It was something he couldn't do. It was hard enough to think of the men adrift in space with nothing to hang on to — falling helplessly toward the great, ugly mass of the planet. He couldn't tell them he had plotted their orbits and the orbits ended at death — that there was nothing else possible, and it was only three hours away.

"No," he whispered hoarsely. "Don't make me."

"Tell them," the captain instructed Royce, "to make whatever peace with their gods they can. They've got three hours."

Royce told them.

"They want to talk to you," Royce told Sherman after a moment.

"No," Sherman said. It would be like talking to men he'd killed. "I won't. You can't make me."

"Roger, it's the least you can do," the captain said, looking solemnly at him. "Talk to them."

Royce held the microphone and earpiece out to him. He took them with numb fingers.

"Mike . . . Owen . . . I'm sorry." He meant it as he had never meant anything in his life.

And Owen Blair's voice came through, mushy with the interference, accusing no one and reproaching no one, "If you can't . . . you can't . . . way it is—"

Sherman gave the set back to Royce.

"I'll have to announce it to the ship," the captain said. "Jim—warm the PA."

"It's warm already, sir," Royce said, and passed him the PA mike.

The captain spoke into it. "Attention. Attention." And the words boomed echoing through the *Jove*.

Mike Ellis hit atmosphere first. He burned out in half a minute. Owen Blair didn't go in for another fifteen minutes, but he didn't last any longer.

"I didn't even try," Sherman repeated. "That's the thing, Bill. I didn't even try."

"There wasn't anything you could do," Captain Milburn said. So just shut up about it. If you don't think you can take us down, say so now and we'll try to think of something else. But quit whining."

He looked mad enough to blister an egg.

Sherman backed off as if he'd been slapped. "I'm willing to try," he repeated. "But if I can do it or not—"

"Shut up!" Milburn roared.

The crewman with the cutting torch had burned a plate out of the wall. Grappling it with heavy gloves, he towed it slowly toward the air lock.

"It all depends on so many things," Sherman tried to explain. "How much weight we can get rid of—and how much we have in the tanks — and whether I'm good enough for the job—"

"And how calm the atmosphere is," Milburn interrupted disgustedly. "And how much the ship can take. And whether it sinks or floats when we hit the water— Ahhh! You make me sick."

He turned away, and turned back again. "Listen, Roger. There's just one thing that's going to make the difference between whether we make it, or we don't. And that's you, Roger. You. You wouldn't have been with this expedition if you weren't the best pilot there is. But if you don't think you can do it, now's the time to say so."

"Well . . . all I can do is try—"

The captain made an exasperated face. "What can you expect?" he muttered angrily, almost to himself. And aloud, "And another thing—if you've got to worry about it, don't do it where the men can hear you.

They've got enough to worry about as it is."

"Yes, sir," said Sherman meekly.

The crewman came back from the lock and put his torch to another section of the wall. Another crewman entered the compartment. His coverall was a mess.

"We got the hydroponics cleaned out," he reported. "The water's still in purification, but the job's done. We dumped everything."

"How much water?" Milburn demanded.

"Thirteen tons, nine hundred pounds, sir. Plus."

"Fine," the captain said. "Divert it to the drive tank."

"They're doing that right now," the crewman reported.

"Get into your suit, then," Milburn ordered. "Report to Staples in the orbitbase. He's going to move some ice over from there, and he can use you."

"Right, sir." The crewman started for the suiting room, unfastening his coverall as he went.

"Dump your coverall outside," Milburn called after him. "You won't be needing it again."

"On the knob, sir," the man answered.

Roger Sherman was looking down at Earth again, thinking of the menace the all-but-invisible atmosphere was. It could tear a ship to shreds, and melt the shreds to vapor. Even the night side was full of turbulence—great gusts of rampant air that could tear at a ship before a pilot could pull away—drag the ship down into air too thick for its speeding shape to stand against—or rise before the ship as impenetrably as a wall. And the *Jove* was not built to pass through atmosphere. Its builders had never meant for it to feel even the touch of air.

"Thirteen tons," the captain repeated, smiling confidently. "And nine hundred pounds. How does it sound now?"

"A little better," Sherman admitted half-heartedly. "But I can't really know anything one way or the other until we're on our way."

Milburn frowned. "How do you figure that?"

"That's the first chance I'll have to find how the ship handles," Sherman explained. "We're taking a lot of weight out, and we can't more than rough-guess how much. I've no idea how off-balance we'll be. And I'll be running the pile wide open. There's a lot of things we can't be sure of until I put a shove under us."

"Ummmm." Milburn looked thoughtfully. "And then it's too late to turn back."

Sherman nodded. "Sink or swim," he said grimly. "Still want to go through with it?"

Milburn looked him blackly in the eyes. "Yes."

Later, they toured the *Jove* together. Scott Riemer, the ship's engineer, made the tour with them.

All through the ship, men armed with wrenches and cutting torches were tearing out sections of wall and

banks of lockers and pieces of equipment which had been ruled expendable. They were trimming the *Jove* to a few picked bones.

"The hell of it is," Scott Riemer said as they watched the work proceed, "they built the *Jove* with as little waste weight as they could—and now we've got to trim it down."

"Everything that's not absolutely necessary has to go," Sherman insisted. "Everything. A few pounds too much and we'll never make it."

"We'll make it," the captain said stubbornly.

They came to the galley. It hadn't been touched.

"Dayton! Joe Dayton!" Milburn bawled.

Joe Dayton, the galley master, came out of the fresh-food locker with a sack of hydroponic vegetables. He looked startled.

"Why's this stuff still here?" the captain demanded. His gesture swept the compartment.

"We still have to eat," the galley master explained innocently.

"Like hell we do," Milburn snapped. "Issue each man a pint of soup—double strength. And a quarter pound of sugar and a quart of water. And then clean this junk out of here."

"All of it?"

"Down to the last tin can," Milburn ordered. "Food and everything. There's plenty of food where we're

going, but we've got to get there. Snap to it."

"Yes, sir," Dayton gulped.

As they left the gailey, Joe Dayton was making soup.

"I've been thinking about all that shield we've got between us and the pile," Scott Riemer said. "It's a lot of dead weight to be carrying around."

"Get a crew and peel it as thin as you dare," Milburn said.

"No," Sherman objected flatly.

Milburn swung on him. "Why not?" he demanded.

"Listen, sir," Sherman said stubbornly. "We won't have enough water, no matter what way you look at it, so I'm going to do the next best thing. I'm going to run the pile hotter than it's ever been before. I'll have to. We're going to need every inch of that shielding. And wish there was more."

Milburn scowled. He turned to the engineer. "What's the shield's safety factor?"

"Two," Riemer said. He knew what was coming.

"And the pile's overload rating?"

"Three point five," Scott Riemer admitted. "With the understanding that anything over one point five would be of short duration and only in extreme emergency."

"We're doing something this ship wasn't built for," Sherman said. "We're too heavy, and the wrong shape, and the wrong controls—and we don't have enough water to do it. If that's not an emergency, there's no such thing."

"He's right," Milburn told the engineer. "The shield stays."

"It's your decision, sir."

They came to where the men were tearing out the crew's private lockers. The men looked like they didn't relish what they were doing, but they were doing it anyway. The walls were already gone from the compartment. This part of the ship was a maze of naked girders, like a scaffold inside a globe.

Sherman saw something small and brown moving out there among the beams. Captain Milburn must have seen it, too, because he kicked off toward it and pursued it.

The monkey flitted quickly through the ship. They had a hard time catching up with it. They found it, finally, near the air lock.

Men were towing large sacks of fresh vegetables up from the galley and dumping them in the lock. But one man had stopped and was feeding the monkey a bit of carrot. He was talking to the monkey, saying senseless things in a friendly voice. He roughed its short fur.

It ate the carrot greedily.

"Galbraith," Milburn said.

The man looked up guiltily. "Sorry, sir. I'll get right to work, sir." And as if it explained everything, "He was begging."

The monkey got away from him. It perched on a nearby beam and munched its carrot in small, squirrel-like nibbles.

"Bulkhead has to go," Milburn said.

The captain could have stuck a knife in him and not brought such a painful look to Galbraith's face.

"He doesn't weigh much," the crewman pleaded.

Milburn didn't argue with him. "He's got to go," he said.

"No! I won't let you," Galbraith cried. He let go of his vegetable sack, he pushed off and drifted away from Milburn. "Here, Bulkhead," he called anxiously. "C'mere, kid." He clapped his hands enticingly and went on calling.

Still nibbling carrot, Bulkhead perched on his beam and goggled at Galbraith innocently. He gathered himself for a leap.

"Bulkhead," Milburn commanded. "Come here."

"No, Bulkhead," Galbraith protested. "*Here.* Here, kid. He'll hurt you. He'll hurt you."

Milburn pulled a carrot out of the sack. He held it so Bulkhead could see it. "Here, Bulkhead," he invited.

Bulkhead sprang toward the captain.

"No!" Galbraith cried. "No, Bulkhead! No!"

Floating in the air, the monkey twisted and looked back at Galbraith, a look of total innocence. Then, with a flick of his tail he turned around and reached for the carrot.

Milburn caught the monkey's feet and bashed its head against a beam. Galbraith screamed. The monkey's body jerked once like a galvanized frog, and something like a chicken's gizzard bulged from the smashed skull.

The captain looked at the monkey —made sure it was dead—and tossed it into the air lock. "Space him," he said to the man inside.

Galbraith flung himself at the captain. His face was twisted with pain and his eyes were frantic with angry tears. "Why did you do that?" he cried. "He wasn't hurting anybody. He wasn't hurting anybody. Why'd you do that?"

His fist flailed uselessly on Milburn's chest and shoulders.

Milburn fended him off. "Shut up," he growled.

He turned to go away—turned so no one could see his face. "I loved that monk," he murmured bitterly. "As much as you did."

The ship was ready. The crew had finished coating its skin with a two-inch sheath of the black plaster. It would burn away when the *Jove* hit atmosphere, but the ship itself would be protected from the awful heat of friction with the air. Time after time, the *Jove* would have to skin through the thin upper fringes of the atmosphere and coast out again into space to cool its glowing skin —until finally its terrible plunge was slowed and it would be safe to venture farther down—toward home.

After each passage, as soon as the ship had cooled, a fresh coat of the black plaster would have to be put on. The supply from the orbitbase wouldn't last long. Sherman wondered if it was enough. Cold figures

said it was—his private fears said no.

Inside the *Jove,* there was very little left between the pile's shield and the forward radars. It was like a great cave, its spherical walls braced and counterbraced by thick, stiff beams.

The men wore their spacesuits. The air had been let out of the ship, and of the air lock only the outer door remained. The astrodome cover was down, and the transparent dome itself had been removed. Whatever observations Sherman had to make, he would make from the air-lock door.

And it was dark, and full of deep, thick shadows. The power generator had been jettisoned, and most of the lighting fixtures and circuits. Only the emergency generator carried on. It was enough to power the controls and the instruments and the necessary forward radar.

It was going to be a long, fearful ride. The atmosphere—so placid in appearance, and so sweet in recollections of warm nights under the stars—was full of terrors. Its turbulence was as unpredictable and savage as disaster. It could suck a ship to its doom in an instant.

Sherman remembered, as if it was only a moment ago, the training officer who had said to him: "Hit the night side when you can and the day side when you have to. The twilight zones are suicide. But however you hit the air, don't forget to pray."

Sherman hadn't thought much about prayers for a long time. But he was thinking of them now.

The captain's voice sounded crisply in his helmet from the speaker at the back of his neck. "Ready, Roger?"

It was like the voice of his conscience, speaking behind him, where he couldn't see—

"As ready as I'll ever be," Sherman said without eagerness. He hesitated. "You still want to go through with it?"

"We *are* going through with it," Milburn declared.

"I'll try," Sherman promised. He said it stubbornly. "I don't know if I can do it, but I'll try."

"I know you will."

"I didn't try, that other time. I didn't try."

"Forget about the other time."

Somewhere behind him, the captain and the men waited, their backs against the bare lead shielding of the pile—waiting for him to feed the water into the pile and drive the ship down from its orbit, toward death or toward home.

The instrument dials glowed softly. He read them again. Skin temperature low. Pile hot—far over in the red. He couldn't help that. It had to be hot.

. . . Acceleration zero. Pumps zero. Line of flight steady. Radar screen blank. Time passing—

The controls—pumps, pile, gyro, jet vanes—glowing each with its own distinct color, all equally in reach of his fingertips. He held him-

self stiffly, resisting the urge to go ahead and get it over with.

"What're you waiting for?" Milburn rapped impatiently.

"Five minutes." He almost twisted to give the answer back over his shoulder, forgetting the captain spoke through his suit radio. He glanced back at the time. "Four and a half," he said.

It was the worst five minutes he ever lived through. Everything was in his hands, to make the best of it or the worst of it. At best, the *Jove* would crash-land somewhere in the great wastes of the wide Pacific; at the worst, the *Jove* would streak through Earth's upper atmosphere, burning bright for a moment like a falling star.

The minutes counted off, and then the seconds. Sherman ached for water in his dry, tight throat. He held his hands steady and forced his eyes to watch the time turn around the clock. The pointer was gallingly slow.

He started the pumps, and when they were going good and the last few seconds flicked into the past, he fed the water to them. The *Jove* slammed at his back, and drove hard. His sight blurred.

When he could see, he watched the acceleration and the time, and abruptly he choked the pumps. The *Jove* lurched inert.

"How does it look?" Milburn's voice barked out of the radio speaker.

"I'll have to figure," Sherman called. He opened the instrument panel and tore out the graph, wondering why a man in a suit automatically raised his voice. But then he was too busy to think about it.

He read the graph quickly. His practiced eye approximated it, leveled it, squeezed it dry of meaning. He turned it over and scratched figures on the back.

He went down to the air-lock door and took observations. He went back and checked his figures.

"We need more weight in the five o'clock position," he reported. "Move all the men you can. We're way off balance."

"Right," Milburn said gruffly. And to the men: "You heard what he said. Move."

Looking back, Sherman saw the shadowy movements of spacesuited men in the dark. He touched the controls, shifting the gyro to a new setting. The *Jove* wobbled and held steady.

"Weight redistributed," Milburn reported.

"Thanks," Sherman said. "Stand by for course correction." He fired a brief blast. The *Jove* drove forward horribly. Then abruptly everything was weightless again.

He went down and took more star sights. "On orbit, captain," he reported finally. And then, "We've got to drop more."

"Why didn't you say so sooner?" Milburn demanded.

"Course correction came first, sir," Sherman explained.

"There's nothing left to drop," Milburn said.

"There's got to be something," Sherman insisted. He opened the instrument panel and tore out the graphing equipment. Without it, the job would be harder, but it had to be done. Blue sparks blazed as he ripped wires loose, but he ignored them. His spacesuit gloves protected his hands.

"Captain." It was Jim Royce. "I have Earth on the radio. They say is we can wait fifteen months, they'll have a ship built to come get us.

Milburn swore. "We couldn't have lasted another five," he said disgustedly. "We told them that once."

"What shall I tell them, sir?"

"Tell them—" Milburn began angrily, and stopped.

"Tell them," he repeated deliberately, "we expected them to be here—up here waiting for us. We're not putting our trust in them again. We'll make it home by our own selves. Tell them to look out below. We're coming down."

"Yes, sir. I'll tell them. Just like that."

"And Jim—"

"Yes, sir?"

"When you get done telling them, tear the thing out and dump it. It weighs too damn much."

"But how will they find us if we don't have the radio?" Royce protested.

"To hell with the radio," Milburn barked. "We've got to get our skins down."

"Yes, sir."

If they said anything after that, they'd switched their sets to another wave length because Sherman didn't hear any more. But later he saw men near the air-lock door, shoving masses of radio equipment into space.

"How much more must we drop?" the captain demanded later.

Sherman checked his figures. "At least another thousand pounds," he reported.

"What about it, Scott?" Milburn asked the ship's engineer on the same wave length. "Can we trim any more edge off the shield?"

"We've taken as much as we can," Scott Riemer said.

"What about the oxygen? Can we spare any?"

"It's figured to the bone—bare minimums, sir."

"What about exhausted bottles?"

"We're dumping them as soon as they're empty," the engineer said.

"Can *you* think of anything?" the captain asked desperately.

"There's just plain nothing left," Scott Riemer said.

"Organize search parties," Milburn ordered. "Search the ship. Every inch. There's got to be something."

"When they find it, how do they pry it loose?" the engineer wanted to know. "We dumped all the tools."

"I don't give a damn how they do it," Milburn snarled. "We've got to trim ship."

They found bits here and there. Nothing weighed much, but it added up. Most of the men had their suit radios ripped out and thrown into space. Everyone had the magnetic soles of his boots peeled off. The electrical circuits in the controls were traced, and the safety fuses were taken out.

It was still a long way from enough. "There's *got* to be something else," Sherman insisted desperately. "If there isn't, we'll never make it."

"Where do we find it?" Riemer asked hopelessly. "We've searched everywhere."

Milburn whirled around suddenly. "What about the pile?" he demanded.

"We can't even go near it," Riemer protested. "It's running full power. The radiation would kill us."

"Like hell we can't go near it," Milburn snapped. "If we don't get the weight, we're dead men anyway."

"It's running full power, sir," Riemer repeated. "There isn't any weight in it going to waste."

"What about the damper rods?" Milburn argued. He turned to Sherman. "They're practically all the way out, aren't they?"

"Most of them," Sherman admitted. "But—"

The captain brushed past him, heading for the access hole. The hatch cover had been taken long ago. It waited for him, open, like a dark mouth.

Riemer tried to stop him. "But the radiation," he protested. "There is no shield down there. It's deadly."

"I won't be long," Milburn said roughly. He shoved Riemer out of his way. "I'm going down there."

Before Riemer could catch him, he was halfway through the access hole. "Stay back," Milburn ordered him. "This is my party. No use two of us getting a dose."

"You're a fool," Riemer told him.

The captain was out of sight now, but his voice still came through the radios. "Somebody has to do it," he growled. "Better get away from here. When I bring this stuff out of here, it's going to be hot."

He whistled. "Hey! There's a lot of stuff down here."

He was at it a long time, prying things loose and towing them out to the door into space. Sherman went back to the controls and waited there. Finally, Milburn was done. He gave Sherman a weight report.

"How do you feel, sir?" Sherman asked him.

"Sweaty," Milburn said. He was trying to sound hearty, but he only sounded tired. "I haven't worked this hard in years."

For a moment, then, there was only the sound of his breathing in the radio. Then: "How much longer do we have?"

Sherman checked his time. "An hour forty-five," he reported.

"What's the weight look like?"

Sherman looked at his figures. "It's still not too good," he admitted unhappily. "We're still about two hundred pounds over."

"I see," Milburn said. He said it

as if he was weighing a decision. "All right," he said grimly. "Take command."

For an instant, Sherman didn't understand. "Captain, what—?"

"Take command," the captain repeated harshly. "And don't forget to shut the door."

Sherman unstrapped from the pilot seat. "No!" he shouted. "We'll take a chance. Maybe I can do it. At least I can *try!*"

He rushed to the door, but he was too late. The door was open and Earth was there before him, so bright it hurt his eyes. And silhouetted against the blue sea below was the shape of a man in a spacesuit, drifting slowly away from the ship."

"Bill!" Sherman cried. "Captain!"

The man out there waved a clumsy hand. "Not so loud. I can hear you," he said through the radio. "You don't need me now. You can get the ship down by yourself if you'll try . . . if you don't whine about it. I picked up too much radiation, anyway."

"But you can't—" Sherman protested.

"Take command," the captain ordered. "And shut that door. I'm getting sick of looking at it. Take her down, Roger."

Sherman could only stare at him blankly. It was a long time before he found his voice. "I think I can do it, sir," he said.

Milburn was getting smaller as he drifted away from the ship. "I know you can," he said firmly.

Sherman thought about Ellis. And Blair. "I'll try," he promised. "I'll try."

"You'd better," snapped Milburn, and snapped off his radio.

Sherman got the door closed and locked. He went back to the controls and checked the instruments again. Everything was running fine.

They had enough water for the weight they were carrying. The ship was trim and on orbit. With a little luck and a lot of skill, he'd do all right.

He'd always had the skill, and now, for the first time in a long time, he felt lucky again. As if determination by itself was enough to carry him through.

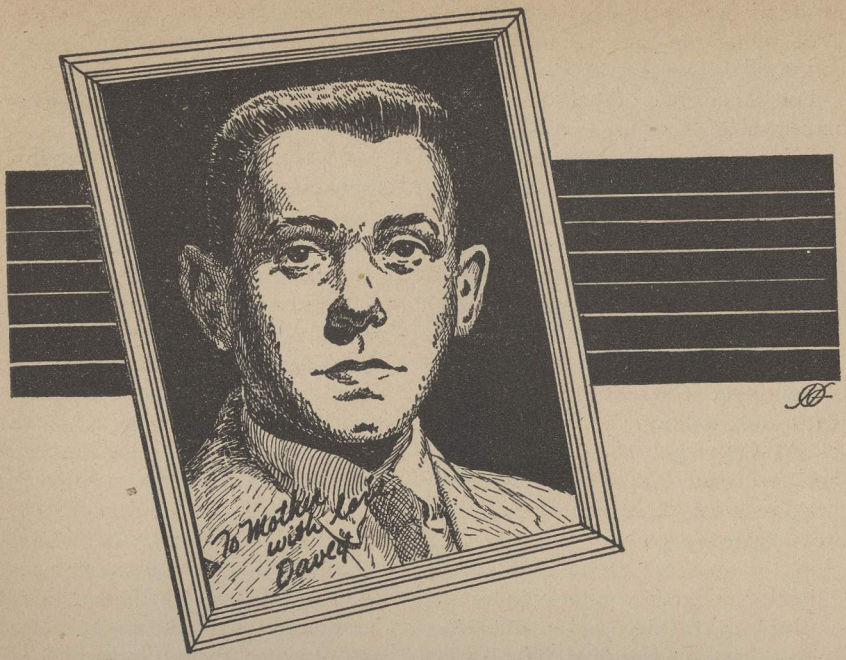
He launched the scout projectiles. Six neat little pips popped onto the radar screen ahead of the ship. He watched them. Shifts in their flight paths would warn him of dangerous turbulence when the ship hit air.

The tough job was still ahead of him. He still had to jockey the ship down through the atmosphere, and one slip or oversight would mean disaster. But it didn't matter.

He'd promised, and by God, he'd try. That was the important thing. He'd never yet failed at anything he tried to do. He'd do all right. All he ever had to do was try.

The *Jove* plunged on toward home.

THE END



CLERICAL ERROR

The essence of getting Top Security clearance is, of course, a perfect record of absolute, undeviating orthodoxy. How, then, do you get the necessary unorthodox, original mind in to work on a totally unorthodox problem. . . . ?

BY MARK CLIFTON

Illustrated by Freas

The case of David Storm came to the attention of Dr. K. Heidrich Kingston when Dr. Ernest Moss, psychiatrist in charge of the Q Security wing of the government workers' mental hospital, recommended lobotomy. The recommendation was on the lead-off sheet in Storm's medical history file. It was expressed more in the terms of a declaration of intention than a request for permission.

"I had a little trouble in getting this complete file, doctor," Miss Verity said, as she laid it on his desk. "The fact is Dr. Moss simply brought in the recommendation and asked me to put your initials on it so he could go ahead. I told him that I was still just your secretary, and hadn't re-

placed you yet as Division Administrator."

Kingston visualized her aloof, almost unfriendly eyes and the faint sarcasm of her clipped speech as she respectfully told off Dr. Moss in the way an old time nurse learns to put doctors in their place, unmistakable but not quite insubordinate. He knew Miss Verity well; she had been with him for twenty years; they understood one another. His lips twitched with a wry grin of appreciation. He looked up at her as she stood beside his desk, waiting for his reaction.

"I gather he's testing the strength of my order that I must personally approve all lobotomies," Kingston commented dryly.

"I'm quite certain the staff already knows your basic opposition to the principle of lobotomy, doctor," she answered him formally. "You made it quite clear in an article you wrote several years ago, May 1958, to be exact, wherein you stated—"

"Yes, yes, I know," he interrupted, and quoted himself from the article, " 'The human brain is more than a mere machine to be disconnected if the attending psychiatrist just doesn't happen to like the way it operates.' I still feel that way, Miss Verity."

"I'm not questioning your medical or moral judgment, doctor," she answered, with a note of faint reproof, "merely your tactical. At the time you alienated a very large block of the profession, and they haven't forgotten it. Psychiatrists are particularly touchy about any public question of their omnipotent right and rightness. In view of our climb to power, that was a tactical error. I also feel the issuance of this order, so soon after taking over the administration of this department was a bit premature. Dr. Moss said he was not accustomed to being treated like an intern. He merely expressed what the whole staff is thinking, of course."

"So he's the patsy the staff is using to test my authority," Kingston mused. "He is in complete charge of the Q. S. wing. None of the rest of us, not even I, have the proper Security clearances to go into that wing, because we might hear the poor demented fellows mumbling secrets which are too important for us to know."

"You'll have to admit they've set a rather neat trap, doctor," Miss Verity said. A master of tactics, herself, she could admire an excellent stroke of the opposition. "Without a chance to see the patient and make a personal study, you can't very well override the recommendations of the psychiatrist in charge. You'd be the laughingstock of the entire profession if you tried it. You can't see the patient because I haven't been able to get Q. S. clearance for you, yet. And you can't ignore the Security program, because that's a sacred cow which no one dares question."

It was a clear summation, but Kingston knew she was also reproving him for having laid himself open to such a trap. She had advised against the order and he had insisted upon it anyway.

He pushed himself back from his

desk and got to his feet. He was not a big man, but he gave the impression of solid strength as he walked over to the window of his office. He looked out through the window and down the avenue toward various governmental office buildings which lined the street as far as he could see. His features were strong and serene, and, with his shock of prematurely white hair, gave him the characteristic look of a governmental administrator.

"I've not been in this government job every long," he said, as much to the occupants of the buildings down the street as to her, "but I've learned one thing already. When you don't want to face up to the consequences of a bad decision, you just promise to make an investigation." He turned around and faced his secretary. "Tell Dr. Moss," he said, "that I'll make an investigation of the . . . who is it? . . . the David Storm case."

Miss Verity looked as if she wanted to say something more, then clamped her thin lips shut. But at the door, leading out to her own office, she changed her mind.

"Doctor," she said with a mixture of exasperation and curiosity, "suppose you do find a way to make effective intercession in the David Storm case? After all, he's nobody. He's just another case. Suppose you are able to get another psychiatrist assigned to the case. Suppose Dr. Moss is wrong about him being an incurable, and you really get a cure. What have you gained?"

"I've got to start somewhere, Miss Verity," Kingston said gently, without resentment. "Have you had a recent look at the sharply rising incident of disturbance among these young scientists in government work, Miss Verity? The curing of Storm, if that could happen, might be only incidental, true—but it would be a start. I've got some suspicions about what's causing this rising incident. The Storm case may help to resolve them, or dismiss them. It's considerably more than merely making my orders stick. I've got to start somewhere. It might as well be with Storm."

"Very well, doctor," she answered, barely opening her lips. Obviously this was not the way she would have handled it. Even a cursory glance through the Storm file had shown her he was a person of no consequence. Even if Dr. Kingston succeeded, there was no tactical or publicity value to be gained from it. If Storm were a big-name scientist, then the issue would be different. A cause celebre could be made of it. But as it was, well, facing facts squarely, who would care? One way or the other?

The case history on David Storm was characteristic of Dr. Moss. It was the meticulous work of a thorough technician who had mastered the primary level of detachment. It recorded the various treatments and therapies which Dr. Moss had tried. It reported sundry rambling conversations, incoherent rantings and complaints of David Storm.

And it lacked comprehension.

Kingston, as he plowed through the dossier, felt the frustrated irritation, almost despair, of the creative administrator who must depend upon technicians who lack any basic feeling for the work they do. The work was all technically correct, but in the way a routine machinist would grind a piece of metal to the precise measurements of the specs.

"How does one go about criticizing a man for his total lack of any creative intuition?" Kingston mumbled angrily at the report. "He leaves no loopholes for technical criticism, and, in his frame of thinking, if you tried to go beyond that you'd merely be picking on vague generalities."

The work was all technically correct. There wasn't even a clerical error in it.

A vague idea, nothing more than a slight feeling of a hunch, stirred in Kingston's mind. In some of the arts you could say to a man, "Well, yes, you've mastered all the technicalities, but, man, you're just not an artist." But he couldn't tell Dr. Moss he wasn't a doctor, because Dr. Moss had a diploma which said he was. Men with minds of clerks could only understand error on a clerical level.

He tried to make the idea more vivid in his mind, but it refused to jell. It simply remained a commentary. The case history told a complete story, but David Storm never emerged from it as a human being. He remained nothing more than a case history. Kingston could get no feeling of the substance of the man. The report might as well have dealt with lengths of steel or gallons of chemical.

In a sort of self-defense, Kingston called in Miss Verity, away from her complex of administrative duties, and resorted to a practice they had established together, years before.

He had started his technique with simple gestalt exercises in empathy; such as the deliberate psychosomatic stimulation of pain in one's own arm to better understand the pain in some other person's broken arm. Through the years it had been possible to progress to the higher gestalt empathies of personality identification with a patient. Like other dark areas of the unknown in sciences, there had been many ludicrous mistakes, some danger, and discouragement amounting to despair. But in the long run he had found a technique for a significant increase in his effectiveness as a psychiatrist.

The expression on Miss Verity's face, when she sat down at the side of his desk with her notebook, was interesting. They were both big wheels now, he and she, and she resented taking time out from her control over hundreds of lesser wheels. Yet she was a part of the pattern of empathy. Her hard and unyielding core of practicality, realism, provided a background to contrast, in sharp relief, to the patterns of madness. Obscurely, she derived a pleasure from this contrast; and a nostalgic pleasure, also, from a return to the old days when he had been a young and struggling psychiatrist

and she, his nurse, had believed in him enough to stick by him. Kingston wondered if Miss Verity really knew what she did want out of life. He pushed the speculation aside and began his dictation.

As a student, David Storm represented the all too common phenomenon of a young man who takes up the study of a science because it is the socially accepted thing to do, rather than because he had the basic instincts of the true scientist.

Kingston felt himself slipping away into the familiar sensation syndrome of true empathy with his subject. As always, he had to play a dual role. It was insufficient to enter into the other person's mind and senses, feel and see as he felt and saw. No, at the same time he must also reconstruct the individual's life pattern to show the conflicts inherent in that framework which would later lead him into such frustrations as to mature into psychosis.

In the Storm case this was particularly important. A great deal more than just an obscure patient was at stake. By building up a typical framework of conflict, using Storm as merely the focal point, he might be better able to understand this trend which was proving so dangerous to young men in science. And since our total culture had become irrevocably tied to progress in science, he might be better able to prevent a blight from destroying that culture.

His own office furniture faded away. He was there; Miss Verity was there; the precise and empty notes of Dr. Moss were there in front of him; but, to him, these things became shadows, and in the way a motion picture or television screen takes over the senses of reality, he went back to the college classrooms where David Storm had received instruction.

It was unfortunate that the real fire of science did not burn in any of his college instructors, either. Instead, they were also the all too common phenomenon of small souls who had grasped frantically at a few "proved" facts, and had clung to these with the desperate tenacity of drowning men in seas of chaos. "You cannot cheat science," these instructors were fond of saying with much didactic positiveness. "If you will follow the procedures we give you, exactly, your experiment will work. That is proof we are right!"

"If it works, it must be right" was so obviously true to Storm that he simply could not have thought of any reason or way to doubt it. He graduated without ever having been handed the most necessary tool in all science, skepticism, much less instructed in its dangers and its wise uses. For there are true-believer fanatics to be found in science, also.

Under normal conditions, Storm would have found some mediocre and unimportant niche he deserved. For some young graduates in science the routine technician's job in a laboratory or shop is simply an opening wedge, a foot on the first rung of his ladder. For David Storm's kind, that same job is a haven, a lifetime of small but secure wage. Under such conditions the conflicts, leading to psychosis, would not have occurred.

But these are not normal times. We have science allied to big government, and controlled by individuals who have neither the instincts nor the knowledge of what science really is. This has given birth to a Security program which places more value upon a stainless past and an innocuous mind than upon real talent

and ability. It was the socially acceptable and the secure thing for Storm to seek work in government-controlled research. With his record of complete and unquestioning conformity, it was as inevitable as sunrise that he should be favored.

It was as normal as gravity that his Security ratings should increase into the higher echelons of secrecy as he continued to prove complaisant, and, therefore, trustworthy. The young man with a true instinct for science is a doubter, a dissenter, and, therefore, a trouble maker. He, therefore, cannot be trusted with real importance. Under this condition, it was as natural as rain that when a time came for someone to head up a research section, Storm was the only man available.

It was after this promotion into the ranks of the Q. S. men that the falsity of the whole framework began to make itself felt. He had proved to be a good second man, who always did what he was told, who followed instructions faithfully and to the letter. But now he found himself in a position where there were no ready-made instructions for him to follow.

Kingston took up the Moss report and turned some pages to find the exact reference he wanted. Miss Verity remained passively poised, ready to speed into her shorthand notes again. Kingston found the sheet he wanted and resumed his dictation.

Storm got no satisfaction from his section administrator. "You're the expert," his boss told him. "You're supposed to *tell* us the answers, not *ask* us for them." His tentative questions of other research men got him no satisfaction. Either they were in the same boat as he, and as confused, or they weren't talking to this new breed who called himself a research scientist.

But one old fellow did talk, a little. He asked Storm, with disdain, if he expected the universe to furnish him with printed instructions on how it was put together. He commented, acidly, that in his opinion we were handing the fate of our civilization to a bunch of cookbook technicians.

Storm was furious, of course. He debated with himself as to whether he should, as a good loyal citizen, report the old fellow to the loyalty board. But he didn't. Something stopped him, something quite horrible—a thought all his own. This man was a world-famous scientist. He had once been a professor of science at a great university. Storm had been trained to believe what professors said. What if this one were right?

The doubts that our wise men have already found all the necessary right answers, which should have disturbed him by the time he was a sophomore in high school, began now to trouble him. The questions he should have begun to ask by the time he was a freshman in college began to seep through the tiny cracks that were opening in his tight little framework of inadequate certainties.

Kingston looked up from the report in his hands; thought for a moment; flipped a few pages of the dossier; failed to find what he wanted; turned back a couple of pages; and skimmed down the closely written record of Storm's demented ravings. "Oh yes, here it is," he said, when he found the reference.

It was about that time that Storm began to think about something else he would have preferred to forget. It had been one of those beer-drinking and pipe-smoking bull sessions which act as a sort of teething ring upon which college men exercise their gums in preparation for idea maturity. The guy who was dominating the talking already had a reputation for being a radical; and Storm had listened with the censor's self-

assurance that it was all right for *him* to listen so he would be better able to protect others, with inferior minds and weaker wills, from such exposures.

"The great danger to our culture," this fellow was holding forth, "doesn't come from the nuclear bomb, the guided missile, germ warfare, or even internal subversion. Granted there's reason why our culture should endure, there's a much greater danger, and one, apparently quite unexpected.

"Let's take our diplomatic attitudes and moves as a cross section of the best thinking our culture, as a whole, can produce. For surely here, at this oritical level, the finest minds, skilled in the science of statecraft, are at work. And there is no question but that our best is no higher than a grammar-school level. A kid draws a line with his toe across the sidewalk and dares, double dares, his challenger to step across it. 'My father can lick your father' is not removed, in substance, from 'My air force can lick your air force.' What is our Security program but the childish chanting of 'I've got a secret! I've got a secret!'? Add to that the tendency to assemble a gang so that one can feel safer when he talks tough, the tendency to indiscriminate name calling, the inability to think in other terms than 'good guys' and 'bad guys.' Here you have the classical picture of the grammar-school level of thinking —and an exact parallel with our diplomacy.

"Now, sure, it's true that one kid of grammar-school mental age can pretty well hold his own with another of his own kind and strength. But here's the real danger. He doesn't stand a chance if he comes up against a mature adult. What if our opponent, whoever he may be, should grow up before we do? There's the real danger!"

Storm had considered the diatribe ridiculous at the time, and agreed with some of the other fellows that the guy should be locked up, or at least kicked off the campus. But now he began to wonder about certain aspects which he had simply overlooked before. "Consider the evidence, gentlemen," one of his instructors had repeated, like a parrot, at each stage of some experiment. Only now it occurred to Storm that the old boy had invariably selected, with considerable care, the particular evidence he wanted them to consider.

With equal care our statecraft had presented us with the evidence that over there, in the enemy territory, science was forced to follow the party line or get itself purged. And the party line was totally false and wrong.. Therefore their notions of science must be equally wrong. And you can't cheat science. If a thing is wrong it won't work. Yet the evidence also showed that they, too, had successful nuclear fission, guided missiles, and all the rest.

This led Storm into another cycle of questions. What parts of the evidence could a man elect to believe, and what interpretations of that evidence might he dispute and still remain a totally loyal citizen, still retain his right to highest Security confidence? This posed another problem, for he was still accustomed to turning to higher authority for instruction. But of whom could he ask such questions as these? Not his associates, for they were as wary of him as he of them. In such an atmosphere where it becomes habitual for a man to guard his tongue against any and all slips, there is an automatic complex of suspicions built up to freeze out all real exchange of ideas.

Every problem has a solution. He found the only solution open to him. He went on asking such questions of himself. But, as usual, the solution to one problem merely opened the door to a host of greater ones. The very act of admitting, openly acknowledging, such questions to himself, and knowing he dared not ask them of anyone else, filled him with an overpowering sense of furtive shame and guilt. It was an axiom of the Security framework that you were

either totally loyal, or you were potentially a subversive. Had he any right to keep his Security ratings when these doubts were a turmoil in his mind?

Through the months, especially during the nights, as he lay in miserable sleeplessness, he pondered these obvious flaws in his own nature, turning them over and over like a squirrel in a cage. Then, one night, there came a whole series of questions that were even more terrifying.

What if it were not he, but the culture, which contained the basic flaw? Who, in or out of science, is so immutably right that he can pass judgment on what man is meant to know and what he may never question? If we are not to ask questions beyond accepted dogma, be it textbook or statecraft, from where is man's further knowledge and advancement to come? What if these questions which filled him with such maddening doubts were the very ones most necessary to answer? Indeed, what if our very survival depended upon just such questions and answers? Would he then be giving his utmost in loyalty if he did *not* ask them?

The walls of his too narrow framework of thinking had broken away, and he felt himself drowning in a flood of dilemmas he was unprepared to solve. When a man, in a dream, finds his life in deadly peril an automatic function takes over—the man wakes up. There is also an automatic function which takes over when the problems of reality become a deadly peril.

Storm withdrew from reality.

Kingston was silent for a moment, then his consciousness returned to the surroundings of his office, and the desk in front of him. He looked over at Miss Verity.

"Well, now," he said. "I think we begin to understand our young man a little better."

"But are you sure his conflict is typical?" Miss Verity asked.

"Consider the evidence," Kingston said with deliberate irony. "Science can progress, even exist, only where there is free exchange of ideas, and minds completely open to variant ideas. When by law, or social custom, we forbid this, we stop scientific development. Consider the evidence!" he said again. "There is already a great deal of it to show that our science is beginning to go around in circles, developing the details of the frameworks already acceptable, but not reaching out to reveal new and totally unexpected frameworks."

"I'll type this up, in case you want to review it," Miss Verity answered dryly. She did not go along with him, at all, in these flights of fancy. Certainly she saw no tactical advantage to be gained from taking such attitudes. On the contrary, if he didn't learn to curb his tongue better, all she had worked so hard to gain for the both of them could be threatened.

Kingston watched her reactions with an inward smile. It apparently had never occurred to her that his ability in gestalt empathy could be directed toward her.

There might be quite a simple solution to the Storm matter. Too many government administrators and personnel had come to regard an act under general Security regulations to be a dictum straight from Heaven. It was possible that Storm's section had already written him off as a total loss in their minds, and no one

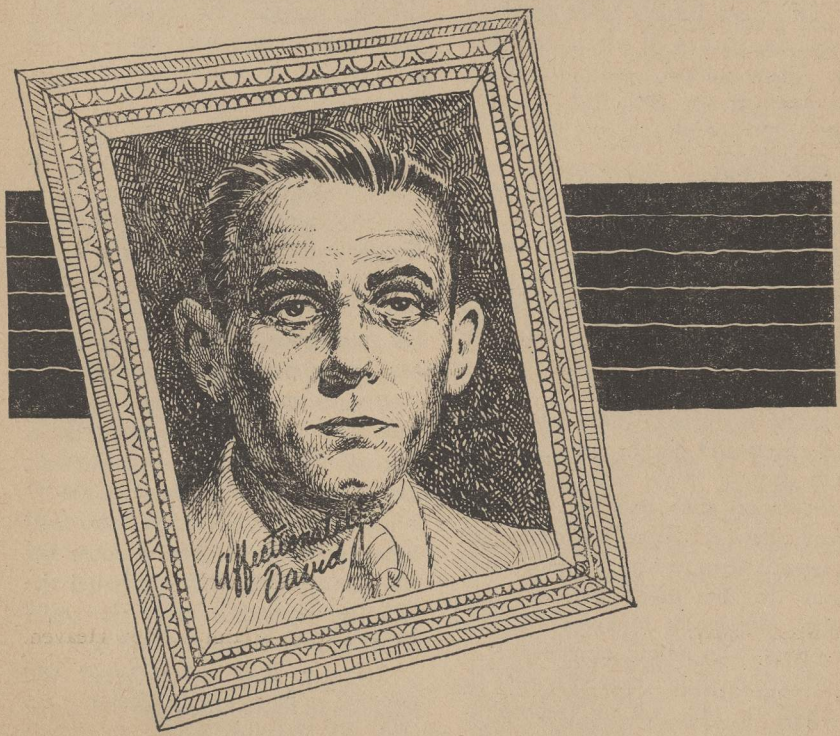
had taken the trouble to get him declassified. Kingston felt he should explore that possibility first.

He made an appointment to see Logan Maxfield, Chief Administrator of the section where Storm had worked.

His first glance, when he walked into Maxfield's office, put a damper on his confidence. Here was a man who was more of a politician than a scientist, probably a capable enough administrator within his given boundaries, but the strained cautiousness of his greeting told Kingston he would not take any unusual risks to his own safety and reputation. He belonged to that large and ever growing class of job holders in government whose safety lies in preserving the status quo, who would desperately police and defend things as they are, for any change might be a threat.

It would take unusual tactics to jar him out of his secure rightness in attitude. Kingston was prepared to employ unusual tactics.

"Storm has been electrocuted," he said quietly, "with a charge just barely short of that used on murderers. Not once, of course, but again and again. Then, also, we've stunned him



over and over with hypos jabbed down through his skull into his brain. We've sent him into numerous bone-crushing and muscle-tearing spasms with drugs. But," he sighed heavily, "he's obstinate. He refuses to be cured by these healing therapies."

Maxfield's face turned a shade whiter, and his eyes fixed uncertainly on his pudgy hands lying on top of his desk. He looked over toward his special water cooler, as if he longed for a drink, but he did not get out of his chair. A silence grew. It was obvious he felt called upon to make some comment. He tried to make it jocular, man to man.

"Of course I don't know anything about the science of psychiatry, doctor," he said at last, "but in the physical sciences we feel that methods which don't work may not be entirely scientific."

"Man," Kingston exploded with heavy irony, "you imply that psychiatry isn't an exact science? Of course it is a science! Why, man, we have all sorts of intricate laboratories, and arrays of nice shiny tools, and flashing lights on electronic screens, and mechanical pencils drawing jagged lines on revolving drums of paper, and charts and graphs, and statistics. And theory? Why, man, we've got more theory than you ever dreamed of in physical science! Of course it's a science. Any rational man has to agree that the psychiatrist is a scientist. We ought to know. We are the ones who define rationality!"

Maxfield could apparently find no answer to that bit of reasoning. Along with many others he saw no particular fallacy in defining a thing in terms of itself.

"What do you want me to do?" he asked finally.

"Here's the problem," Kingston answered, in the tone of one administrator to another. "It is unethical for one doctor to question the techniques of another doctor, so let's put it this way. Suppose you had a mathematician in your department who took up a sledge hammer and deliberately wrecked his calculating machines because they would not answer a question *he did not know how to ask.* Then failing to get the answer, suppose he recommended just disconnecting what was left of the machines and abandoning them. What would you do?"

"I think I'd get myself another mathematician," Maxfield said with a sickly attempt at lightness.

"Well, now that's a problem, too," Kingston answered easily. "I'm not questioning the methods of Dr. Moss, and obviously his attitudes are the right ones, because he's the only available psychiatrist who had been cleared to treat all these fellows you keep sending over to us under Q. S. secrecy. But there's a way out of that," he said with the attitude of a salesman on television who will now let you in on the panacea for all your troubles. "If you lifted the Security on Storm, then we could move him to another ward and try a different kind of therapy. We might even find a man who did know

how to ask the question which would get the right answer."

"Absolutely impossible," Maxfield said with finality.

"Now look at it this way," Kingston said in a tone of reasonableness. "If Storm just chose to quit his job, you'd have to declassify him, wouldn't you?"

"That's different," Maxfield said. "There are proper procedures for that."

"I know," Kingston said, a little wearily. "The parting interview to impress him with the need for continued secrecy, the terrible weight of knowing that bolt number seventy-two in motor XYZ has a three eights thread instead of a five eights. So why can't you consider that Storm has left his job and declassify him in absentia. Then we could remove him to an ordinary ward and give him what may be a more effective treatment. I really don't think he can endure very much more of his present therapy."

Kingston leaned back in his chair and spoke in a tone of speculation.

"There's a theory that this treatment isn't really torture, Mr. Maxfield, because an insane person doesn't know what is happening to him. But I'm afraid that theory is fallacious. I believe the so-called insane person does know what is happening, and feels all the exquisite torture we use in trying to drive the devils out of his soul."

"Absolutely impossible," Maxfield repeated. "Although you are not a Q. S. man"—this with a certain smugness—"I'll tell you this much." He leaned forward and placed his fingertips together in his most impressive air of administrative deliberation. "We have reason to believe that David Storm was on the trail of something big. *Big,* Dr. Kingston. So big, indeed, that perhaps the very survival of the nation depends upon it!"

He hesitated a few seconds, to let the gravity of his statement sink in. Then he unlocked a desk drawer and took out a file folder.

"I had this file sent in when you made the appointment to see me," he explained. "As you no doubt know, we must have inspectors who are constantly observing our scientists, although unseen, themselves. Here is a sentence from one of our most trusted inspectors. 'Subject repeats over and over, under great emotional stress, to himself, aloud, that our very survival depends upon his finding the answers to a series of questions!' There, Dr. Kingston, does that sound like no more than the knowledge of a three eights thread on a bolt, No, doctor," he answered his own rhetoric, "this can only mean something of monumental significance—with the fate of a world, our world, hanging in the balance. Now you see why we couldn't take chances with declassifying him!"

Kingston was on the verge of telling him what the pattern of Storm's questions really was, then better judgment prevailed. First the

Security board would become more than a little alarmed that he, a non Q.S. man, had already learned what was on Storm's mind, and pass some more silly rules trying to put a man's mind in solitary confinement. Second, Maxfield was convinced these questions must be concerned with some super gadget, and wouldn't believe his revealment of their true nature. And anyway, what business does a scientist have, asking such questions? Any sympathy he might have gained for Storm would be lost. Serves the fellow right for not sticking strictly to his slide rules and Bunsen burners!

"Mr. Maxfield," Kingston said gravely, patiently. "It is our experience that a disturbed patient often considers something entirely trivial to be of world-shaking importance. The momentous question Storm feels he must solve may be no more than some nonsensical conundrum—such as why does a chicken cross the road. It may mean nothing whatever."

"And then again it may," Maxfield answered. "We can't take the chance. You must remember, doctor, this statement was overheard and recorded while Storm was still a sane man."

"Before he was committed, you mean," Kingston corrected softly.

"At any rate, it must have been something quite terrible to drive a man insane, just the thought of it," Maxfield argued.

"I'll not deny that possibility," Kingston agreed seriously. "The questions could have terrified him, and the rest of us, too, if we really stopped to think about them. Wouldn't it be worth the risk of say my own doubtful loyalty to make a genuine effort to find out what they were, and deal with them, instead of torturing him to drive them out of his mind?"

"I'm not sure I know what you mean," Maxfield faltered. This doctor seemed to have the most callous way of describing beneficial therapies!

"Mr. Maxfield," Kingston said with an air of candor, "I'll let you in on a trade secret. Up until now psychiatry has fitted all the descriptions applicable to a cult, and few indeed applicable to a science. We try to tailor the mind to fit the theory. But some of us, even in the field of psychiatry, are beginning to ask questions—the first dawn of any science. Do you know anything about psychosomatic medicine?"

"Very little, just an idea of what it means," Maxfield answered cautiously.

"Enough," Kingston conceded. "You know that the human body-mind may take on very real symptoms and pains of an illness as overt objection to an untenable environment. Now we are starting to ask the question: Can it be possible that our so-called cures, brought about through electro and drug shock, are a type of psychosomatic response to unendurable torture?

"I see a mind frantically darting from framework to framework, pursued inexorably by the vengeful psy-

chiatrist with the implements of torture in his hands—the mind desperately trying to find a framework which the psychiatrist will approve and so slacken the torture. We have called that a return to sanity. But is it really anything more than a psychosomatic escape from an impossible situation? A compounded withdrawal from withdrawal?

"As I say, a few of us are beginning to ask ourselves these questions. But most continue to practice the cult rituals which can be duplicated point by point, item by item, with the rites of a savage witch doctor attempting to drive out devils from some poor unfortunate of the tribe."

From the stricken look on Maxfield's face, there was no doubt he had finally scored. The man stood up as if to indicate he could take no more. He was distressed by the problem, so distressed, in fact, that he obviously wished this psychiatrist would leave his office and just forget the whole thing.

"I . . . I want to be reasonable, doctor," he faltered through trembling lips. "I want to do the right thing." Then his face cleared. He saw a way out. "I'll tell you what I can do. I'll make another investigation of the matter!"

"Thank you, Mr. Maxfield," Kingston said gravely, without showing the bitterness of his defeat. "I thought that is what you might do."

When he got back to his office, Kingston learned that Dr. Moss had not been content merely to lay a neat little professional trap. His indignation over being thwarted in his intention to perform a lobotomy on Storm had apparently got the better of his judgment. In a rage, he had insisted upon a meeting with a loyalty board at top level. In the avid atmosphere of Government by Informers, they had shown themselves eager to hear what he might say against his superior.

But a private review of the Storm file reminded them of those mysterious and fearful questions in his deranged mind, questions which might forever be lost through lobotomy. So they advised Moss that Dr. Kingston's opposition was purely a medical matter, and did not necessarily constitute subversion.

In the report of this meeting which lay on his desk, some clerk along the way had underscored the word "necessarily" as if, gently, to remind him to watch his step in the future.

"God save our country from the clerical mind," he murmured. And then the solution to his problem began to unfold for him.

His first step in putting his plan into operation had all the appearances of being a very stupid move. It was the first of a series of equally obvious stupidities, which, in total, might add up to a solution. For stupid people are perpetually on guard against cleverness, but will fall in with and further a pattern of stupidity as if they had a natural affinity for it.

His first move was to send Dr.

Moss out to the West Coast to make a survey of mental hospitals in that area.

"This memorandum certainly surprised me," Dr. Moss said curiously, as he came through Kingston's office door, waving the paper in his hand. He seated himself rather tentatively on the edge of a chair, and looked piercingly across the desk, to see if he could fathom the ulterior motives behind the move. "It is true that my section is in good order, and my patients can be adequately cared for by the attendants for a couple of weeks or so. But that you should ask me to make the survey of West Coast conditions for you—"

He let the statement trail off into the air, demanding an explanation.

"Why not you?" Kingston asked, as if surprised by the question.

"I . . . ah . . . feared our little differences in the . . . ah . . . Storm matter might prejudice you against me," Moss said, with the attitude of a man laying his cards on the table. Kingston surmised there were cards not laid out for inspection also. The move had two obvious implications. It could be a bribe, a sort of promotion, to regain Moss' good will. Or, more subtly, it could be a threat—"You see I can transfer you out of my way, any time I may want to."

"Oh, the Storm matter," Kingston said with some astonishment. "Frankly, doctor, I hadn't connected up the two. I've been most impressed with your attention to detail, and the fine points of organization. It seemed to me you were the most logical one on the staff to spot any operational flaws out there. The fact that you can confidently leave your section in the care of your attendants, is proof of that."

Moss gave a slight smirk at this praise, and said nothing.

"Now I'd be a rather poor executive administrator if I let a minor difference of professional opinion stand in the way of the total efficient organization, wouldn't I?" Kingston asked, with an amiable smile.

"Dr. Kingston," Moss began, and hesitated. Then he decided to be frank. "I . . . ah . . . the staff has felt that your appointment to this position was purely political. I begin to see it might also have been because of your ability, and your capacity to rise above small differences of . . . ah . . . opinion."

Kingston let that pass. If he happened to rise a little in the estimation of his staff through these maneuvers, that would be simply a side benefit.

"Now you're sure I'm not interrupting a course of vital treatment of your patients, Dr. Moss?" he asked.

"Most of my patients are totally and completely incurable, doctor," Moss said with finality. "Not that I don't keep trying. I do try. I try everything known to the science of psychiatry to get them thinking rationally again. But let's face it. Most of them will progress—or regress—equally well with simple human care. I fear my orderlies, guards, nurses regard me as something of a tyrant,"

he said with obvious satisfaction. "And it isn't likely that in the space of a couple of weeks they'll let down during my absence. You needn't worry, I'll set up the proper measures."

Kingston breathed a small sigh of relief as the man left his office. That would get Dr. Moss off the scene for a while.

Equally important, but not so easily accomplished, he must get Miss Verity away at the same time. And Miss Verity was anything but stupid.

"Has it occurred to you, Miss Verity," he asked with the grin of a man who has a nice surprise up his sleeve, "that this month you will have been with me for twenty-five years?" It was probably a foolish question. Miss Verity would know the years, months, days, hours. Not for any special reason, except that she always knew everything down to the last decimal. The stern lines of her martinet face did not relax, but her pale blue eyes showed a flicker of pleasure that he would remember.

"It has been my pleasure to serve you, doctor," she said formally. That formality between them had never been relaxed, and probably never would be since both of them wanted it. It was not an unusual relationship either in medicine or industry—as if the man should never become too apparent through the image of the executive, lest both parties lose confidence and falter.

"We've come a long way in a quarter of a century," he said reminiscently, "from that little two-room office in Seattle. And if it weren't for you, we might still be there." Rigidly he suppressed any tone which would betray any implication that he might have been happier remaining obscure.

"Oh no, doctor," she said instantly. "A man with your ability—"

"Ability is not enough," he cut in. "Ability has to be combined with ambition. I didn't have the ambition. I simply wanted to learn, to go on learning perpetually, I suppose. You know how it was before you came with me. Patients didn't pay me. I didn't check to see what their bank account or social position was before I took them on. I was getting the reputation for being a poor man's psychiatrist, before you took charge of my office and changed all that."

"That's true," she agreed candidly, with a small secret smile. "But I looked at it this way: You were . . . you are . . . a great man dedicated to the service of humanity. I felt it would do no harm for the Right People to know about it. You can cure a disturbed rich man as easily as you can cure a poor one. And as long as your job was to listen to secrets, they might as well be important secrets—those of industrialists, statesmen, people who really matter."

She looked about the well appointed office, and out of the window toward the great governmental buildings rising in view, as if to survey the concrete results of his

policies in managing his affairs. Kingston wondered how much of her ambition had been for him, and how much for herself. In the strange hierarchy of castes among government workers, she was certainly not without stature.

That remark about secrets. He knew her ability to rationalize. He wondered how much of his phenomenal rise, and his position now, was due to polite and delicate pressures she had applied in the right places.

"So now I want to do something I've put off too long," he said, letting the grin come back on his face. "I want you to take a month's vacation, all expenses paid."

She half arose out of her chair, then settled back into it again. He had never seen her so perturbed.

"I couldn't do that," she said with a rising tone of incredulity. "There are too many things of importance. We've just barely got things organized since taking over this position. You . . . you . . . why a dozen times a day there are things coming up you wouldn't know how to handle. You . . . I don't mean to sound disrespectful, doctor, but . . . well . . . you make mistakes. A great man, such as you, well, you live in another world, and without somebody to shield you, constantly—"

She broke off and smiled at him placatingly. All at once she was a tyrant mother with an adored son who has made an independent decision; a wife with a well broken husband who has unexpectedly asserted a remnant of the manhood he once had; a career secretary who believes her boss to be a fool—a woman whose Security depended upon her indispensability.

Then her face calmed. Her expression was easily readable. The accepted more of our culture is that men exist for the benefit of women. But they can be stubborn creatures at times. The often repeated lessons in the female magazines was that they can be driven where you want them to go only so long as they think they are leading the way there. She must go cautiously.

"Right now, particularly, I shouldn't leave," she said with more composure. "I'm trying, very hard, to get you cleared for a Q. S. As you know, the Justice Department has a rather complete file folder on anybody in the country of any consequence. They have gone back through your life. They have interviewed numerous patients you have treated. I am trying to convince the Loyalty Board that a psychiatrist must, at times, make statements to his patients which he may not necessarily believe. I am trying to convince them that the statements of neurotic and psychotic patients are not necessarily an indication of a man's loyalty to his country.

"Then, too," she continued with faint reproach, "you've made public statements questioning the basic foundations upon which modern psychology is built. You've questioned the value of considering everyone who doesn't blend in with the average norm as being aberrated."

"I still question that," he said firmly.

"I know, I know," she said impatiently. "But do you have to say such things—in public?"

"Well, now, Miss Verity," he said reasonably, "if a scientist must shape his opinions to suit the standards of the Loyalty Board or Justice Department before he is allowed to serve his country—"

"They don't say you are disloyal, doctor," she said impatiently. "They just say: Why take a chance? I'm campaigning to get the right Important People to vouch for you."

"I think the work of setting up organization has been a very great strain on you," he answered with the attitude of a doctor toward a patient. "And there's a great deal more to be done. I want to make many changes. I think you should have some rest before we undertake it."

There had been more, much more. But in the end he had won a partial victory. She consented to a week's vacation. He had to be satisfied with that. If Storm were really badly demented, he could certainly make little progress in that time. But on the other hand, he would have ac-

complished his main purpose. He would have seen Storm, talked with him, contaminated him through letting him talk to a non-Q.S. man.

Miss Verity departed for a week's vacation with her brothers and sisters and their families—all of whom she detested.

Kingston did not try to push his plan too fast. He had a certain document in mind, and nothing must be done to call any special attention to it.

It was the following day after the simultaneous departure of Dr. Moss and Miss Verity, in the early afternoon, that he sat at his desk and signed a stack of documents in front of him.

Because of Miss Verity's martinet tactics in gearing up the department to prompt handling of all matters, the paper which interested him above all others should be in this stack.

While he signed one routine authorization after another, he grew conscious that his mind had been going back over the maneuvers and interviews he had taken thus far in the Storm case. The emotional impatience at their blind slavery to proper and safe procedure rekindled in him, and he found himself signing at a furious rate. Deliberately he slowed himself down. In event someone should begin wondering at a series of coincidences at some later date, his signature must betray no unusual mood.

It was vital to the success of his plan that the document go through proper channels for execution as a completely routine matter. So vital that, even here, alone in the privacy of his office, he would not permit himself to riff down through the stack to see if the paper which really mattered had cleared the typing section.

He felt his hand shaking slightly at the thought he might have miscalculated the mentality of the typists, that someone might have noticed the wild discrepancy and pulled the work sheet he had written out for further question.

Just how far could a man bank on the pattern of stupidity? If the document were prematurely discovered, his only hope to escape serious consequences with the Loyalty Board was to claim a simple clerical error—the designation of the wrong form number at the top of the work sheet. He could probably win, before or after the event, because it would be obvious to anyone that a ridiculous clerical error was the only possible explanation.

A psychiatrist simply does not commit himself to be confined as an insane person.

He lay down his pen, to compose himself until all traces of any muscular waver would disappear from his signature. He tried to reassure himself that nothing could have gone wrong. The girls who filled in the spaces of the forms were only routine typists. They had the clerical mind. They checked the number on the form with the number on the work sheet. They dealt with dozens and

hundreds of forms, numerically stored in supply cabinets. Probably they didn't even read the printed words on such forms—merely filled in blank spaces. If the numbered items on the work sheet corresponded with the numbered blanks on the forms, that was all they needed to go ahead.

That was also the frame of mind of those who would carry out the instructions on the documents. Make sure the proper signature authorizes the act, and do it. If the action is wrong it is the signer's neck, not theirs. They simply did what they were told. And it was doubtful that such a vast machine as government could function if it were otherwise, if every clerk took it upon himself to question the wisdom of each move of the higher echelons.

Of course, under normal procedures, someone did check the documents before they were placed on his desk to sign. There again, if the signer took the time to check the accuracy of how the spaces were filled in, government would never get done. There had to be a checker, and in the case of his department that was a job Miss Verity had kept for herself. Her eagle eye would have caught the error immediately, and in contempt with such incompetence she would have bounced into the typing pool with fire in her eye to find out who would do such a stupid thing as this.

He had his answer ready, of course, just in case anybody did discover the mistake. He had closed out his apartment, where he lived alone, and booked a suite in a hotel. The work sheet was an order to have his things transferred to his new room number. The scribbled information was the same, and, obviously, he had simply designated the wrong form number.

But Miss Verity was away on her vacation, and there wasn't anybody to catch the mistake.

He lifted his eyes from the signature space on the paper in front of him at the rapidly dwindling stack. The document was next on top.

There it was, neatly typed, bearing no special marks to segregate it from other routine matters, and thereby call attention to it. There were no typing errors, no erasures, nothing to indicate that the typist might have been startled at what she was typing. Nothing to indicate it had been anything more than a piece of paper for her to thread into her machine, fill in, and thread out again with assembly-line regularity.

He lifted the paper off the stack and placed it in front of himself, in position for signature. He sighed, a deep and gasping sigh, almost a groan. Then he grinned in self derision. Was he already regretting his wild action, an action not yet taken?

All right then, tear up the document. Forget about David Storm and his problem. Forget about trying to buck the system. Miss Verity was quite right. Storm was a nobody. As compared with the other events of the world, it didn't matter whether

Storm got cured, or had his intellect disconnected through lobotomy, or just rotted there in his cell because he had asked some impertinent questions of the culture in which he lived.

Never mind that the trap into which Storm had fallen was symbolic of the trap which was miring down modern science in the same manner. By freeing the symbol, he would in no way be moving to free all science from its dilemma.

He pushed himself back, away from his desk, and got to his feet. He walked over to the window and looked down the avenue of government buildings. Skyscrapers of offices, as far as his eye could reach. How many of them held men whose state of mind matched his own? How many men quietly, desperately wanted to do a good job, but were already beaten by the pattern for frustration, the inability to take independent action?

There was one of the more curious of the psychological curiosities. In private an individual may confess to highly intelligent sympathies, but when he gets on a board or a panel or a committee, he has not the courage to stand up against what he thinks to be the mass temper or mores.

Courage, that was the element lacking. The courage to fight for progress, enlightenment, against the belief that one's neighbors may not think the same way. The courage to fight over the issue, for the sake of the issue, rather than for the votes one's action is calculated to win.

And in that sense David Storm was not unimportant. Kingston confessed to himself, standing there in front of the window, that he had begun this gambit in a sort of petty defiance—defiance of the efforts of Moss and the rest of his staff to thwart his instructions, defiance of Miss Verity's efforts to make him into an important figurehead, defiance of the whole ridiculous dilemma that the Loyalty program had become.

He wondered if he had ever really intended to go through with his plan. Hadn't he kept the reservation, in the back of his mind, that as long as he hadn't signed the order, as long as it wasn't released for implementation, he could withdraw? Why make such an issue over such a triviality as this Storm fellow?

Yet wasn't that the essence? Wasn't that the question every true scientist had to ask himself every day? To buck the accepted and the acceptable, or to swing along with it and rush with the tide of man toward oblivion?

In the popular books courage was always embodied in a well-muscled, handsome, well-intentioned, and rather stupid young man. But what about that wispy little unhandsome fellow, behind the thick glasses perhaps, who, against ridicule, calumny, misunderstanding, poverty, ignorance, kept on with his intent to find an aspect of truth?

Resolutely he walked over to his desk, picked up his pen again, and signed the document. There! He was insane! The document said so! And the document was signed by the

Chief Administrator of Psychiatric Division, Bureau of Science Co-ordination. That should be enough authority for anybody!

He tossed it into the outgoing basket, where it would be picked up by the mail clerk and routed for further handling. Rapidly now, he continued signing other papers, tossing them into the same basket, covering the vital one so that it was down in the middle of the stack, unlikely to call special attention to itself.

They came for him at six o'clock the next morning. That was what the order had stipulated, that they make the pickup at this early hour. Two of them walked into his room, through the door which he had left unlocked, and immediately separated so that they could come at him from either side. Two burly young men who had a job to do, and who knew how to do that job. He couldn't remember having seen either of them before, and there was no look of recognition on their faces either.

"What is the meaning of this intrusion?" he said loudly, in alarm. His intonation sounded like something from a rather bad melodrama. "How dare you walk into my room!" He sat up in bed and pulled the covers up around his neck.

"There, there, Buster," one of them said soothingly. "Take it easy now. We're not going to hurt you." With a lithe grace they moved into position. One of them stood near the foot of his bed, the other came up to the head, and with a swirling motion, almost too quick to follow, slipped his hands under Kingston's armpits.

"Time to get up, Buster," the man said, and propelled him upward and outward. The covers fell away from him, and he found himself standing on his feet, without quite knowing how he got there. The second man was already eying his clothes, which he had hung over a chair the night before. They were beautifully trained, he'd have to give Moss that much credit. It spoke well for the routine administration of the Q. S. wing if all the attendants were as experienced in being firm, yet gentle. It wasn't that psychiatry was intentionally sadistic, just mistaken in its idea of treatment.

"What is the meaning of this?" he spluttered again. "Do you know who I am?" He tried to draw himself up proudly, but found it somewhat difficult with his head being slipped through a singlet undershirt.

"Sure, sure, your majesty," one of them said soothingly. "Sure we know."

"I am not 'your majesty,' " Kingston said bitingly. "I am Dr. K. Heidrich Kingston!"

"Oh, pardon me," the fellow said apologetically, and flipped Kingston's feet into the air just long enough for his helper to slip trousers onto his legs. "I'm pleased to meet you."

"Kingston!" the other fellow said in an awed voice. "That's the big shot, the wheel, himself."

"Well," the first one said, as he

slipped suspenders over the shoulders, "at least he's not Napoleon." From somewhere underneath his uniform jacket he suddenly whipped out a canvas garment, a shapeless thing Kingston might not have recognized as a strait jacket if he hadn't been experienced. "You gonna cooperate, Dr. Kingston, or will we have to put this on you?"

"Oh, he's not so bad," the other fellow said. "This must be his up cycle. You're not going to give us any trouble at all, are you Dr. Kingston? You're going to go over to the hospital with us nicely, aren't you?" It was a statement, a soothing persuasive statement, not a question. "They need you over at the hospital, Dr. Kingston. That's why we came for you."

He looked at them suspiciously, craftily. Then he smoothed his face into arrogant lines of overweening ego.

"Of course," he said firmly. "Let's go to the hospital. They'll soon tell you over there who I am!"

"Sure they will, Dr. Kingston," the first attendant said. "We don't doubt it for a minute."

"Let's go," the other one said.

They walked him out the door, in perfect timing. They seemed relaxed, but their fingertips on his arms where they held him were tense, ready for an expected explosion of insane violence. They'd been all through this before, many times, and their faces seemed to say that you can always expect the unexpected. Why, he might even surprise them and go all the way to his cell without trying to murder six people in the process. It just depended on how long his up cycle lasted, and what period of the phase he was in when they came for him. Probably that was the real reason why the real Dr. Kingston had specified this early hour; probably knew when this nut was in and out of his phases.

"Wonder what it's like to be such a big shot that some poor dope goes nuts thinking he's you?" one of them asked the other as they took him out of the apartment house door and down the steps to the ambulance waiting at the curb.

"I don't think I'd like to find out," the other answered.

"I tell you for the last time, I am Dr. Kingston!" Kingston insisted and allowed the right amount of exasperation to mingle with a note of fear.

"I hope it's the last time, doctor," the first one said. "It gets kinda tiresome telling you that we already know who you are. You don't have to keep telling us, you know. We believe you."

The way they got him into the body of the ambulance couldn't exactly be called a pull and a push. At one instant they were standing on either side of him at the back door, and in the next instant one of them was in front of him and the other behind him—and there they were, all sitting in a row inside the ambulance. The driver didn't even look back at him.

He kept silent all the way over to the hospital buildings. He had made his point. He had offered the reactions of a normal man caught up in a mistake, but certain it would all get straightened out without making a fuss about it. They had responded to the reactions of an insane man, and they hoped they could get him all straightened out and nicely deposited in his cell before he began to kick up a fuss about it. It just depended on the framework from which you viewed it, and he neither wanted to overdo nor underplay his part to jar them out of their frame with discrepancies.

But the vital check point was yet to come. There was nothing in the commitment form about him being a Q. S. man, but he had assigned David Storm's cell number in the Q. S. wing. He'd had to check a half dozen hotels before he'd found one with an open room of the same number, so that the clerical error would stand up all the way down the line.

The guards of the Q. S. wing were pretty stuffy about keeping non Q. S. men out. He might still fail in the first phase of his solution to the problem, to provide David Storm with a doctor, one who might be able to help him.

The attendants wasted no time with red tape. The document didn't call for pre-examinations, or quarantine, or anything. It just said put him into room number 1782. So they went through a side door and by-passed all the usual routines. They were good boys who always did what the coach said. And the document, signed by the Chief Coach, himself, Dr. Kingston, said put the patient in cell 1782. They were doing what they were told.

Would the two guards at the entrance of the Q. S. wing be equally good boys?

"You're taking me to my office, I assume," he said as they were walking down the corridor toward the cell wing.

"Sure, doctor," one of them said. "Nice warm cozy office. Just for you."

They turned a corner, and the two guards got up from chairs where they had been sitting at a hallway desk. One of the attendants pulled out the document from his inner jacket pocket and handed it to the guard.

"Got another customer for you," he said laconically. "For *Office* number 1782." He winked broadly.

"That cell's . . . er . . . office's already occupied." the guard said instantly. "Must be a mistake."

"Maybe they're starting to double them up, now," the attendant said. "You wanna go up to the Big Chief's office and tell him he's made a mistake? He signed it, you know."

"I don't know what you men are up to!" Kingston burst out. "This whole thing is a mistake. I tell you I am Dr. Kingston. I'll have all your jobs for this . . . this . . . this practical joke! You are not taking me any farther! I refuse to go any farther!"

He laid them out for five min-

utes, calling upon strings of profanity, heard again and again from the lips of uncontrolled minds, that would make an old time mariner blush for shame. The four of them looked at him at first with admiration, then with disgust.

"You'd better get him into his cell," one of the guards mumbled to the attendants. "Before he really blows his stack."

"Yeah," the attendant agreed. "Looks like he's going into phase two, and we have not as yet got phase one typed. No telling what phase three might be like."

The guards stepped back. The attendants took him on down the hall of the Q. S. wing.

All the way up the elevator, to the seventeenth floor, and down the hall to the doorway of Storm's cell, Kingston kept wondering if any of them had ever heard of the Uncle Remus story of Bre'er Rabbit and the Briar Patch. "Oh don't throw me in the briar patch, Bre'er Fox. Don't throw me in the briar patch!"

Stupid people resist clever moves but willingly carry out stupid patterns. These guards and attendants were keyed to keeping out anyone who tried to get in—but if someone tried to keep out, obviously he must be forced to go in.

There hadn't even been a question about a lack of Q. S. rating on the form. His vitriolic diatribe had driven it out of their minds for a moment, and if they happened to check it before they stamped the order completed, well, the damage would already have been done.

He would have talked with David Storm.

But Storm was not quite that cooperative. His eyes flared with wild resentment, suspicion, when the attendants ushered Kingston into the cell.

"You see, doctor," one of the attendants said with soothing irony, and not too concealed humor, "we provide you with a patient and everything. We'll move in another couch, and you two can just lie back, relax, and just tell each other all about what's in your subconscious."

"Oh, no you don't," Storm said instantly, and backed into a corner of the cell with an attitude of exaggerated rejection. "That's an old trick. Pretending to be a cell mate so you can learn my secret. That's an old trick, an old, old, old, old, o-l-d—" His lips kept moving, but the sound of his voice trailed away.

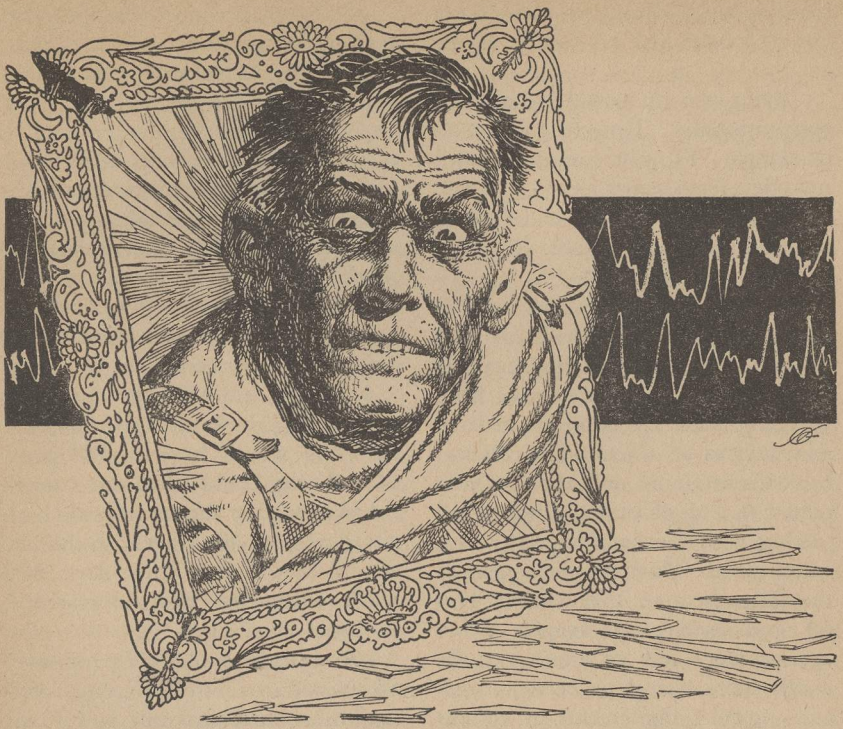
"You needn't think you're going to make me listen to your troubles," Kingston snapped at him. "I've got troubles of my own."

Storm's lips ceased moving, and he stared at Kingston without blinking.

"You big-shot scientists try to get along with one another," one of the attendants said as they went out the door.

"Scientists just argue," the other attendant commented. "They never *do* anything."

But Kingston hardly heard them,



and hardly noticed them when, a few minutes later, they brought in a cot for him and placed it on the opposite side of the cell from Storm's cot. He was busy analyzing Storm's first reactions. Yes, the pattern was disturbed, possibly demented, certainly regressive—and yet, it was not so much irrational as adolescent, the bitterness of the adolescent when he first begins to really realize that the merchandise of humanity is not living up to the advertising under which it has been sold to him.

Under the attendants' watchful eyes, Kingston changed into the shapeless garments of the inmates. He flared up at them once again, carrying out his pattern of indignation that they should do this to him, but he didn't put much heart into it. No point in overdoing the act.

"Looks like he might have passed his peak," one of the attendants muttered. "He's calming down again. Maybe he won't be too hard to handle." They went out the door again with the admonishment: "Now you fellows be quiet, and you'll get breakfast pretty soon. But if you get naughty—" With his fist and thumb he made an exaggerated motion of

working a hypodermic syringe. Storm cowered back into his corner of the cell.

"I've given up trying to convince you numskulls," Kingston said with contempt. "I'll just wait now until my office hears about this."

"Yeah," the attendant said. "Yeah, you just sit tight and wait. Just keep waiting—and quiet!"

The sound of their steps receded down the hallway. Kingston lay back on his couch and said nothing. He knew Storm's eyes were on him, watching him, as nervous, excited, and wary as an animal. The cell was barren, containing only the cots covered with a tough plastic which defied tearing with the bare fingers, and a water closet. There wasn't a seat on the latter because that can be torn off and used as a weapon either against one's self or others. In the wards there would be books, magazines, games, implements of various skills and physical therapies, all under the eyes of watchful attendants; but in these cells there was nothing, because there weren't enough attendants to watch the occupants of each cell.

Kingston lay on his couch and waited. In a little while Storm came out of his corner and sat down on the edge of his own couch. His attitude was half wary, half belligerent.

"You needn't be afraid of me," Kingston said softly, and kept looking upward at the ceiling. "I really am Dr. Heidrich Kingston. I'm a psychiatrist. And I already know all about you and your secrets."

He heard a faint whimper, the rustling of garments on the plastic couch cover, as if Storm were shrinking back against the wall, as if he expected this to be the prelude to more punishment for having such secret thoughts. Then a form of reasoning seemed to prevail, and Kingston could feel the tension relaxing in the room.

"You're as crazy as I am," Storm said loudly. There was relief in his voice, and yet regret.

Kingston said nothing. There was no point in pushing it. If his luck held, he would have several days. Miss Verity could be counted on to cut her vacation short and come back ahead of time, but even with that, he should have at least three days. And while Storm was badly disoriented, he could be reached.

"And that's an old, old trick, too," Storm said in a bitter singsong. "Pretending you already know, so I'll talk. Well I'm not a commie! I'm not a traitor! I'm not any of those things. I just think—" He broke off abruptly. "Oh, no you don't!" he exclaimed. "You can't trick me into telling you what I think. That's an old, old, old, old—"

It was quite clear why the therapies used by Moss hadn't worked. Storm was obsessed with guilt. He had been working in the highest echelons of Loyalty and at the same time had been harboring secret doubts that the framework was right. The Moss therapies then were simply punishments for his guilt, punishments which he felt he deserved, punish-

ments which confirmed his wrongdoing. And Moss would be so convinced that Storm's thoughts were entirely wrong, that he couldn't possibly use the technique of agreement to lead Storm out of his syndrome. That was why Moss' past was stainless, why the Security Board trusted him with a Q.S.; he was as narrow in his estimate of right and wrong as they.

"Old, old, old, old—" Storm kept repeating. He was stuck in the adolescent groove of bitter cynicism, not yet progressed to the point of realizing that in spite of its faults and hypocrisies, there were some elements in humanity worth a man's respect and faith. Even a thinking man.

It was a full day later before Kingston attempted the first significant move in reaching through to Storm. The previous day had confirmed the pattern of the attendants: A breakfast of adequate but plain food. Moss would never get caught on the technicality so prevalent in many institutions where the inmates can't help themselves—chiseling on food and pocketing the difference. After breakfast a clean-up of the cells and their persons. Four hours alone. Lunch. Carefully supervised and highly limited exercise period. Back to the cell again for another four hours. Supper. And soon, lights out.

It varied, somewhat, from most mental hospital routine; but these were all Q. S. men, each bearing terrible secrets which had snapped their minds. They musn't be allowed to talk to one another. It varied, too, from patient to patient. It varied mainly in that the cells were largely soundproof; they had little of the screaming, raging, cursing, strangling, choking bedlam common in many such institutions.

Moss was a good administrator. He had his wing under thorough control. It was as humane as his limited point of view could make it. There were too few attendants, but then that was always the case in mental hospitals. In this instance it worked in Kingston's favor. There would be little chance of interruption, excepted at the planned times. In going into another person's mind that was a hazard to be guarded against, as potentially disastrous as a disruption of a major operation.

No reverberation of alarm at his absence from his office reached this far, and Kingston doubted there would be much. Miss Verity was more efficient than Moss and the organization she had set up would run indefinitely during his absence and hers. Decisions, which only he could make, would pile up in the staff offices, but that was nothing unusual in government.

He didn't try to rush Storm. With a combination of the facts he had gleaned from the file and the empathy he possessed, he lay on his cot and talked quietly to the ceiling about Storm. His childhood, his days in school, his attitudes toward his parents, teachers, scout masters, all the carefully tailored and planned sociology surrounding growing youth

in respectable circumstances of today. It was called planned youth development, but it could better be called youth suppression, for its object was to quell any divergent tendencies, make the youth docile and complaisant—a good boy, which meant no trouble to anybody.

He translated the standard pattern into specifics about Storm, for obviously, until his breakup, David had been the epitome of a model boy. There are several standard patterns of reaction to this procedure. Eager credulity, where the individual is looking for a concrete father image to carry his burdens; rejective skepticism, where the individual seizes upon the slightest discrepancy to prove the speaker cannot know; occasionally superstitious fear and awe; and even less occasionally a comprehension of how gestalt empathy works. But whatever the pattern of reaction, it is the rare person, indeed, who can keep from listening to an analysis of himself.

Storm lay on his side on his cot, facing Kingston—a good sign because the previous day he had faced the wall—and watched the older man talk quietly and easily at the ceiling. Kingston knew when he came close to dangerous areas from the catch in Storm's breathing, but there was no other sign. Deliberately he broke off in the middle of telling Storm what his reactions had been at the bull session where the radical had been talking.

There was about ten minutes of silence. Several times there was an indrawn breath, as if Storm were starting to say something. But he kept quiet. Kingston picked up the thread and continued on, as if no time had elapsed.

He got his reward during the exercise period. Storm kept close to him, manifestly preferred his company to that of the attendants. They were among the less self-destructive few who were allowed a little time at handball. The previous day Storm had swung on the ball, wildly, angrily, as if to work off some terrible rage by hitting the ball. There hadn't been even the excuse of a game. Storm, younger and quicker, much more intense, had kept the ball to himself. Today Storm seemed the opposite. The few times he did hit the ball he deliberately placed it where Kingston could get it easily. Then he lost interest and sat down in a corner of the court. The attendants hustled them out quickly, to make room for others.

Back in the cell, Kingston picked up the thread again. Genuine accomplishment in gestalt empathy allows one to enter directly into another man's mind; his whole life is laid open for reading. Specific events are often obscure, but the man's pattern of reactions to events, the psychological reality of it, is open to view. Kingston narrated, with neither implied criticism nor praise, until, mid-afternoon, he sprang a bombshell.

"But you were wrong about one thing, Storm," he said abruptly. He felt Storm's instant withdrawal, the

return of hostility. "You thought you were alone. You thought you were the only one with this terrible flaw in your nature. But you were not alone, son. And you aren't alone now.

"You put your finger on the major dilemma facing science today."

Now, for the first time, he glanced over at Storm. The young man was up on his elbow, staring at Kingston with an expression of horror. As easily as that, his secret had come out. And he did not doubt that Kingston knew his thoughts. The rest of it had fitted, and this fitted, too. He began to weep, at first quietly, then with great, wracking sobs.

"Disgrace," he muttered. "Disgrace, disgrace, disgrace. My mother, my father—" He buried his face in his arms. His whole body shook. He turned his face to the wall.

"All over the world, the genuine men of science are fighting out these same problems, David," Kingston said. "You are not alone."

Storm started to put his hands over his ears—then took them away. Kingston appeared not to notice.

"Politicians, not only ours, but all over the world, have discovered that science is a tremendous weapon. As with any other weapon they have seized it and turned it to their use. But it would be a great mistake to cast the politician in the role of villain. He is not a villain. He simply operates in an entirely different framework from that of science.

"Science does not understand his framework. A man of science grows extremely cautious with his words. He makes no claims he cannot substantiate. He freely admits it when he does not know something. He would be horrified to recommend the imposition of a mere theory of conduct upon a culture. The politician is not bothered by any of this. He has no hesitancy in recommending what he believes be imposed upon a culture; whatever is necessary for him to get the votes he will say.

"The scientist states again and again that saying a thing is true will not make it true. In classical physics this may have been accurate, although there is doubt of its truth in relative physics, and it is manifestly untrue in the living sciences. For often the politician says a thing with such a positive strength of confidence that the people begin operating in a framework of its truth and so implement it that it does become true.

"The public follows the politician by preference. Most of us have never outgrown our emotional childhood, and when the silver cord, the apron strings are broken from our real parents, we set about trying to find parent substitutes to bear the responsibility for our lives. The scientist stands in uncertainty, without panaceas, without sure-fire solutions of how to have all we want and think we want. The politician admits to no such uncertainties. He becomes an excellent father substitute. He will take care of us, bear the brunt of responsibility for us.

"But this clash of frameworks goes much deeper than that. Just as the

scientist cannot understand the politician, so the politician does not understand science. Like most people, to him the scientist is just a super trained mechanic. He's learned how to manipulate some laboratory equipment. He has memorized some vague and mysterious higher math formulae. But he's just a highly skilled mechanic, and, as such, is employed by the politician to do a given job. He is not expected to meddle in things which are none of his concern.

"But in science we know this is a false estimation. For science is far more than the development of a skill. It is a frame of thought, a philosophy, a way of life. That was the source of your conflict, son. You were trying to operate in the field of science under the politician's estimation of what it is.

"The scientist is human. He loves his home, his flag, his country. Like any other man he wishes to protect and preserve them. But the political rules under which he is expected to do this come in direct conflict with his basic philosophy and approach to enlightenment. We have one framework, then, forced to make itself subservient to another framework, and the points of difference between the two are so great, that tremendous inner conflicts are aroused.

"The problem is not insuperable. Science has dealt with such problems before. Without risk to home, flag and country, science will find a way to deal with this dilemma, also. You are not alone."

There was a long silence, and then Storm spoke, quite rationally, from his cot.

"That's all very nice," he said, "but there's one thing wrong with it. You're just as crazy as I am, or you wouldn't be here."

Kingston looked over at him and laughed.

"Now you're thinking like the politician, Storm," he said. "You're taking the evidence and saying it can have only one possible interpretation." He was tempted to tell Storm the truth of why he was here, and to show him that science could find a way, without harm, to circumvent the too narrow restrictions placed upon it by the political mind. But that would be unwise. Better never to let anyone know how he had manipulated it so that a simple clerical error could account for the whole chain of events.

"I really am Dr. Heidrich Kingston," he said.

"Yeah," Storm agreed, too quickly. There was derision in his eyes, but there was also pity. That was a good sign, too. Storm was showing evidence that he could think of the plight of someone else, other than himself. "Yeah, sure you are." he added.

"You don't think so, now," Kingston laughed. "But tomorrow, or the next day, my secretary will come to the door, there, and get me out of here."

"Yeah, sure. Tomorrow—or the next day." Storm agreed. "You just

go on thinking that, fellow. It helps, believe me, it helps."

"And shortly afterwards you'll be released, too. Because there's no point now in keeping you locked up, incommunicado. I know all about your secrets, you see."

"Yeah," Storm breathed softly. "Tomorrow or the next day, or the day after that, or the day after— Yeah, I think I'll believe it, too, fellow. Yeah, got to believe in something."

In a limited fashion the patterns of human conduct can be accurately predicted. Cause leads to effect in the lives of human beings, just as it does in the physical sciences. The old fellow who had once told Storm that the universe does not hand out printed instructions on how it is put together was only literally correct. Figuratively, he was in error, for the universe does bear the imprints of precisely how it is put together and operates. It is the business of science to learn to read those imprints and know their meanings. Life is a part of the universe, bearing imprints of how it operates, too. And we already read them, after a limited fashion. We couldn't have an organized society, at all, if this were not true.

Kingston had made some movement beyond generalized quantum theory, and could predict the given movements of certain individuals in the total motion of human affairs.

Faithful to the last drawn line on the charted pattern, it was the next morning that Miss Verity, with clenched jaws and pale face, stepped through the cell door, followed by a very worried and incredulous guard.

"Dr. Kingston," she said firmly, then faltered. She stood silent for an instant, fighting to subdue her relief, anger, exasperation, tears. She won. She did not break through the reserve she treasured. She spoke then, quite in the secretarial manner, but she could not subdue a certain triumph in her eyes.

"Dr. Kingston," she repeated, "it seems that while I was on my vacation, you made a . . . ah . . . clerical error."

THE END

THE ANALYTICAL LABORATORY

The September, 1955 issue was one of those "two divisions" numbers, apparently. "Call Him Dead," Part II, got a practically solid first-place vote; the agreement on second place, "The Gift of Gab" was almost equally solid. Then the fight began—from there on out it was so tight a vote that the difference shows only in the third significant figure.

(*Concluded on page* 148)

SILENT BROTHER

BY PAUL JANVIER

***The one invader** you can never stop is, of course, the one you can't* **want** *to stop.*

Illustrated by van Dongen

The first starship was home.

At first, the sight of the *Endeavor*'s massive bulk on his TV screen held Cable's eager attention. At his first glimpse of the starship's drift to its mooring alongside a berthing satellite, he'd felt the intended impression of human grandeur; more than most viewers, for he had a precise idea of the scale of size.

But the first twitch of ambiguity came as he watched the crew come

out and cross to the Albuquerque shuttle on their suit jets. He knew those men: Dugan, who'd be impatient to land, as he'd been impatient to depart; Frawley, whose white hair would be sparsely tousled over his tight pink scalp; Snell, who'd have run to fat on the voyage unless he'd exercised like the very devil and fasted like a zealot hermit; young Tommy Penn, who'd be unable to restrain his self-conscious glances directly into the cameras.

It was exactly those thoughts which dulled his vicarious satisfaction. He stayed in front of the set, watching through the afternoon, while the four men took off their suits and grouped themselves briefly for the still photographers, while they got past the advance guard of reporters into the shuttle's after compartment, and refused to speak for the video coverage.

It made no essential difference that Snell was lean and graceful, or that all four of them, Frawley and Penn included, were perfectly poised and unruffled. Perhaps it was a little more irritating that they were.

Endeavor's crew was stepping gracefully into history.

The cameras and Cable followed the four men out of the shuttle and across the sun-drenched field at Albuquerque. Together, they watched every trivial motion; Dugan's first cigarette in six months; Frawley's untied shoelace, which he repaired by casually stopping in the middle of the gangway and putting a leg up on the railing; Tommy Penn giving a letter to a guard to mail.

Together with a billion other inhabitants of what was no longer Man's only planet, Cable looked into the faces of the President of the United States, the United Nations Secretary General, Premier Sobieski, and Marshal Siemens. Less than others, because he had a professional's residual contempt for eulogies, he heard what they had to say.

By nine or nine-thirty that night, he had gathered the essential facts about the Solar System of Alpha Centaurus. There were five planets, two of them temperate and easily habitable, one of them showing strong hints of extensive heavy metal ores. The trip had been uneventful, the stay unmarked by extraordinary incident. There was no mention of inhabitants.

There was also no mention of anything going wrong with the braking system, and that, perhaps, intensified the crook that had begun to bend one corner of Cable's thin mouth.

"You're welcome," he couldn't help grunting as Frawley described the smoothness of the trip, and the simplicity of landing. That decelerating a object of almost infinite mass within a definitely finite distance was at all complicated didn't seem to be worthy of mention.

More than anything, it was the four men's unshakable poise that began to grate against him.

"Happens every day," he grunted at them, simultaneously telling himself he'd turned into a crabby old

man at thirty-four, muttering spitefully at his friends for doing what he himself was no longer capable of.

But that flash of insight failed to reappear when his part in *Endeavor*'s development was lumped in with the "hard-working, dedicated men whose courage and brilliance made our flight possible." Applied to an individual, phrases like that were meaningful. Used like this, they covered everyone from the mess hall attendants to the man in charge of keeping the armadillos from burrowing under the barrack footings.

He snapped the set off with a peevish gesture. Perhaps, if he stayed up, the program directors, running out of fresh material at last, might have their commentators fill in with feature stuff like "amazing stride forward in electronics," "unified field theory," "five years of arduous testing on practical application to spaceship propulsion," and the like. Eventually, if they didn't cut back to the regular network shows first, they might mention his name. Somebody might even think it important that *Endeavor* had cost the total destruction of one prototype and the near-fatal crash of another.

But suddenly he simply wanted to go to bed. He spun his chair away from the set, rolled into the bedroom, levered himself up and pulled his way onto the bed. Taking his legs in his calloused hands, he put them under the blankets, turned off the lights, and lay staring up at the dark.

Which showed and told him nothing.

He shook his head at himself. It was only twenty miles to the field from here. If he was really that much of a gloryhound, he could have gone. He was a dramatic enough sight. And, in all truth, he hadn't for a minute been jealous while the *Endeavor* was actually gone. It was just that today's panygerics had been a little too much for his vanity to stave off.

He trembled on the brink of admitting to himself that his real trouble was the feeling that he'd lost all contact with the world. But only trembled, and only on the brink.

Eventually, he fell asleep.

He'd slept unusually well, he discovered when he awoke in the morning. Looking at his watch, he saw it had only been about eight hours, but it felt like more. He decided to try going through the morning without the chair. Reaching over to the stand beside his bed, he got his braces and tugged them onto his legs. Walking clumsily, he tottered into the bathroom with his canes, washed his face, shaved, and combed his hair.

He'd forgotten to scrub his bridge last night. He took it out now, and realized only after he did so that his gums, top and bottom, were sore.

"Oh, well," he told himself in the mirror, "we all have our cross to bear."

He decided to leave the bridge out for the time being. He never chewed with his front teeth anyway.

Whistling "Sometime" shrilly, he made his way back into the bedroom, where he carefully dressed in a suit, white shirt, and tie. He'd seen too many beat-up men who let themselves go to pot. Living alone the way he did made it even more important for him to be as neat as he could.

What's more, he told himself insidiously, one of the boys might drop over.

Thinking that way made him angry at himself. It was pure deception, because the bunch wouldn't untangle themselves out of the red tape and de-briefings for another week. That kind of wishful thinking could drift him into living on hungry anticipations, and leave him crabbed and querulous when they failed to materialize on his unreal schedule.

He clumped into the kitchen and opened the refrigerator with a yank of his arm.

That was something else to watch out for. Compensation was all well and good, but refrigerators didn't need all that effort to be opened. If he got into the habit of applying excessive arm-strength to everything, the day might come when he'd convince himself a man didn't need legs at all. That, too, was a trap. A man could get along without legs, just as a man could teach himself to paint pictures with his toes. But he'd paint better with finger dexterity.

The idea was to hang on to reality. It was the one crutch everybody used.

He started coffee boiling and went back out to the living room to switch on the TV.

That was another thing. He could have deliberately stopped and turned it on while on his way to the kitchen. But he'd never thought to save the steps before he'd crashed. More difficult? Of course it was more difficult now! But he needed the exercise.

Lift. Swing. Lock. Lean. Lift other leg. Swing, lock. Lean. Unlock other leg. Lift—

He cursed viciously at the perspiration going down his face.

And now the blasted set wouldn't switch on. The knob was loose.

He looked more closely, leaning carefully to one side in order to get a look at the set's face.

He had no depth perception, of course, but there was something strange about the dark square behind the plastic shield over the face of the tube.

The tube was gone. He grunted incredulously, but, now that his eye was accustomed to the dimmer light in this room, he could see the inside of the cabinet through the shield.

He pushed the cabinet away from the wall with an unexpected ease that almost toppled him. The entire set was gone. The antenna line dangled loosely from the wall. Only the big speaker, mounted below the chassis compartment, was still there.

First, he checked the doors and windows.

The two doors were locked from the inside, and the house, being air-conditioned, had no openable windows. He had only to ascertain that none of the panes had been broken or removed. Then he catalogued his valuables, and found nothing gone.

The check was not quite complete. The house had a cellar. But before he was willing to go through that effort, he weighed the only other possibility in balance.

His attitude on psychiatry was blunt, and, on psychology, only a little less so. But he was a pragmatist; that is, he played unintuitive poker with success.

Because he was a pragmatist, he first checked the possibility that he'd had a mental lapse and forgotten he'd called to have the set taken out for repairs. Unlocking the front door, he got the paper off the step. A glance at the date and a story lead beginning "Yesterday's return of the *Endeavor*—" exploded that hypothesis, not to his surprise. The set had been there last night. It was still too early today for any repair shop to be open.

Ergo, he had to check the cellar windows. He hadn't lost a day, or done anything else incredible like that. Tossing the paper on the kitchen table, he swung his way to the cellar door, opened it, and looked down, hoping against hope that he'd see the broken window from here and be able to report the burglary without the necessity of having to ease himself down the steps.

But, no such luck. Tucking the canes under his left arm, he grasped the railing and fought his body's drag.

Once down, he found it unnecessary to look at the windows. The set chassis was in the middle of his old, dust-covered workbench. It was on its side, and the wiring had been ripped out. The big tube turned its pale face toward him from a nest of other components. A soldering iron balanced on the edge of the bench, and some rewiring had been begun on the underside of the chassis.

It was only then—and this, he admitted to himself without any feeling of self-reproach, was perfectly normal for a man like himself—that he paid any notice to the superficial burns, few in number, on the thumb and forefinger of his left hand.

The essence of anything he might plan, he decided, was in discarding the possibility of immediate outside help.

He sat in his chair, drinking a cup of the coffee he'd made after having to scrape the burnt remains of the first batch out of the coffeemaker, and could see where that made the best sense.

He had no burglary to report, so that took care of the police. As for calling anyone else, he didn't have the faintest idea of whom to call if he'd wanted to. There was no government agency, local, state, or federal—certainly not international, ramified though the United Nations was—offering advice and assistance

to people who disassembled their own TV sets in their sleep and then proceeded to re-work them into something else. If there was anyone else in the house, he was capable of hiding behind wallpaper.

Besides, this was one he'd solve for himself.

He chuckled. What problem wasn't? He was constitutionally incapable of accepting anyone else's opinion over his own, and he knew it.

Well, then, data thus far:

One ex-TV set in the cellar. Better: one collection of electronic parts.

Three burns on fingertips. Soldering iron?

He didn't know. He supposed that, if he ever took the trouble to bone up with a book or two on circuitry, he could throw together a fair FM receiver, and, given a false start or two, mock up some kind of jackleg video circuit. But he'd never used a soldering iron in his life. He imagined the first try might prove disgracefully clumsy.

Questions:

How did one shot-up bag of ragdoll bones and twitchless nerves named Harvey Cable accomplish all this in his sleep?

How did said human equivalent of a hangar queen pull that set out of the cabinet, hold it in both arms as he'd have to, and, even granting the chair up to this point, make it down the cellar steps?

Last question, par value, $64.00: Where had the tools come from?

He searched the house again, but there was definitely no one else in it.

Toward noon, he found his mind still uneasy on one point. He got out his rubber-stamp pad, inked his fingertips, and impressed a set of prints on a sheet of paper. With this, his shaving brush, and a can of talcum powder, he made his way into the cellar again, and dusted the face of the picture tube. The results were spotty, marred by the stiffness of the brush and his lack of skill, but after he hit on the idea of letting the powder drift across the glass like a dry ripple riding the impetus of his gently blown breath, he got a clear print of several of his fingers. There were some very faint prints that were not his own, but he judged from their apparent age that they must belong to the various assemblers in the tube's parent factory. There were no prints of comparable freshness to his own, and he knew he'd never handled the tube before.

That settled that.

Next, he examined the unfamiliar tools that had been laid on the bench. Some of them were arranged in neat order, but others—the small electric soldering iron, a pair of pliers, and several screwdrivers—were scattered among the parts. He dusted those, too, and found his own prints on them. All of them were new, and unmarked with work scratches. But then, he knew how to handle screwdrivers and pliers, as well as more complicated tools.

He went over to where his elec-

tric drill was hanging up beside his other woodworking tools. There were a few shavings of aluminum clinging to the burr of the chuck. Going back to the reworked chassis, he saw that several new cuts and drillings had been made in it.

Well. He looked blankly at it all.

Next question: What in the name of holy horned hell am I building?

He sat looking thoughtfully down at the paper, which he'd finally come around to reading. He wasn't the only one infested with mysteries.

The story he'd glanced at before, approached as a news story and not as a dating corroborator, read:

OFFICIAL CENSORSHIP SHROUDS ENDEAVOR *CREW. Albuquerque, May* 14—*Yesterday's return of the* Endeavor *brought with it a return of outmoded press policies on the part of all official government agencies concerned. In an unprecedented move, both the U. S. and U. N. Press Secretaries late last night refused to permit further interviews with the crew or examination of the starship. At the same time, the Press was restricted to the use of official mimeographed releases in its stories.*

Unofficial actions went even farther. "Off the record," reporters at the Sandia auxiliary press facilities were told that a "serious view" might "well be taken" if attempts were made to circumvent these regulations. This was taken to mean that offending newspapers would henceforth be cut off from all official releases. Inasmuch as these releases now constitute all the available information on the Endeavor, *her crew, and their discoveries, this "unofficial advice" is tantamount to a threat of total censorship. The spokesman giving this "advice" declined to let his name be used.*

Speculation is rife that some serious mishap, in the nature of an unsuspected disease or infection, may have been discovered among members of the Endeavor's *crew. There can, of course, be no corroboration or denial of this rumor until the various agencies involved deign to give it.*

Under this was a box: "See Editorial, *'A Free Press in a Free World,'* p. 23."

Cable chuckled, momentarily, at the paper's discomfiture. But his face twisted into a scowl again while he wondered whether Dugan, Frawley, Snell, and Tommy Penn were all right. The odds were good that the disease theory was a bunch of journalistic hogwash, but anything that made the government act like that was sure to be serious.

Some of his annoyance, he realized with another chuckle on a slightly different note, came from his disappointment. It looked like it might be even longer before the bunch was free to come over and visit him.

But this return to yesterday's perverse selfishness did not stay with him long. He was looking forward eagerly to tonight's experiment. Cable

smiled with a certain degree of animation as he turned the pages. By tomorrow, he'd have a much better idea of what was happening here. Necessarily, his own problem eclipsed the starship mystery. But that was good.

It was nice, having a problem to wrestle with again.

There was an item about a burgled hardware store—"small tools and electrical supplies were taken"—and he examined it coolly. Data on source of tools?

The possibility existed. Disregard the fact he was the world's worst raw burglar material. He hadn't been a set designer before last night, either.

He immediately discarded the recurring idea that the police should be called. They'd refuse to take him seriously; there was even a tangible risk of being cross-questioned by a psychiatrist.

He judged as objectively as he could that it would take several days of this before he grew unreasonably worried. Until such time, he was going to tackle this by himself, as best he could.

His gums still ached, he noticed—more so than this morning, perhaps.

His eyes opened, and he looked out at morning sunshine. So, he hadn't been able to keep awake all night. He'd hardly expected to.

Working methodically, he looked at the scratch pad on which he'd been noting the time at ten-minute intervals. The last entry, in a sloppy hand, was for eleven-twenty. Somewhat later than he was usually able to keep awake, but not significantly much.

He looked at his watch. It was now 7:50 a.m. A little more than eight hours, all told, and again he felt unusually rested. Well, fine. A sound mind in a sound body, and all that. The early worm gets the bird. Many lights make hand work easier on the eyes. A nightingale in the bush is worth two birds in the hand.

He was also pretty cheerful.

Strapping on his braces and picking up his canes, he now swung himself over to the locked bedroom door. There were no new burns on his fingers.

He looked at the door critically. It was still locked, and, presumably until proven otherwise, the key was still far out of reach in the hall, where he'd skittered it under the door after turning the lock.

He turned back to the corner where he'd left the screwdriver balanced precariously on a complex arrangement of pots and pans which the tool's weight kept from toppling, and which he'd had to hold together with string while he was assembling it. After placing the screwdriver, he'd burned the string, as well as every other piece of twine or sewing thread in the house.

He was unable to lift the tool now without sending the utensils tumbling with a crash and clatter that made him wince. It seemed only reasonable that the racket would have been quite capable of waking the half-

dead, even if none of his other somnambulistic activities had. But the screwdriver hadn't been touched —or else his sleeping brain was more ingenious than his waking one.

Well, we'll see. He went back to the door, found no scratches on the lock, but left quite a few in the process of taking the lock apart and letting himself out.

Data: key still far out on hall floor. He picked it up after some maneuvering with his canes and brace locks, put it in his pocket, and went to the cellar door, which was also still locked.

His tactics here had been somewhat different. The key was on the kitchen table, on a dark tablecloth, with flour scattered over it in a random pattern he'd subsequently memorized with no hope of being able to duplicate it.

The flour was undisturbed. Nevertheless, there was a possibility he might have shaken out the cloth, turned it over to hide the traces of flour remaining, replaced the key, and somehow duplicated the flour pattern—or, at any rate, come close enough to fool himself, provided he was interested in fooling himself.

This checked out negative. He'd done no such thing. He defied anyone to get all the traces of flour out of the cloth without laundering it, in which case he'd been wonderfully ingenious at counterfeiting several leftover food stains.

Ergo, he hadn't touched the key. *Ipso facto. Reductio ad absurdum. Non lessi illegitimis te carborundum.*

Next move.

He unlocked the cellar door, and lowered himself down the steps.

Which gave him much food for thought. He stood cursing softly at the sight of the chassis with more work done on it.

For the first time, he felt a certain degree of apprehension. No bewilderment, as yet; too many practical examples in his lifetime had taught him that today's inexplicable mystery was tomorrow's dry fact. Nevertheless, he clumped forward with irritated impatience and stood looking down at the workbench.

All the tools were scattered about, now. The tube had been wiped clean of his amateur fingerprintings yesterday, and the tools, apparently, had come clean in handling. The chassis was tipped up again, and some parts, one of which looked as though it had been revamped, had been screwed to its upper surface and wired in to the growing circuit. The soldering was much cleaner; apparently he was learning.

He was also learning to walk through locked doors, dammit!

He'd left a note for himself: "What am I doing?" block-printed in heavy letters on a shirt cardboard he'd propped against the chassis. It had been moved to one side, laid down on the far end of the bench.

There was no answer.

He glowered down at the day's paper, his eye scanning the lines, but not reading. It wasn't even in focus.

His entire jaw was aching, but he

grimly concentrated past that, grinding at the situation with the sharp teeth of his mind.

The fingerprints were his, again. He was still doing a solo—or was it a duet with himself?

He'd rechecked the locks, examined the doors, tried to move the immovable hinge pins, and even tested the bedroom and cellar windows to make sure against the absurd possibility that he'd gotten them open and clambered in and out that way.

The answer was no.

But the thing in the cellar had more work done on it.

The answer was yes.

That led nowhere. Time out to let the subconscious mull it over. He concentrated on the paper, focusing his blurred vision on the newspaper by main force, wondering how the starship base was doing with *its* mystery.

Not very well. The entire base had been quarantined, and the official press releases cut to an obfuscatory trickle.

For a moment, his anxiety about the boys made him forget his preoccupation. Reading as rapidly as he could with his foggy eye he discovered that the base was entirely off limits to anyone, now; apparently that applied to government personnel, too. The base had been cordonned off by National Guard units at a distance of two miles. The paper was beating the disease drum for all it was worth, and reporting a great deal of international anxiety on the subject.

It seemed possible the paper was correct in its guess. At any rate, it carried a front-page story describing the sudden journeys of several top-flight biologists and biochemists en route to the base, or at least this general area.

Cable clamped his lips into a worried frown.

He'd been in on a number of the preliminary briefings on the trip, before he'd disqualified himself. The theory had been that alien bugs wouldn't be any happier on a human being than, say, a rock lichen would be. But even the people quoting the theory had admitted that the odds were not altogether prohibitive against it, and it was Cable's experience that theories were only good about twenty-five per cent of the time in the first place.

It was at this point that the idea of a correlation between the starship's mystery and his own first struck him.

He fumed over it for several hours.

The idea looked silly. Even at second or third glance, it resembled the kind of brainstorm a desperate man might get in a jam like this.

That knowledge alone was enough to prejudice him strongly against the possibility. But he couldn't quite persuade himself to let go of it.

Item: The crew of the starship might be down with something.

Item: The base was only twenty miles away. Air-borne infection?

Item: The disease, if it was a disease, had attacked the world's first

astronauts. By virtue of his jouncings-about in the prototype models, he also qualified as such.

A selective disease attacking people by occupational specialty?

Bushwah!

Air-borne infection in an air-conditioned house?

All right, his jaw ached and his vision was blurred.

He pawed angrily at his eye.

By ten o'clock that night, he'd worked himself into a fuming state of temper. He clumped downstairs, stood glaring at the set, and was unable to deduce anything new from it. Finally, he followed the second part of his experimental program by ripping all the re-done wiring loose, adding a scrawled "Answer me!" under yesterday's note, and went to bed seething. Let's see what he did about *that*.

When he had conceived of interfering with the progress of the work, he'd intended it as one more cool check on what the response would be. But now it had become something of a personal spite against whatever it was he was doing in the cellar.

His mouth ached like fury in the morning, overbalancing his sense of general well-being. He distracted himself with the thought that he was getting a lot of sound rest, for a man on a twenty-four day, while he lurched quickly into the bathroom and peeled his lips back in front of the mirror.

He stared at the front of his mouth in complete amazement. Then he be-

gan to laugh, clutching the wash-basin and continuing to look incredulously at the sight in the mirror.

He was teething!

With the look of a middle-aged man upon the discovery of contracted chicken pox, he put his thumb and forefinger up to his gums and felt the hard ridges of outthrusting enamel.

He calmed down with difficulty, unable to resist the occasional fresh temptation to run his tongue over the sprouting teeth. Third sets of teeth occasionally happened, he knew, but he'd dismissed that possibility quite early in the game. Now, despite his self-assurances at the time the bridge was fitted, he could admit that manufactured dentures were never as satisfying as the ones a man grew for himself. He grinned down at the pronged monstrosity he'd been fitting into his mouth each morning for the past year, picked it up delicately, and dropped it into the wastebasket with a satisfying sound.

Whistling again for the first time in two days, he went out to the cellar door and opened it, bent, and peered down. He grunted and reached for the rail as he swung his right foot forward.

He opened his mouth in a strangled noise of surprise. He'd seen *depth* down those stairs. His other eye was working again—the retina had re-attached itself!

The stairs tumbled down with a crash as their supports, sawed through, collapsed under his weight. The railing came limply loose in his clutch, and he smashed down into the welter of splintered boards ten feet below.

I shouldn't, he thought to himself in one flicker of consciousness, have ripped up that set. Then he pitched into blackness again.

He rolled over groggily, wiped his hand over his face, and opened his eyes. There didn't seem to be any pain.

He was facing the stairs, which had been restored. The braces had been splinted with scrap lumber, and two of the treads were new wood. The old ones were stacked in a corner, and he half-growled at the sight of brown smears on their splintered ends.

There was still no pain. He had no idea of how long he'd been lying here on the cellar floor. His watch was smashed.

He looked over at the workbench, and saw that whatever he'd been building was finished. The chassis sat right side up on the bench, the power cord trailing up to the socket.

It looked like no piece of equipment he'd ever seen. The tube was lying on the bench beside the chassis, wired in but unmounted. Apparently, it didn't matter whether it was rigidly positioned or not. He saw two control knobs rising directly out of the top of the chassis, as well as two or three holes in the chassis where components had been in the TV circuit but were not required for

this new use. The smaller tubes glowed. The set was turned on.

Apparently, too, he hadn't cared what condition his body was in while he worked on it.

He'd been fighting to keep his attention away from his body. The teeth and the eye had given him a hint he didn't dare confirm at first.

But it was true. He could feel the grittiness of the floor against the skin of his thighs and calves. His toes responded when he tried to move them, and his legs flexed.

His vision was perfect, and his teeth were full-grown, strong and hard as he clamped them to keep his breathing from frightening him.

Something brushed against his leg, and he looked down. His leg motions had snapped a hair-thin copper wire looped around one ankle and leading off toward the bench. He looked up, and the triggered picture tube blinked a light in his eyes.

Blink can't *think* blink rhythm I *think* blink trick think *blink* sink blink *wink*—CAN'T *THINK!*

He slammed his hands up against his face, covering his eyes.

He held them there for a few choked moments. Then he opened two fingers in a thin slit, like a little boy playing peek-a-boo with his mother.

The light struck his eye again. This time there was no getting away. The trigger of the picture tube's flicker chipped at each attempt to think, interrupting each beat of his brain as it tried to focus its attention on anything else but the raw stimulus of that blink. He had no chance of even telling his hands to cover his eyes again.

His body collapsed like a marionette, and his face dropped below the beam. His head hanging, he got to his hands and knees like a young boy getting up to face the schoolyard bully again.

The blink reflected off the floor and snapped his head up like a kick. The beam struck him full in the eyes.

It was even impossible for him to tell his throat to scream. He swayed on his knees, and the blink went into his brain like a sewing machine.

Eventually, he fell again, and by now he was beginning to realize what the machine was doing to him. Like an Air Force cadet feeling the controls of his first trainer, he began to realize that there was a logic to this—that certain actions produced a certain response—that the machine could predict the rhythm of his thoughts and throttle each one as it tried to leave his brain and translate itself into action or coherent thought.

He looked up deliberately, planning to snatch his face to one side the moment he felt it grip him again.

This time, he was dimly aware of his arms, flailing upward and trying to find his face in a hopelessly uncoordinated effort.

He discovered he could sidestep the blink. If he upset the machine's mechanical prediction, he could think. His mind rolled its thought

processes along well-worn grooves. As simple a thought as knowing he was afraid had to search out its correlations in a welter of skin temperature data, respiration and heartbeat notations, and an army of remembered precedents.

If he could reshuffle that procedure, using data first that would ordinarily claim his attention last, he could think. The blink couldn't stop him.

Like a man flying cross-country for the first time, he learned that railroads and highways are snakes, not arrows. Like a pilot teaching his instincts to push the nose *down* in a spin, abrogating the falling-response that made him ache to pull back on the stick, he learned. He had to, or crash.

To do that, he had to change the way he thought.

The blink turned into a flashing light that winked on and off at preset intervals. He reached up and decided which knob was logically the master switch. He turned it off, feeling the muscles move, his skin stretch, and his bones roll to the motion. He felt the delicate nerves in his fingertips tell him how much pressure was on his capillaries, and the nerves under his fingernails corroborate their reading against the pressure there. His fingers told him when the switch was off, not the click of it. There was no click. The man who'd put that switch in hadn't intended it for human use.

Most of all, he felt his silent brother smile within him.

The three uniformed men stopped in the doorway and stared at him.

"Harvey Cable?" one of them finally asked. He blinked his eyes in the bright sunshine, peering through the doorway.

Cable smiled. "That's right. Come on in."

The man who'd spoken wore an Air Force major's insignia and uniform. The other two were United Nations inspectors. They stepped in gingerly, looking around them curiously.

"I refurnished the place," Cable said pleasantly. "I've got a pretty good assortment of wood-working tools in the cellar."

The major was pale, and the inspectors were nervous. They exchanged glances. "Typical case," one of them muttered, as though it had to be put in words.

"We understood you were crippled," the major stated.

"I was, major —?"

"Paulson. Inspector Lee, and Inspector Carveth." Paulson took a deep breath. "Well, we're exposed, now. May we sit down?"

"Sure. Help yourselves. Exposed to the disease, you mean?"

The major dropped bitterly into a chair, an expression of surprise flickering over his face as he realized how comfortable it was. "Whatever it is. Contagious psychosis, they're saying now. No cure," he added bluntly.

"No disease," Cable said, but made little impression. All three men had their mouths clamped in

thin, desperate lines. Apparently the most superficial contact with the "disease" had proved sufficient for "infection."

"Well," Cable said, "what can I do for you? Would you like a drink first?"

Paulson shook his head, and the inspectors followed suit. Cable shrugged politely.

"We came here to do a job," Paulson said doggedly. "We might as well do it." He took an envelope out of his blouse pocket. "We had quite a battle with the Postmaster General about this. But we got it. It's a letter to you from Thomas Penn."

Cable took it with a wordless tilt of one eyebrow. It had been opened. Reaching into the envelope, he pulled out a short note:

> Harv—
>
> Chances are, this is the only way we'll have time to get in touch with you. Even so, you may not get it. Don't worry about us, no matter what you hear. We're fine. You won't know how much until you get acquainted with the friend we're sending you.
>
> Good luck,
>
> Tommy

He smiled, feeling his silent brother smile, too. For a moment, they shared the warmth of feeling between them. Then he turned his attention back to the three men. "Yes?"

Paulson glared at him. "Well, what about it? What friend? Where is he?"

Cable grinned at him. Paulson would never believe him if he told him. So there was no good in telling him. He'd have to find out for himself.

Just as everybody would. There was no logic in telling. Telling proved nothing, and who would welcome a "parasitic" alien into his body and mind, even if that "parasite" was a gentle, intelligent being who kept watch over the host, repairing his health, seeing to his well-being? Even if that "parasite" gave you sanity and rest, tranquillity and peace, because he needed it in order to fully be your brother? Who wants symbiosis until he's felt it? Not you, major. Not Harvey Cable, either, fighting his battles on the edge of the world, proud, able—but alone.

Who wants to know any human being can go where he wants to, do what he wants to, now? Who wants to know disease is finished, age is calm, and death is always a falling asleep, now? Not the medical quacks, not the lonely hearts bureaus, not the burial insurance companies. Not the people who live on fear. Who wants a brother who doesn't hesitate to slap you down if you need it while you're growing up?

Should the *Endeavor* have brought riot and war back with it? Better a little panic now, damping itself out before it even gets out of the Southwest.

No, you don't tell people about this. You simply give it.

"Well?" Paulson demanded again.

Cable smiled at him. "Relax, major. There's all the time in the world. My friend's where you can't ever get him unless I let you. What's going on up around the base?"

Paulson grunted his anger. "I don't know," he said harshly. "We were all in the outer quarantine circle."

"The outer circle. It's getting to one circle after another, is it?"

"Yes!"

"What's it like? The disease. What does it do?"

"You know better than I do."

"Men walking in their sleep? Doing things? Getting past guards and sentries, getting out of locked rooms? Some of them building funny kinds of electronic rigs?"

"What do you think?" Paulson was picturing himself.

"I think so. Frighten you?"

Paulson didn't answer.

"It shouldn't. It's a little rough, going it alone, but with others around you, I don't imagine you'll have any trouble."

It wasn't the man who momentarily disorganized his body and passed under a door who was frightened. Not after he could do it of his own volition instead of unconsciously, at his brother's direction. It was the man who watched him do it, just as it was the men on the ground who were terrified for the Wright brothers. Paulson was remembering what he'd seen. He had no idea of how it felt to be free.

Cable thought of the stars he'd seen glimmering as he rode *Endeavor*'s prototype, and the curtains and clouds of galaxies beyond them. He'd wanted to go to them all, and stand on every one of their planets.

Well, he couldn't quite have that. There wasn't time enough in a man's life. But his brother, too, had been a member of a race chained to one planet. The two of them could see quite a bit, before they grew too old.

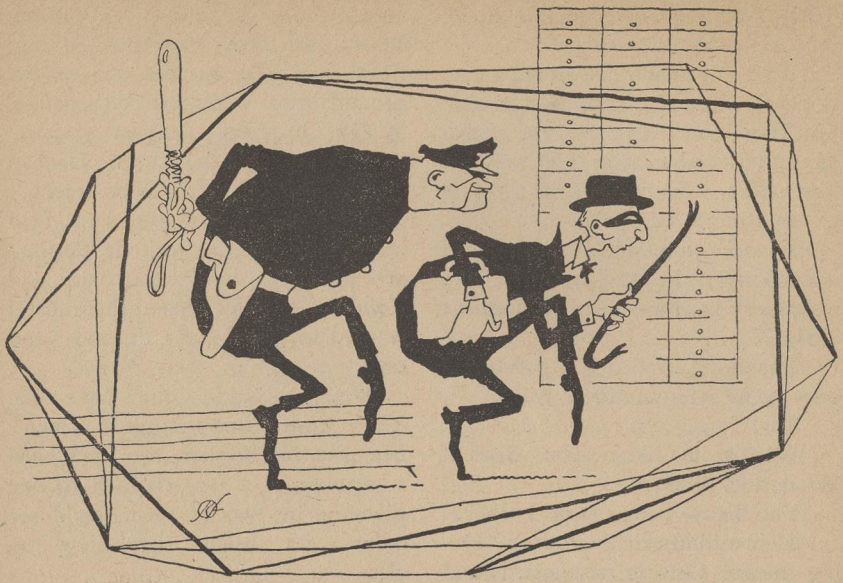
So we were born in a Solar System with one habitable planet, and we developed the star drive. And on Alpha's planet, a race hung on, waiting for someone to come along and give it hands and bodies.

What price the final plan of the universe? Will my brother and I find the next piece of the ultimate jigsaw puzzle?

Cable looked at the three men, grinning at the thought of the first time one of them discovered a missing tooth was growing back in.

Starting with Paulson, he sent them each a part of his brother.

THE END



CHAINS OF COMMAND

Just because an experiment isn't repeatable—was due to an unknown accident—doesn't meant it's useless, necessarily . . .

BY REG RHEIN

Illustrated by Freas

The Mathewson Laboratories
Inter-Office Memo
7th April 1992

From: Frederick Morgan
To: Joseph Alturas
Subject: Budget

Dear Joe,

I don't quite know how to break the news to you, so I'll just give it to you the way I got it—the word is that the appropriation for your project has been canceled as of the sixteenth of next month and your work on plastics directed to stop right now. So far I have been given no inkling of how your experimentation is to

be directed in the immediate future.

There has been a general shake-up in personnel here since Mathewson took over, and I more or less expected that your program would be hit sooner or later—it just so happens it is sooner. I hope most sincerely that you don't feel too badly about it. Kicking Wolfson out of your lab may have had something to do with this decision. I can't say I blame you for doing it, but it turned out to be impolitic since Wolfson has Mathewson's ear. Wolfson and Mathewson are distant relatives of some kind, according to the grapevine.

Before closing the books on your work, the front office wants your report on the plastic you have named Maritech Alpha.

Wolfson asked me for it personally, so I imagine he attaches some considerable importance to it. Either that or he feels that by-passing me would be difficult since his fracas with you, and it may be that the front office insists on getting the report from him to establish a new channel.

In any event use your own judgment. Wolfson probably will be giving you your orders directly if things keep on.

Your friend,

Fred.

The Mathewson Laboratories
Process Division
Inter-Office Memorandum
12th April 1992

From: Joseph Alturas
To: Frederick Morgan
Subject: Manpower
Dear Fred,

I have been getting orders to quit experimenting with plastics from a number of people during the last twenty years. As a matter of fact I received such a directive from Mathewson himself when the old boy wore overalls and we were partners in this hole-in-the-wall. I paid no more attention to it then than I intend to pay to it now.

The appropriation be damned! It isn't money I need now. I need time. I need time to get the answers that only tests and experiments can give.

I haven't had time to write a report on Maritech Alpha. If the manpower situation gets as bad as you indicate it is going to in the near future, I may have time to write the report but no people to do the experiments—for this reason it isn't likely that the front office will get any report for another month. Send me at least four engineers.

In haste,

Joe.

20th April 1992
Log—3:00 a.m.
Dear Joe,

Things were dull around here last night and I got to thinking we hadn't run an exotherm on Maritech Alpha since the reorientation experiment, so I ran one just for the hell of it.

Around 2:00 a.m. the XYL phoned in and said to come home

or she was going to start divorce proceedings in the morning, so am leaving early.

Take a look at the twenty-channel chart and see if you can plug the numbers into Morrison's equation. Leave word tonight. I'll be back at 10:00 p.m.

Bob

20th April 1992

Log—

Dear Bob,

What kind of hours are you keeping these days? Haven't seen you for six weeks. Are you still working for us?

I couldn't make head nor tail out of the TC Chart. Are you sure you oriented the thermocouples for Maritech Alpha? Looks like a beta arrangement. Also—why has the crystal turned a bright orange-red? Did you louse it up with recorder ink?

Regards to Doris—if she is still with you.

By the way, the front office has directed us to quit all work on Maritech Alpha under the research account—so charge your time to Aigle's account. Old moneybags Aigle can stand it. What am I saying? Aigle is a dummy name for me.

Joe.

21st April 1992 3:00 a.m.

Log—

Dear Joe,

I locked the Maritech Alpha crystal in the safe. Try a simple experiment with this crystal, look through it at the dial of your wrist watch. There is another experiment you can try with it. Look through it at the town clock, then look at the town clock without it. I don't believe it either.

Bob.

The Mathewson Laboratories
Process Division
Inter-Office Memorandum

21st April 1992

From: Joseph Alturas
To: Frederick Morgan
Subject: Resignation

Dear Fred,

Please accept my resignation effective at once. Enclosed find the resignation of Dr. Robert Bannon. We are leaving the Lab to go into business together. Hale atque Vale!

Joe.

P.S. All the records on Maritech Alpha were accidentally destroyed when someone spilled sulphuric acid on the log book.

Regards and Luck to all,

J. A.

Report No. 85

From: Omni-eye Detective Bureau.
Operative No. 842
To: The Mathewson Laboratories
Attention Dr. Wolfson.
Subject: Requested report covering period 23rd April 1992 8:00-5:00 p.m.

Subject left home at 9:00 a.m. and was driven by his chauffeur very rapidly to Race Track at Elmira. (80-90 m.p.h.)

Subject was met at track by Dr.

Bannon. (See report of Operative No. 87) The meeting appeared to be pre-arranged.

Subject bet heavily on eighteen horses during the afternoon. Some of these were: "Leg-iron" to win, "Flying Mare" to place, "Black Bart" to win, "Dream Boat" to win, (a hundred-to-one long shot), "Sway Bug" to win, (50 to 1) and others. Total amount bet: $170. Total winnings: $11,800.

Subject used binoculars in a very peculiar manner. Instead of watching the horses during the races, subject appeared to watch nonexistent moving objects on track *between* races.

Subject kept close to Dr. Bannon and passed binoculars to him at intervals in evident excitement. The excitement of subject and Bannon appeared to reach a climax at these times, and money would change hands between them. Subject and Bannon would then place bets at the pari-mutuel windows, always on the same horse and with invariable success.

This operative could not discern any movement on track of any kind which would justify use of binoculars in above manner except for one stray dog which was obviously not what they were watching.

Subject wears a very loud-checkered red-and-black vest, alpaca swallow-tailed coat and a nylon plug hat. Subject left track at 2:30 p.m. before the claiming race and arrived at First National bank at 2:48. His bank balance is now $890,000. Binoculars were left in safe deposit box No. A 65403.

End of Report.

United Press Dispatch
Elmira 24th April 1992

Leonard Wolfson, an executive in the employ of the Mathewson Laboratories, was today apprehended by police as he attempted the robbery of a safe deposit box in the First National Bank of Elmira.

Wolfson insisted that he was merely recovering property belonging to the Mathewson Laboratories, alleging that this property consisted of crystals of the plastic "Maritech Alpha," stolen by former lab employees.

Police were waiting for Wolfson to make the robbery attempt. They had been informed by Joe Alturas, a former employee of the Mathewson Laboratories, that the robbery would occur at the exact time it took place.

Wolfson told an incredible story to the effect that he had had Alturas watched by private detectives for several days and was forced to the conclusion that the Maritech crystals had enabled Alturas to predict the future. Wolfson claimed that Alturas, by "watching the horse races before they were run" presumably through transparent crystals of the stolen plastic, was able to amass a fortune at the Elmira Rack Track.

Wolfson was unable to explain why he had not lodged a formal complaint against Alturas. Alturas was quoted as saying "If Wolfson is as sure as he says he is that I can

predict the future, he was certainly ill-advised in robbing my safety deposit box."

The Associated Press
29th April 1992

Elmira:

Purchase of the Mathewson Laboratories by two former employees, was announced today by Dr. Mathewson, business head of the one-hundred-year-old research organization.

An active part will be taken by the new owners in guiding the destinies of the firm, according to the retiring president.

Pictures of the new owners, Joe Alturas and Robert Bannon, are to be found on page 64 of the financial section.

Charges were dropped against Dr. Wolfson, jailed last week on a robbery complaint. "I'm sure it was all a mistake," Alturas was quoted as saying. "Dr. Wolfson's only crime was jumping to conclusions. We will be happy to have him continue working with us as head of the plastics research division."

Destroy When Read
SECRET
24th April 2002

Dr. Robert Bannon,

Well, it's taken Wolfson ten years and he's finally come up with a Maritech Alpha crystal with a time delta of 0.03 microseconds. Not bad, for Wolfson. (Let's raise his salary to eighty grand the next time we review his career.)

Remember that statistical anomaly back in 1992—the plasticized Maritech with the differential of thirty minutes?

I'll bet I've made a million plans for using the next one that comes along, ranging from National Defense to Burlesque.

Do you think we'll ever have another chance?

Joe.

THE END

IN TIMES TO COME

Murray Leinster's been having fun with his Colonial Survey inspection idea again. This time it's called "Exploration Team"—and centers around an idea that is so old-fashioned it's positively revolutionary. Exploring alien planets of the type men might be interested in as colony worlds is, obviously, going to be rugged, dangerous, and expensive work. You can make a machine do almost anything you know how to tell it to do—but how do you tell it to act on a world you don't know anything about?

THE EDITOR.

THE PRISONER

There are circumstances under which it is (A) inadvisable to take a prisoner, and (B) extremely costly to get rid of one you've taken!

BY CHRISTOPHER ANVIL

Illustrated by Emsh

ROUTINE 04-12-2308-1623TCT STAFF
COMGEN IV TO OPCHIEF GS CAPITOL
REQUEST PERMISSION ADVANCE DEFENSE LINE TO SYSTEM CODE R3J RPT R3J

ROUTINE 04-13-2308-0715TCT STAFF
OPCHIEF GS CAPITOL TO COMGEN IV
PERMISSION ADVANCE DEFENSE LINE TO SYSTEM CODE R3J RPT R3J REFUSED RPT REFUSED

URGENT 04-14-2308-150TCT PERSONAL
COMGEN IV TO OPCHIEF GS CAPITOL
STINKO IT IS VITALLY NECESSARY THAT I TAKE OVER R3J RPT R3J BEFORE THE OUTS GET HERE STP YOU KNOW THE SIZE OF MY FLEET STP LOVE TO TANYA AND KIDS MART MARTIN M GLICK COMGEN IV

ROUTINE 04-15-2308-0730TCT PERSONAL
OPCHIEF GS CAPITOL TO COMGEN IV
SORRY MART I CANT LET YOU DO IT STP R3J RPT R3J IS TOUGH NUT TO CRACK AND NOT ENOUGH TIME TO CRACK IT STP ONLY QUADRITE IN SYSTEM IS ON FIFTH PLANET STP TWO PREVIOUS ATTEMPTS TO TAKE FIFTH PLANET ABORTED STP SYSTEM AS A WHOLE IS NO GOOD WITHOUT QUADRITE AND WE COULD NOT SUPPLY YOU FROM HERE YOU KNOW THAT STP CANNOT HAVE YOUR FORCES IN STATE OF DISORDER WITH MINOR CONFLICT GOING ON WHEN OUTS ARRIVE STP I KNOW YOUR POSITION BUT R3J RPT R3J IS NO

SOLUTION STP CAN ONLY HOPE THEY WILL ATTACK ELSEWHERE STP JACKIE IS FINE STP YOUNG MART HAS GROWN STP GOOD LUCK STP STINKO J J RYSTENKO OPCHIEF GS

VITAL 04-16-2308-1632TCT
STAFF
COMGEN IV TO ALL STATIONS
U EXPLOSION D308L564V013
U EXPLOSION D308L562V013
U EXPLOSION D308L560V013
U EXPLOSION D308L562V015
U EXPLOSION D308L562V011
EXPLOSIONS SIMULTANEOUS TIME OF OBSERVATION 04-16-2308-1624TCT
VITAL TRANSMIT TRIPLE AT TEN-MINUTE INTERVALS

URGENT 04-16-2308-1640TCT
PERSONAL
COMGEN IV TO OPCHIEF GS CAPITOL
STINKO THEY ARE NOT GOING SOMEWHERE ELSE THEY ARE COMING HERE STP IF THEY GET BY ME THERE IS NOTHING FROM HERE TO CAP BUT THE GR AND THAT WILL NEVER HOLD THEM STP THEIR TIMING PERFECT STP MAXIMUM CONFUSION STP IF THEY CAME ANY SOONER THEY COULD HAVE VOTED IN THE ELECTION STP IN CIRCUMSTANCES DESPERATELY NECESSARY TO TAKE R3J RPT R3J STP SEND PERMISSION BEFORE WE WASTE MORE TIME STP MART MARTIN M GLICK COMGEN IV

(Reply requested today.)
Office of the Secretary for Defense
Dear General Rystenko:

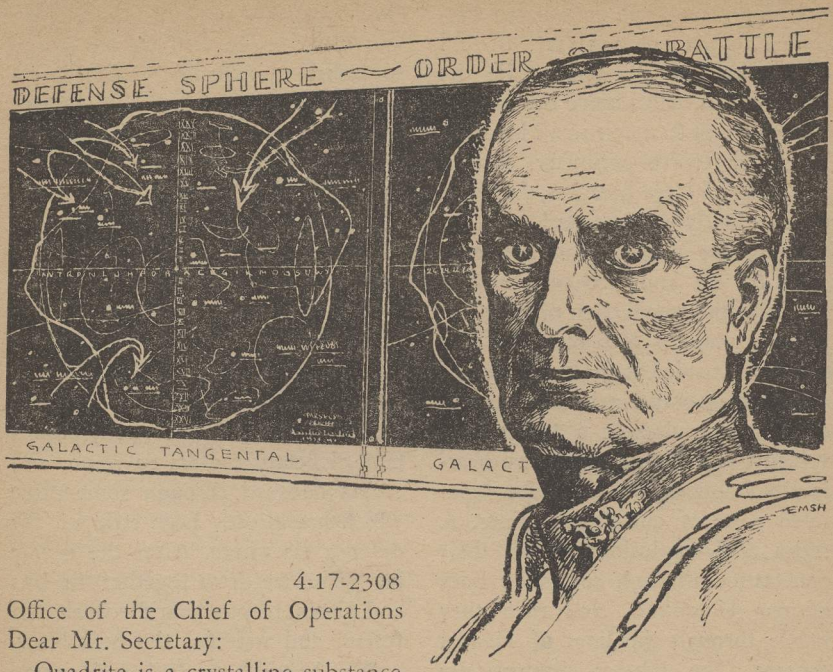
As a member of the new President's cabinet, responsible for the overall direction of the defense effort, I am determined to acquire, as soon as possible, some appreciation of the overall strategic picture.

So long as I do not understand the meaning of certain technical terms, this will be impossible. These terms are regarded as secret, and no civilian has any sure idea of their meaning until he is thrust into an office where his ignorance may be fatal. Looking at the dispatch copies which come to my office, I find the following terms I would like defined: a) quadrite; b) GR; c) CAP; d) U explosion; e) Henkel sphere; f) SB; g) abort.

I also want a brief summary, on no more than two sheets of paper, of the overall defense strategy; a similar summary of known enemy capabilities; and a brief point-by-point comparison of our important weapons, considering not only quality but amounts, and present and projected rates of production.

You need not handle this yourself; but if you do not, I want you to check the papers before they come to me. You will be held personally responsible for their accuracy.

Sincerely,
James Cordovan
Secretary for Defense



4-17-2308

Office of the Chief of Operations

Dear Mr. Secretary:

Quadrite is a crystalline substance used as fuel in the non-radioactive, or N-drive. A small safe quantity of radioactive material starts the reaction, which may be stopped by removal of this material. The mass radioactive, or R-drive, is useless against the present enemy because he possesses a means of exploding it before our ships come into ordinary firing range. Thus we use quadrite on warships.

GR means General Reserve. CAP means Capitol. A U-explosion is a large explosion of uranium or other radioactive material by the enemy's device, or, occasionally by us. Henkel sphere is a large self-contained unit carrying impulse torpedoes and magnetic-inductive direction finders. SB means solar beam; a concentration of the rays of a sun for offensive or defensive purposes. "Abort," as we use it, merely means "fail."

The overall defense strategy is simple. Our forces are located around the surface of a flattened spheroidal defensive border. At the outer edge is a triple layer of warning devices, the U markers, which explode on approach of the enemy. Next comes several layers of Henkel spheres, stretching from one sun system to the next. Each sun system is equipped with solar beams, so far as possible, so that these sun systems constitute strong points in the defense perimeter, or, if they are cut off, may func-

tion for some time as isolated fortresses in the enemy's rear. Behind this outer line of defense lie the fleets, which help service the Henkel spheres, fight to repair small breaches in the defensive perimeter, and in the event of large breaches, fall back in an orderly manner and assist in forming the next defensive line.

As for the known enemy capabilities, and the comparison of their important weapons with ours, the first item to consider is their manner of attack. They come in in huge masses of ships, moving at a tremendous velocity, and often making two nearly simultaneous attacks at far separated parts of our defense lines. A series of U-explosions signals their penetration through successive lines of our U-markers, and then they hurtle through the lines of Henkel spheres. The spheres automatically discharge their impulse torpedoes on precalculated courses, and at the same time, our fleet on the spot sows a series of new layers of spheres along the estimated course of the enemy attack. There is no such thing as a general engagement between the two fleets, because ours is always too weak at the point of attack. It is guarding a vast area which the enemy can, if he chooses, attack at any chosen point with his full force.

Usually, however, just as the situation becomes desperate, and we feel compelled to rush the general reserve to the spot, a second and even stronger attack strikes us at some widely separated point from the first. At this stage, all resemblance to plan and order ceases, and we are forced to resort to expediency. Fleets are rushed from all around the perimeter to the estimated position of the future enemy penetrations. Solar beams are concentrated in a webwork across the line of enemy attack. It is impossible to generalize beyond this point. We do what we can. Usually we are forced to commit the fleet to battle at a heavy loss, which weakens us for the next attack. The enemy cuts a swath through the whole system, burns out a number of vitally important planetary centers en route, and erupts outward through some place which has already been stripped for defense elsewhere. After the enemy has gone, we draw together the bits and pieces, reapportion the weakened forces, and wait for the next blow.

We know very little of enemy weapons, save that they are similar to ours and used in overwhelming concentrations. As for the enemy personnel, only one individual has been captured following a fluke individual dogfight in which Colonel A. C. Nielson was killed and the enemy ship ruined. This enemy individual showed a) human form, very compact and muscular, with peculiar eyes; b) fantastic recuperative power, with healing of very severe wounds, such as killed Colonel Nielson, taking place spontaneously and practically visibly; c) fanatic hostility, shown as soon as the individual recovered consciousness; and which was followed apparently by the use of some

poison, as the enemy's body then at once decomposed, too fast to permit further examination on the spot.

As for our present rate of production, it is suitable to replace approximately forty per cent of the losses suffered during enemy attack. This refers to warship production. Production of the cheaper Henkel spheres would be quite respectable if it weren't for the fact that it takes ships to put the spheres in position. Projected production of ships was cut further in the last budget.

As for recruitment of personnel, it is barely adequate to man the continually decreasing strength we are able to maintain. Training facilities are inadequate, but the need for men is so drastic we have no time for adequate training. The quality of recruits is poor, since the population does not believe the situation serious, and thus has little respect for the services.

I hope this answers your questions satisfactorily. I shall be glad to help you in any way I can.

Respectfully,
J. J. Rystenko
Chief of Operations

4-17-2308

Office of the Secretary for Defense

Bart:

I am enclosing an answer from General Rystenko, the Chief of Operations, to some questions of mine. I hope you will read it now and let me know what you think. Unless Rystenko is exaggerating for some reason, this is worse than we ever imagined.

Jim Cordovan

4-17-2308

Office of the President

Jim:

This is horrible. Let me know immediately if you find out anything more about this.

Bart

(Immediate action) 4-17-2308

Office of the President

General Rystenko:

Report to my office immediately unless you are occupied with matters of vital importance.

Barton Baruch

4-17-2308

Office of the President

Jim:

Rystenko is all right. But our predecessors have gutted the defense establishment to balance the budget. Cabinet meeting tonight at 8:30.

Bart

URGENT 04-16-2308-2210TCT
PERSONAL
COMGEN IV TO OPCHIEF GS
CAPITOL
STINKO MY POSITION HOPELESS HERE IN PRESENT CIRCUMSTANCES STP ONLY JUSTIFICATION FOR INACTION WAS TO AVOID INVOLVEMENT IN MINOR WAR AND THUS INABILITY TO REINFORCE IF ATTACK CAME ELSE-

WHERE STP ATTACK IS COMING HERE STP IF I STAY WHERE I AM I AM LIKE A MOUSE IN AN UNBLOCKED HOLE WITH THE WEASEL COMING ON THE RUN STP I CANT HOLD THEM HERE STP THIS TIME THEY WILL GO ALL THE WAY TO CAP STP STINKO I HOPE YOUR PERMISSION IS ON WAY AS I AM GOING TO TAKE R3J RPT R3J OR DIE TRYING STP LOVE TO TANYA AND THE KIDS STP GOOD LUCK IF THEY GET THROUGH STINKO STP MART MARTIN M GLICK COMGEN IV

ROUTINE 04-17-2308-1100TCT
STAFF
OPCHIEF GS CAPITOL TO COMGEN IV
IN ABSENCE OF GENERAL RYSTENKO MY DUTY TO INFORM LIEUTENANT GENERAL GLICK NO PERMISSION TO ADVANCE TO R3J RPT R3J WAS SENT OR CONTEMPLATED STP IN EVENT YOU ADVANCE CONTRARY TO REITERATED COMMANDS TO CONTRARY MY DUTY TO INFORM YOU YOU ARE HEREBY RELIEVED OF COMMAND AND HEREBY ORDERED TO TURN OVER COMMAND TO DEPUTY COMGEN IV AS PRESCRIBED RGC 6-143J SECTION 14 STP Q L GORLEY COLONEL FOR GENERAL J J RYSTENKO OPCHIEF GS

ROUTINE 04-18-2308-1625TCT
STAFF
COMGEN IV TO OPCHIEF GS CAPITOL
ALL RECEIVING APPARATUS OUT OF ORDER STP POSSIBLY BY ENEMY ACTION STP ADVANCE ELEMENTS OF FLEET IV APPROACHING SYSTEM CODE R3J RPT R3J

VITAL 04-18-2308-1640TCT
STAFF
COMGEN IV TO ALL STATIONS
U EXPLOSION D288L564V103
U EXPLOSION D288L562V103
U EXPLOSION D288L560V103
U EXPLOSION D288L562V105
U EXPLOSION D288L562V099
EXPLOSIONS SIMULTANEOUS TIME OF OBSERVATION 04-18-2308-1635TCT
VITAL TRANSMIT TRIPLE AT TEN-MINUTE INTERVALS

(Reply requested immediately)
4-18-2308
Office of the Secretary for Defense
General Rystenko:

As you know, OPCHIEF dispatches move through my office as a routine so I will know what your office is doing. Now I want to know why this General Glick is being kept on a short leash. I have gone over a set of star charts, and if I can make anything out of them this System R3J is a vital link in your defense system. Who is this Q. L. Gorley, colonel, who sent the order removing General Glick? Why did *he* send the order? Are you dodging the

responsibility for it? Unless you are occupied in vital matters I want the answers to these questions by tube within fifteen minutes.

J. Cordovan
Secretary for Defense

4-18-2308
Office of the Chief of Operations
Dear Mr. Secretary:

I had no knowledge of Gorley's action till you called it to my attention. I am reinstating Glick immediately.

Rystenko

VITAL 04-18-2308-1125TCT
STAFF
OPCHIEF GS CAPITOL TO COMGEN IV
BY ORDER GENERAL J J RYSTENKO OPCHIEF GS EFFECTIVE IMMEDIATELY LIEUTENANT-GENERAL MARTIN M GLICK IS RPT IS IN FULL COMMAND SECTOR IV STP BY ORDER GENERAL J J RYSTENKO OPCHIEF GS FULL DISCRETION RPT FULL DISCRETION GRANTED RPT GRANTED LIEUTENANT-GENERAL MARTIN M GLICK COMGEN IV INCLUDING RPT INCLUDING ANY ACTIONS REGARDING SYSTEM CODE R3J RPT R3J TIME OF ORIGINAL ORDER 02-18-2308-1125TCT
VITAL TRANSMIT TRIPLE AT THIRTY-MINUTE INTERVALS

URGENT 02-18-2308-1128TCT
PERSONAL
OPCHIEF GS CAPITOL TO COMGEN IV
MY GOD MART I AM SORRY STP YOUR REASONING REGARDING R3J RPT R3J IS PERFECTLY CORRECT STP GORLEY ACTED WITHOUT MY KNOWLEDGE STP WE ARE IN MIDST OF CHANGE OF ADMINISTRATION HERE STP SOME CONFUSION STP YOU HAVE FULL AUTHORITY STP DO WHAT YOU WANT STP BEST OF LUCK AND GOD BE WITH YOU STP STINKO J J RYSTENKO OPCHIEF GS

4-18-2308
Office of the Chief of Operations
Dear Mr. Secretary:

I have sent orders reinstating General Glick and giving him full authority to take System R3J. Two previous attempts to take the only planet in the system that possesses quadrite have failed, with no survivors returning; but it is worth trying.

Rystenko

(Reply requested immediately)
4-18-2308
Office of the Secretary for Defense
General Rystenko:

That is fine. What about my questions concerning Colonel Gorley?

J. Cordovan

4-18-2308
Office of the Chief of Operations
Dear Mr. Secretary:

Colonel Gorley was sent here by the former President. He acted in an

advisory and liaison capacity between this office and that of the former President. I know his action in this instance has proved to be unfortunate, but he was entirely justified by regulations covering the situation. I was with the President at the moment, and immediate action was necessary to maintain the balance of the situation.

Respectfully,
J. J. Rystenko
Chief of Operations

(Reply requested immediately)

4-18-2308

Office of the Secretary for Defense
General Rystenko:

Do you mean that Gorley advised the former President on matters of defense?

J. Cordovan

4-18-2308

Office of the Chief of Operations
Mr. Secretary:

That is what I mean. Yes.

J. J. Rystenko
Chief of Operations

4-18-2308

Office of the Secretary for Defense
Bart:

I am enclosing some correspondence between myself and Rystenko, regarding a Colonel Q. L. Gorley who has just taken a step I regard as well calculated to throw our defense arrangements off balance at the decisive moment. I am enclosing the dispatch referred to. You will note that Rystenko takes a progressively stiffer tone in protecting Gorley. Personally, I think if Gorley was defense advisor to the previous Administration, he must be no good.

Jim

(Reply requested today)

4-18-2308

Office of the Secretary for Defense
Comptroller of the Records:

I would like a digest of all pertinent data in the service record of Colonel Q. L. Gorley, now attached to the office of the Chief of Operations.

James Cordovan
Secretary for Defense

4-18-2308

Office of the President
Jim:

I have been in office three days and it feels like three years, all thanks to the miserable defense picture. If you think Gorley is no good, select some distant and unimportant asteroid and put him in charge of it. Don't bother me with this trivia.

Bart

P. S. The time on this dispatch from Gorley to Glick is 1100. Rystenko was not with me then.

4-19-2308

Comptroller of the Records
Dear Mr. Secretary:

I have been able to ascertain that there is a Colonel Q. L. Gorley attached to the Chief of Operations office, but the Master Recorder merely remains blank when I try to obtain his service record. No Colonel Q. L.

Gorley is listed in the Officers' Registry. There is a Q. S. Gorley, Captain, now serving with the Tenth Fleet, and a Brigadier General Mason Gorley, Ret'd. Upon code-checking the rolls of the National Space Academy at Bristol Bay, I find no mention of any Q. L. Gorley within the last hundred years.

It is possible to bar access to the service record of any individual if the President or Secretary for Defense approves the action. But this is not the case here. There simply is no record. Do you wish me to cross-check the coded Administration records of the past few years to see if any mention is made of this man in these records?

Respectfully,
Ogden Mannenberg
Comptroller of the Records

(Reply requested today)
4-19-2308
Office of the Secretary for Defense
Comptroller of the Records:

Yes, by all means cross-check the administrative records back to the time Gorley was first mentioned.

James Cordovan
Secretary for Defense

(Immediate Action) 4-19-2308
Office of the Secretary for Defense
Birdie:

Get down to the Chief of Operations' office and play the part of the Undersecretary getting acquainted with the team. Find out all you can about a Colonel Q. L. Gorley, who is now attached to the Opchief's office. Gorley appears to have no service record and I am a little curious about him.

Jim

ROUTINE 04-19-2308-2300TCT
STAFF
COMGEN IV TO OPCHIEF GS
CAPITOL
FLEET IV NOW BASED ON SECOND RPT SECOND PLANET OF SYSTEM CODE R3J RPT R3J STP SB BEING PLACED NOW STP ADVANCE HENKEL SPHERE-PERIMETER BEING HEAVILY REINFORCED STP BULK OF FLEET IV NOW MOVING TO OCCUPY FIFTH RPT FIFTH PLANET OF SYSTEM CODE R3J RPT R3J

ROUTINE 04-19-2308-2314TCT
PERSONAL
COMGEN IV TO OPCHIEF GS
CAPITOL
STINKO I HAVE OCCUPIED THE SECOND PLANET OF R3J RPT R3J AND FIND POPULACE AND GOVERNMENT FRIENDLY-AND EAGER TO HELP STP THEY HAD CIVILIZATION BASED ON FISSION FIVE HUNDRED YEARS AGO BUT THE OUTS WENT THROUGH HERE AND KNOCKED THEM INTO A QUOTE PILE OF DUNG END QUOTE STP THEY HAD SPACE TRAVEL BUT KEPT AWAY FROM FIFTH PLANET AS HAD NO NEED FOR QUADRITE WHICH IS ONLY ATTRACTION

STP ALL THEY CAN TELL ME IS THAT ONE OF THEIR RELIGIOUS LEADERS PREDICTED MY ARRIVAL AND SAID OF THE FIFTH PLANET QUOTE HE WHO WILL FEED ON IT SHALL LIVE OF IT STP END QUOTE SOUNDS GOOD STP AM ON ROUTE NOW STP MART MARTIN M GLICK COMGEN IV

4-19-2308

Office of the Undersecretary for Defense

Jim:

I have covered the situation for you down at the Opchief's office, and I am sure you must be mistaken about Colonel Gorley. He seems straightforward and solid, and explained the defense setup to me in such a way that for the first time it made sense to me. I can think of no one we might pick who would make a better advisor to the President on military matters. As for Colonel Gorley having no service record, the idea is fantastic. Several of the officers present spoke familiarly to Gorley of events which happened while he and they were at Bristol Bay together in their Academy days. It could hardly be a case of mistaken identity. Colonel Gorley is a very striking man, very compact and muscular—a very powerful, magnetic, dynamic type. He has peculiarly keen intelligent eyes, and an incisive, clear positive manner of speaking. Personally, I think that instead of investigating Gorley, we should raise him to high rank and get a little decision into the war effort.

Birdie

P.S. The only thing resembling criticism I have heard of Gorley was a joking reference that he has a ferocious appetite and has to diet constantly to keep his weight down. Surely you won't hold this against him.

ROUTINE 04-20-2308-0756TCT
STAFF
COMGEN IV TO OPCHIEF GS CAPITOL
ADVANCE ELEMENTS FLEET IV HAVE LANDED ON PLANET FIVE RPT FIVE OF SYSTEM CODE R3J RPT R3J STP NO OPPOSITION STP ONLY INHABITANTS APPEAR TO BE GRAZING ANIMALS OF INTERMEDIATE SIZE

4-20-2308

Comptroller of the Records

Dear Mr. Secretary:

I list below in chronological order the portions of past Administrative records apparently referring to Colonel Q. L. Gorley:

4-25-2304 . . . Thank you so much for sending me Colonel Gorley. The defense position is more clear to me . . .

President to Opchief

5-4-2304 . . . I approve the new plan of dynamic containment. I was a bit uncertain as to the effect this would have should the enemy renew offensive action, but Colonel Gorley has assured me it will be possible to

concentrate reserves quickly. On this basis, I approve the plan. Certainly it seems much less risky . . .

President to Opchief 2-23-2305 . . . I do not understand your difficulties in repelling the latest enemy attack. What exactly has happened here? Why were you not able to concentrate your reserves quickly enough to prevent the enemy from traversing the whole length and breadth of the system and leaving a trail of ruin behind him such as we have not seen in twenty years of warfare? Who ordered these cuts in production? What do you mean you cannot replace the losses? I have no memory of these Executive Orders you speak of, or of any Colonel Gorley. Send this man to me immediately, or better yet, come yourself . . .

President to Opchief 2-24-2305 . . . Colonel Gorley has explained the matter to me satisfactorily. Of course it is unfortunate, but these things happen . . .

President to Opchief 6-1-2305 . . . Colonel Gorley will explain to you the recommended new cuts in the defense budget. The improved foreign situation makes these cuts possible . . .

Opchief to President 4-2-2306 . . . Rystenko, these losses are horrible. Why has this thing happened twice? The purpose of censorship is not to hold the people in ignorance and hide the festering wounds from view. The point of censorship is to keep information from the enemy and to prevent overviolent public reaction to unimportant temporary reversals. But these disasters are not unimportant! They are terrible defeats! I find your reaction grossly inadequate. Who is this Gorley you are sending to me, as if this would correct the situation? . . .

President to Opchief 4-4-2306 . . . Colonel Gorley has explained the matter to me satisfactorily. I see now clearly it was bound to happen in this phase of our defensive effort . . .

President to Opchief 6-2-2306 . . . I approve the new defense budget, as explained to me by Colonel Gorley. I am, of course, pleased though surprised that you can now give us more defensive power at lower cost. Please check this and be sure that the situation has stabilized to this extent . . .

President to Opchief 6-6-2306 . . . That Colonel Gorley be attached to my office until these complex arrangements are completed . . .

President to Opchief 6-7-2306 . . . We will miss Gorley, but are sure he will prove as helpful to you as to us . . .

Opchief to President 9-15-2306 . . . The food must be much better here than in your mess. Poor Gorley has to go on another diet . . .

President to Opchief 10-23-2306 . . . I am very sorry to have to bother you with these petty trivialities, Mr. President, but they may prove vital. I can't send men to Cryos with such inadequate equip-

ment as this budget allows for. This one trivial substitution of separate interliners and thin semi-detached boots may cost a delay of up to ten minutes when the men go into action. This equipment has already proved itself worthless. I will gladly consider Colonel Gorley's suggestions, but this matter was disposed of years ago. I have also discovered several other aspects of our present arrangements which make me extremely uneasy . . .

Opchief to President

10-25-2306 . . . I have talked with Colonel Gorley and can see that these plans are perfectly suited to the situation. Perhaps he could remain with our office for some time till these other matters are ironed out . . .

Opchief to President

4-15-2307 . . . Poor Gorley is on a diet again . . .

Opchief to President

4-16-2307 . . . Who? Gorley? Am I acquainted with the man? . . .

President to Opchief

4-29-2307 . . . Terribly shaken by this hideous disaster. Why has this happened to us when our arrangements were supposed to be invulnerable? The enemy has torn your battle line like tissue paper. Why are we so weak everywhere? Your talk of "elastic counter-defensive" makes no sense to me whatever. If these fleets were held concentrated at one central point instead of strewn all over the universe, we could return the blow. What do you mean by offering to send "Colonel Gorley" to me? If any personal explaining is to be done, you will come yourself, not send a stooge. Make out immediately a list of all requirements needed to correct this hideous situation.

President to Opchief

4-30-2307 . . . I see now. Gorley has explained it all to me . . .

President to Opchief

Note: These are all the direct references made to Colonel Q. L. Gorley in the Administration records. Would you like me to cross-check the Departmental records?

Respectfully,
Ogden Mannenberg
Comptroller of the Records

4-20-2308

Office of the Secretary for Defense
Comptroller of the Records:

Thank you. These references are amply sufficient for the present.

James Cordovan
Secretary for Defense

4-20-2308

Office of the President

Jim:

I have now absorbed the substance of the report Rystenko sent you concerning our defenses, and which you forwarded to me. I have slept on it, and thought of it when I was not otherwise occupied. It seems to me: 1) This policy of locating the main bulk of our fleet in a thin shell around the periphery offers us about as much defense as an eggshell does to an egg. 2) Since in the present arrangement the fleet does not engage, it is worth no more than so many civilian ships. 3) Therefore, let us draw all the fleet to the center

(with the possible exception of Glick's IVth, which is actively occupied), and replace it around the periphery with civilian ships and crews to service the layers of Henkel spheres. Enough men could be left behind to train these crews, but no more.

My final observation is that everything I have said so far is fairly obvious, therefore why hasn't Rystenko carried it out on his own? He impressed me very favorably in our interview, but further consideration leads me to think he may be one of these men who expend their sense on the package instead of the contents. I am going to talk to him again, and would like your view of the subject.

Bart

4-20-2308

Office of the President

General Rystenko:

I want to see you within the next hour regarding the overall strategy of the war effort, regarding the present recruitment and material replacement situation, and regarding the present arrangements for advancement of high officers.

Barton Baruch

4-20-2308

Office of the Chief of Operations

Dear Mr. President:

I shall be at your office at 3:00 p.m. if this is agreeable to you. As it happens, my aide, Colonel Q. L. Gorley, left my office a short while ago to bring you some important

data sheets. I am sure you will find him most helpful also on these other matters if you choose to consult him.

Respectfully,
J. J. Rystenko
Chief of Operations

4-20-2308

Office of the President

Jim:

I have just had a very illuminating talk with General Rystenko's aide, Colonel Gorley, and he has very clearly explained the logic of the present defense setup to me. I am sending him along to brief you. He is a most capable man, and I am sure you will profit by contact with him.

Bart

VITAL 04-20-2308-1654TCT
STAFF
COMGEN IV TO ALL STATIONS
U EXPLOSION D280L564V193
U EXPLOSION D280L562V193
U EXPLOSION D280L560V193
U EXPLOSION D280L562V195
U EXPLOSION D280L562V191
EXPLOSIONS SIMULTANEOUS TIME OF OBSERVATION 04-20-2308-1646TCT
VITAL TRANSMIT TRIPLE AT TEN-MINUTE INTERVALS

4-20-2308

Office of the Undersecretary for Defense

Jim:

Colonel Gorley is out here cooling his heels in the anteroom. He is here at the President's personal order, and yet when the receptionist tries to let him in, your door is locked. Have you turned childish?

Birdie

4-29-2308

Office of the Secretary for Defense

Birdie:

Who is Gorley? Is he the one who made the fuss removing a general yesterday or the day before? If he has anything from the President, he can leave it outside. If he wants to see me, he can make an appointment for tomorrow. I am working my way through a pile of business as high as your head, and I do not want to be disturbed till I am finished. Say, while he is out there, pump him discreetly about Rystenko. See if you can find out whether the Opchief used Gorley for a cat's-paw in trying to get rid of that general . . . what's his name? . . . Glick.

Jim

4-20-2308

Office of the Secretary for Defense

Chief Dispatcher:

Send the following:

VITAL 04-20-2308-1621TCT PERSONAL
DEFSEC CAPITOL TO COMGEN GR CAPITOL
REPLY IMMEDIATELY YOUR OPINION WILL PRESENT DEFENSES REPEL ENEMY ATTACK OF MAGNITUDE SIMILAR TO THAT EXPERIENCED LAST THREE YEARS STP REPLY IMMEDIATELY CATEGORY VITAL TO DEFSEC CAPITOL THROUGH

CHIEF DISPATCHER STP THIS INQUIRY AND REPLY CONFIDENTIAL STP JAMES CORDOVAN DEFSEC CAPITOL

(Reply requested immediately)

4-20-2308

Office of the Secretary for Defense
Comptroller of the Records:

Find out for me what happened to the body of the enemy captured after a dogfight in which Colonel A. C. Nielson was killed.

James Cordovan
Secretary for Defense

VITAL 04-20-2308-1642TCT PERSONAL
COMGEN GR CAP TO DEFSEC CAP THRU CHIEF DISPATCHER CONFIDENTIAL
MY OPINION PRESENT DEFENSES WILL COLLAPSE IF ENEMY ATTACKS WITH SAME STRENGTH AS FORMERLY STP OR WITH ANYTHING LIKE SAME STRENGTH AS FORMERLY STP VERNON L HAUSER COMGEN GR CAPITOL

4-20-2308

Comptroller of the Records
Dear Mr. Secretary:

The body of the captured enemy was brought here under refrigeration, to be examined by physicians and chemists. It arrived at night and was placed, still in its box, in a small room off the autopsy room. The intern on duty ordered the lid of the box pried up, examined the remains, and noted that the object within appeared to be in a state of advanced decomposition, with, however, very little odor. The room was refrigerated, and next day the surgeons entered to carry out a preliminary examination, and upon raising the lid found nothing within but a quantity of water, some of which had seeped out through the sides of the box.

The above summary is condensed from voluminous reports on the occurrence, and equally voluminous reports attempt to explain the matter, but the substance of these latter reports is that the authorities do not know what happened.

Respectfully,
Ogden Mannenberg
Comptroller of the Records

(Reply requested immediately)

4-20-2308

Office of the Secretary for Defense
Comptroller of the Records:

Send me a summary of the physical characteristics of the captured enemy during life.

James Cordovan
Secretary for Defense

4-20-2308

Office of the Undersecretary for Defense

Jim:

Colonel Gorley was ordered by the President to see you now, today. Why try to put him off till tomorrow? You can get back to your work after he has a few minutes to deliver his message.

Birdie

4-20-2308

Office of the Secretary for Defense

Birdie:

I am snowed under. Tomorrow.

Jim

4-20-2308

Comptroller of the Records

Dear Mr. Secretary:

The captured enemy is described as having during life the following physical characteristics: a) human form; b) extremely compact and muscular physique; c) peculiar keen sharp eyes; d) very great recuperative power.

Respectfully,

Ogden Mannenberg

Comptroller of the Records

4-20-2308

Office of the Secretary for Defense

Chief Dispatcher:

Send the following:

VITAL 04-20-2308-1708TCT PERSONAL

DEFSEC CAP TO COMGEN GR CAP CONFIDENTIAL

REPLY IMMEDIATELY THROUGH CHIEF DISPATCHER YOUR OPINION ON OUTCOME OF COMING ENEMY ATTACK IF ALL OUR FORCES NOW CONCENTRATED AT CENTRAL POINT LEAVING SMALL TRAINING CADRES AND CIVILIANS TO MAINTAIN HENKEL SPHERE DEFENSES STP REPLY CONFIDENTIAL CATEGORY VITAL STP JAMES CORDOVAN DEFSEC CAPITOL

VITAL 04-20-2308-1714TCT PERSONAL

COMGEN GR CAP TO DEFSEC CAP THRU CHIEF DISPATCHER CONFIDENTIAL

MY OPINION OUR CHANCES GOOD STP THIS IS FIRST SENSIBLE PLAN TO COME OUT OF CAP IN FOUR YEARS STP BUT YOU WILL NEVER GET IT BY RYSTENKO OR HIS CREATURE GORLEY STP SEE GORLEY DOES NOT GET TO PRESIDENT STP GORLEY IS CLEVER MAN WITH THE BUTTER KNIFE OR WHATEVER HE USES STP MR SECRETARY ONLY CHANCE YOUR PLAN GETTING ACROSS IS TO SEE PRESIDENT REMOVE RYSTENKO APPOINT ANYONE WITH ALL HIS FACULTIES STP ANY SANE MAN CAN SEE PLAN NOW IN USE IS SUICIDE STP VERNON L HAUSER COMGEN GR CAP

4-20-2308

Office of the Undersecretary for Defense

Jim:

Colonel Gorley was *ordered* to see you by the *President* and he was *ordered* to do it *today*. The colonel is a very powerful and determined man when his duty is at stake, Jim, and I think it would be wise not to get in his or the President's way. I say this as a friend, Jim. Gorley is *going* to *see* you *today*.

Birdie

4-20-2308

Office of the Secretary for Defense
Birdie:

Why didn't you tell me Gorley was here at the direct order of the President to see me *today*? He can see me when I am through, probably about an hour-and-a-half from now, or, as he would put it, about 1854 hours. Birdie, would you repeat what you said about Colonel Gorley's appearance? I think he reminds me of someone I knew as a kid.

Jim

04-20-2308

Office of the Secretary for Defense
Chief Dispatcher:

Send the following:

VITAL 04-20-2308-1722TCT PERSONAL
DEFSEC CAP TO COMGEN GR CAP CONFIDENTIAL
REPLY IMMEDIATELY THROUGH CHIEF DISPATCHER STP SITUATION HERE HIGHLY PRECARIOUS STP GORLEY HAS ALREADY GOTTEN TO PRESIDENT AND USED WHATEVER HE USES STP PRESIDENT NOW CONVERTED STP GORLEY AWAITING ME IN MY OUTER OFFICE STP EAGER TO USE WHATEVER HE USES STP MY THOUGHT THAT ONLY SOLUTION IS THROW AWAY PRESENT SITUATION AND START ALL OVER STP INCIDENTALLY WHY CAN I NOT PERSONALLY ORDER REGROUPING OF FORCES STP IS THERE ANOTHER CAPITOL AS I HAVE HEARD RUMORED ALL SET UP WITH SKELETON CREWS AND READY TO TAKE OVER IF ANYTHING HAPPENS TO PRESENT ONE STP WILL YOU CONSENT TO ACT AS OPCHIEF IF SO DIRECTED BY ME STP I PROPOSE GIVE YOU DIRECT ORDER TO PERFORM VERY HAZARDOUS THANKLESS MISSION OF VITAL IMPORTANCE STP WILL YOU OBEY IMMEDIATELY AND WITHOUT QUESTION STP REPLY IMMEDIATELY THROUGH CHIEF DISPATCHER STP REPLY CONFIDENTIAL CATEGORY VITAL STP JAMES CORDOVAN DEFSEC CAPITOL

VITAL 04-20-2308-1730TCT PERSONAL
COMGEN GR CAP TO DEFSEC CAP THRU CHIEF DISPATCHER CONFIDENTIAL
HOW DOES GORLEY DO IT STP YES YOU CAN ORDER FORCES DIRECT BUT WHAT GOOD IF PRESIDENT COUNTERMANDS STP YES AUXILIARY CAP EXISTS READY TO TAKE OVER STP BUT IF WE LOSE THE PRESENT CAP THRU ENEMY ACTION IT WILL BE BECAUSE OF GREAT WEAKNESS AND THERE WILL BE LITTLE FOR AUX CAP TO DO BUT SIGN SURRENDER STP YES I WILL BE OPCHIEF IF YOU SO ORDER STP I WILL FOLLOW ORDERS REGARDLESS HAZARD OR THANKLESSNESS STP I WILL ACT IMMEDIATELY

WITHOUT QUESTION STP BUT I CAN FOLLOW YOUR ORDERS ONLY IF NOT COUNTERMANDED BY HIGHER AUTHORITY THAT IS THE PRESIDENT STP VERNON L HAUSER COMGEN GR CAP

4-20-2308

Office of the Undersecretary for Defense

Jim:

Come off it, fellow. You can't expect a man like Colonel Gorley to wait around in your outer office when he is on a mission direct from the President. As for Colonel Gorley's appearance, as I said before, the colonel is a splendid figure of a man, very compact and muscular, with peculiarly keen sharp eyes. Eyes indicative, I might add, of great force of character, and you are standing in this man's way and the President's. Colonel Gorley says he thinks it is "unlikely" you knew him as a child. He came from a place where as a child he didn't ever have enough to eat, which explains his periodic little indulgences in food. He is angry with you, Jim, and he is close to the President. I don't think he will wait much longer, Jim, when it is his duty to see you. Wake up, Jim.

Birdie

4-20-2308

Office of the Secretary for Defense

Chief Dispatcher:

Send the following:

VITAL 04-20-2308-1734TCT PERSONAL

DEFSEC CAP TO COMGENS ALL SECTORS

EFFECTIVE IMMEDIATELY GENENERAL J J RYSTENKO IS REMOVED RPT REMOVED FROM POST AS OPCHIEF GS STP EFFECTIVE IMMEDIATELY LIEUTENANT-GENERAL VERNON L HAUSER COMGEN GR IS APPOINTED RPT APPOINTED OPCHIEF GS STP I HAVE FULL AND COMPLETE CONFIDENCE IN GENERAL HAUSER STP ANY DELAY IN CARRYING OUT GENERAL HAUSER'S ORDERS IN THE UNUSUAL CIRCUMSTANCES ABOUT TO OCCUR WILL BE A DIRECT THREAT TO THE SECURITY OF THE RACE STP IN THESE TIMES STEADINESS AND INSTANT OBEDIENCE TO ORDERS ARE THE VITAL QUALITIES STP GOD BE WITH YOU AND HOLD YOU STEADY AGAINST THE FOE STP JAMES CORDOVAN DEFSEC CAPITOL

VITAL 04-20-2308-1735TCT STAFF

DEFSEC CAPITOL TO ALL STATIONS

FOR YOUR INFORMATION EXPERIENCE WITH ENEMY CAPTIVE HERE SUGGESTS OUTS POSSESS GREAT HYPNOTIC POWERS AT CLOSE RANGE STP ADVISABLE TAKE NO PRISONERS

VITAL 04-20-2308-1736TCT PERSONAL

DEFSEC CAPITOL TO COMGEN GR CAPITOL
DIRECT ORDER YOU DESTROY RPT DESTROY CAPITOL RPT CAPITOL AT EARLIEST POSSIBLE MOMENT CONSISTENT WITH SAFETY OF FORCES UNDER YOUR COMMAND STP THEN CONCENTRATE MAIN FORCES AS YOU THINK ADVISABLE STP JAMES CORDOVAN DEFSEC CAP

4-20-2308

Office of the Undersecretary of Defense

Jim:

You have gone a little too far in defying Colonel Gorley and the President, and Colonel Gorley has decided to wait no longer in performing his duty. He is coming in to see you now, Jim; door or no door.

Birdie

4-20-2308

Office of the Secretary for Defense

Birdie:

Tell Colonel Gorley I have a service revolver in my hand and am only too eager to test Gorley's fantastic recuperative powers against this and one other weapon. Go after him and tell him this.

Jim

ROUTINE 04-20-2308-1700TCT STAFF
COMGEN IV TO OPCHIEF GS CAPITOL
OCCUPATION OF PLANET FIVE RPT FIVE COMPLETE STP NO RPT NO OPPOSITION STP NO RPT NO INDICATION OF PREVIOUS ATTEMPTS TO TAKE PLANET STP HUGE RESERVES OF QUADRITE STP MINING NOW UNDERWAY

4-20-2308

Office of the Undersecretary for Defense

Jim:

What do you mean? What is going on here? May I go home, Jim? I feel strange.

Birdie

4-20-2308

Office of the Secretary for Defense

Birdie:

Thank you for sending Colonel Gorley in to me. He has explained our defense setup to me most clearly.

Jim

VITAL 04-20-2308-1750TCT STAFF
COMGEN GR CAP TO ALL STATIONS
U EXPLOSION CAPITOL
U EXPLOSION CAPITOL
U EXPLOSION CAPITOL
U EXPLOSION CAPITOL
U EXPLOSION CAPITOL
EXPLOSIONS RAPID SUCCESSIVE NOT BY ENEMY ACTION
TIME OF OBSERVATION 04-20-2308-1746TCT
VITAL TRANSMIT TRIPLE AT TEN-MINUTE INTERVALS

THE END

THE REFERENCE LIBRARY

BY P. SCHUYLER MILLER

FUTURES

We—and by "we" I mean the entire science fiction-fantasy world, editors, writers, artists, fen/fenne, and a few nuts—have a kind of vested interest in the future. We've played with most of the possible and a great many frankly impossible variants, some seriously, some nonsensically, some just for the sake of playing. It's interesting, therefore, to see what happens when from time to time some respected figure from the scientific or political world wanders into our range and tries his hand at prognostication.

Latest of the lot is an unassuming little book from Cambridge University Press, "The Foreseeable Future," by Sir George Thomson, the British physicist whose work on quantum mechanics won him the Nobel Prize in Physics (1937, shared with C. J. Davisson). Its 166 pages will cost you $2.50.

Sir George, I take it, is conservative in matters of physics. I base my opinion on his passing comment on fundamental particles: he is still plumping for three, electrons, protons and neutrons—with misgivings about the third—in spite of the bewildering profusion of pions, muons, bar-

yons, hyperons, et al in the current literature. Presumably he believes that all these highly un-elementary elementary particles will eventually be shaken down into special fabrications of simple plus and minus. You will probably consider him conservative in most of his predictions. But there are some surprises in what he has to say . . .

One novelty, by the way, is the approach to science which Sir George expresses in his introductory chapter. This is the point that scientific principles are frequently what he calls "principles of impotence" which say that certain things *cannot* be done, rather than setting forth what can. Thus the law of conservation of energy/matter; thus Einstein's concept of the limiting velocity of light; thus Heisenberg's uncertainty principle and Pauli's exclusion principle. Sir George discusses seven in all.

Energy and power are considered first. The author is rather optimistic about the length of time our oil and coal reserves will last, and does not make as much as he might of the social and the economic aspects of the coal problem: sitting in the midst of the bituminous fields, I see prospecting turn up new resources every day while whole towns sit hungry because the mines are closed. Some principles emerge, which are not exactly novel to readers of this magazine: solar energy and nuclear energy can be adequate, but can't be used until the cost of other sources, especially fossil fuels, has become prohibitive. And the greatest need of all is something John Campbell was urging on the world years ago —a really *good* energy-storage device or accumulator.

I am interested to find Sir George still urging a nice little wood fire for much domestic heating (provided, of course, that we begin to harvest our forests intelligently): is it the British as opposed to the American-central-heating point of view that comments: "if heat is only required in a particular room for half an hour a day it (electrical heating) is an excellent method."

There are some interesting ideas in the chapter on materials, principally the suggestion that it may be possible to increase the tensile strength of common metals by a factor of a hundred by learning to eliminate the minute flaws in their crystal structure at which shear and slippage begin, and to control molecular forces and structure in a way that will give us ethereal spiderweb cities and bridges.

Speaking of ether, Sir George is also an ether—or "aether"—partisan, as is made clear in his chapter on transport and communications. Conservative or not, he has evidently traveled enough by air to feel strongly about the situation in which you spend more time getting to and from the airport than you do in the air between cities. He has hopes for trains, seems to have no idea at all of the American long-haul truck-and-turnpike movement, and is not impressed by the helicopter-for-everyone propaganda. He sees a

practical limit to trans-Atlantic flights at a speed (Mach 3) which gives a crossing in an hour and a half, and six hours for a trip halfway around the world (the farthest you'll ever have to go in a hurry: remember the old one about how far will a dog run into the woods?). But I think you'll get a real surprise in Sir George's reasoning that a large submarine can travel economically at higher speeds—seventy to eighty knots—than a surface ship. As for interplanetary and interstellar flight, you'll take heart from his simple and serious discussion and his optimism about such things as ionic rockets, travel at a fair-sized fraction of the speed of light, and the use of the anti-protons (Seetee matter) whose discovery was generally announced this week.

"A visit to the stars is not imminent," concludes Sir George, "but we may well be nearer to it than we are to Pekin man." And *that*, good friends, is on the order of half a million years.

I won't try to summarize any more of Sir George's predictions. They cover meteorology, food, applications of biology—*controlled* mutation—mechanization, education and cybernetics. "More sober than science fiction," the jacket says. It *is* sober, but it's a little startling to see some of our allegedly wild ideas treated seriously.

One of Sir George's points in his discussion of climate control is that whereas the weather involves energy exchanges vaster than anything men have ever handled—the energy of three thousand Hiroshima bombs in one "decent-sized" storm—meteorology is uncovering the importance of triggering reactions which may set long, complicated processions of action and reaction to moving. The same argument is used by Dr. William Lee Stokes of the University of Utah, in an article, "Another Look at the Ice Age," in the latest—October 28th—issue of the weekly magazine *Science*. The same issue has some correspondence on the expanding population vs. limited resources question treated here last spring in Donald Kingsbury's article "The Right to Breed."

Granted, Dr. Stokes' "trigger" is a little more impressive than seeding a cloud to make it rain or—Thomson—controlling local climate by planting and flooding. It is a siege of mountain-building, which he suggests may set off a tricky and paradoxical oscillation controlled by the temperature and rate of heat-loss from the oceans.

It works roughly like this (and anyone can read the article): when the continents, or some part of them, are elevated substantially as they were beginning in the Cretaceous, they eventually reach a height where the young mountains support year-round snowfields and glaciers as do the higher ranges today. These cool both the air that blows over them and the streams that flow down from them. The sea gradually begins to cool; after a while pack-ice can form

and persist in the polar regions, and this increases the cooling effect since it reflects rather than absorbs the sun's heat. With the worldwide cooling of the seas, evaporation is reduced and with it precipitation—since there is less moisture in the air to fall as rain or snow. Result: at the end of this phase, the glaciers waste away again and there is widespread aridity—but the sea has been chilled.

With Phase Two, we have a bare, arid land surface and a cold-water reservoir in the seas. The sun beats down, the land grows hotter and drier, rivers begin to run warmer and warmer—though precipitation has fallen off—and the polar ice probably disappears completely. Dr. Stokes suggests that we are in this phase now, with the glacial minimum during the "climatic optimum" of 4500-2500 B.C. The polar ice may eventually disappear in a single season, he suggests, and the climatic zones and weather pattern shift poleward.

In Phase Three, the oceans have warmed up to the point where evaporation drops more moisture on the snowfields in winter than the sun can melt away in the summer—and the glaciers begin to grow once more. This is a rapidly accelerating process, in the course of which the shallow polar basin chills and freezes again, the cooling slowly extends to the seas, and the cycle has started around again. It's not an overnight process: Dr. Stokes suggests something of the order of fifty thousand years to warm up the oceans, or possibly one hundred thousand before the increased evaporation from the warmer seas has produced continental ice-sheets. He also proposes that the peculiar geography of North America, with a wall of young mountains on the west, the shallow Polar Sea at the north and the shallow, hot Gulf of Mexico on the south, may have been the heat-pump that set off the entire worldwide Pleistocene glaciation.

And this combination of Thomson and Stokes fits neatly into the thesis behind H. Chandler Elliott's excellent new novel, "Reprieve from Paradise" (Gnome, $3.00) which is reviewed elsewhere in this issue. Although they can't have gotten together, Elliott is applying some of Thomson's proposals to Stokes' ocean-control theory to produce a top-notch story. Small planet, isn't it?

REPRIEVE FROM PARADISE, by H. Chandler Elliott. Gnome Press, New York. 1955. 256 pp. $3.00

If you're browsing in a bookstore, don't let one of Gnome Press' most confusing jacket blurbs put you off one of their best novels.

The time is roughly two thousand years from now. Our own Western Society has brought itself down in a wave of bombings, and Polynesian missionaries have built up a new society in which human breeding is the Great Objective and human feeding is the Great Profession.

Little by little the entire face of the earth has been hammered, planed and drilled into arable land for the endless expanses of food plants. Animals and insects are gone; the seas, however, still provide some food. And in the packed Cities the Freemen go through an unthinking monotony of eating, living, amusement and token work.

Our hero is Pahad tuan Konor, a Freeman child who has been different enough to be taken out of the City and trained as a scientist—until his individualism comes up against the Heirarchy. His university is to be overrun by fields unless he makes good on his rash promise to up food production one per cent in five years . . . and he is promptly diverted into a task which makes it impossible for him to carry on the necessary work. Then unforeseen ramifications begin to turn up in what he has considered a make-work job, and presently he is bogged down in both scientific and personal problems, and uncovers what seems to be a conspiracy to flood out the Race by tipping the Earth's axis, melting the polar ice, and raising the seas to flood the reclaimed lowlands which grow Man's food-margin.

Although long stretches of introspective writing may make this novel hard going for some readers, the picture of a race breeding itself into starvation is beautifully worked out, the leading characters come to life, and the conflicts of personality and ethics are more important than slam-bang battle. Pahad's conversion to the Rebel cause is logical and inevitable in a way that Mitch Courtenay's, in "The Space Merchants," unfortunately never was.

I don't know whether H. Chandler Elliott is a screen for a better known name—whose style I certainly can't spot—or whether Marty Greenberg is backing a complete dark horse. If the latter is the case, I hope he runs more often: I'll know how to bet.

GALAXY OF GHOULS, edited by Judith Merril. Lion Library, New York. 1955. 192 pp. 35¢

If you like fantasy at all, especially of the tricked up *Unknown-F&SF* style, you won't want to miss this, and in any case a few items are straight, good science fiction: William Tenn's "Child's Play," for example, which is the story of the man who got hold of a Bild-a-Man set from 2162 A.D., and Clifford Simak's "Desertion," which is the emotional peak of the man-and-dog series unified in his award-winning "City" (here in 1952). Anthony Boucher's very short "The Ambassadors" is a logical and literal sequel to his classic "Compleat Werewolf" from *Unknown*. Fritz Leiber's "The Night He Cried" is the now classic take-off of Mickey Spillane which first appeared in Ballantine's "Star Science Fiction Stories," and Robert Sheckley's "Proof of the Pudding" is a nice last-man-with-ESP variant.

FRONTIERS OF ASTRONOMY, by Fred Hoyle. Harper and Brothers, New York. 1955. 360 pp. Ill. $5.00

There hasn't been an idea-generator for science fiction writers like this book since the wonderful old days of Jeans and Eddington, when we first began to see past the Milky Way into a universe of universes. How sound it is, how commensurate with other facts and theories in physics and astronomy, how well it will stand up to the research of the next few years or decades, are all things I can't judge . . . but it carries the smooth conviction of a good novel.

Fred Hoyle—remember his "Nature of the Universe" in 1951?—is one of the storm-centers of present-day science. In this book he sets down his conviction that ours is a universe infinite in time and space, constantly renewed by a process in which matter is born out of space, coalesces into gas clouds, and continues to clot into swarms of galaxies, star-streams, stars, and finally planets and men. It is a dogmatic book, though not a belligerent one: Hoyle states flatly that this and this are so, hence these conclusions follow. I know from other sources that his fellow astronomers, physicists and mathematicians by no means accept his data or his chain of reasoning.

Hoyle's basic premise, which will be attractive to most science-fiction readers, is that this is a universe of strict and all-encompassing law, of cause and effect, in which—if only you know enough—the grand procession of worlds follows inevitably from the laws of physics and the fact of matter. There is no place in this universe, he insists, for chance, for "accident." If it had not been said long before, he might have argued that "God is a mathematician"—and one who uses Fred Hoyle's equations. Yet it seems to me that in his protesting he is basically inconsistent, for his universe of law is built up from the quantum and wave theories of atomic and nuclear behavior, which depend very heavily on probability mathematics, so that "accident" is at the very root of all his argument.

There is another basic flaw in the book, which may only be a question of approach to a lay public. All the plausible, smoothly meshed evolutionary structure from dust to worlds is presented *qualitatively* in about the way a writer for this magazine might set it down in a story. It is rarely clear whether Hoyle is saying: "This *ought* to happen if this is true," or whether he means "Mathematically this follows if this is true."

The book is too full to describe. It progresses step by step from the structure of the Earth to its origins, then to those of the solar system, the Sun and other stars, the Galaxy and swarms of galaxies, coming finally to Hoyle's concept of continuous creation and a self-regenerating, expanding universe. He gets across to me, for the first time, a plausible reason why the universe seems to be expanding on the large scale but not in local concentrations of matter. At

the same time, a large horsefly enters the ointment, which he does not explain away: instead he ignores it, and in doing so, it seems to me, leaves Relativity out of his scheme.

The catch comes in the new answer to Olbers' old, old paradox: why, if the universe is infinite, is not the sky one blaze of light from an infinity of stars? The answer, on the basis of the expanding universe, is that beyond a distance of about two billion parsecs stars at the fringe of the universe are receding from us at the velocity of light, so that we can never see them or anything beyond. It seems to me that this begs a mighty big question, on which Hoyle's whole structure may stand or fall: for under Relativity the velocity of light is a limit which cannot be passed, at which the inertia of matter becomes infinite. In nuclear experiments, electrons have been projected at high enough velocities so that the effect has been seen and measured. So—what happens beyond two billion parsecs, where galaxies should be traveling away *faster* than light? And especially, what is the gravitational effect of this shell of infinite mass? If it were homogeneous and continuous, there would be no gravitational field inside: that is elementary calculus. But it is neither, and thereby arises an incongruity which Mr. Hoyle should at least have mentioned.

Velikovsky followers, by the way, may acclaim the book: Hoyle proposes that the dust and sludge out of which the planets formed—part of a kind of ring spun out of the shrinking Sun through the gravitational pull of a nearby star—may have included hydrocarbons which would coat the bits of rock with a kind of asphalt, and glue them together when they chanced to collide. On this theory, petroleum has its origins at the same time as the planet and is gradually working its way up out of the depths. The 'quakes you hear are geologists reading that chapter. As an interesting corollary, Hoyle suggests that life may go back to these pre-planetary dust-cloud days.

By all means read the book: you don't have to believe it, but it paints a fascinating picture whose composition is as simple as that of a space opera.

THE END OF ETERNITY, by Isaac Asimov. Doubleday & Co., Garden City. 1955. 191 pp. $2.95

This is an excellent job for the dyed-in-the-wool fan who likes to see what can be spun out of an unusual scientific idea, but I'm afraid it is a book which will confuse the neophyte more than it entertains him.

"Eternity," in Asimov's concept, is a kind of elevator shaft on the outside wall of Time, extending from a level in the Twenty-seventh Century up into the nearly infinite future. Operating through Eternity is the organization of the Eternals, traveling up and down the shaft in their "kettles" with administrative units in

every century. Peering out into "real" Time, they have learned to watch for and spot those crucial moments of choice which deflect the future of the human race, and to shape the future by changing those choices and throwing the probability of existence to an alternative course in Time.

Andrew Harlan is a Technician, whose job it is to make the actual cause - and - effect transformations which deflect the Timestream. He falls in love with a non-Eternal woman, kidnaps her into the far future, then sets about tinkering with the intricate inter-relationships of Time and Eternity to cover up his crime and regularize his affair. Only Harlan soon finds that he is a key figure in a mysterious scheme which the Council of the Eternals has under way.

This is the kind of intricately conceived and worked-out science fiction like van Vogt's "Null A" that I personally like a lot. My one reservation is that the story loses itself in the mechanism.

TIME BOMB, by Wilson Tucker. Rinehart & Co., New York & Toronto. 1955. 246 pp. $2.75

This is a kind of sequel to Tucker's "The Time Masters"—though you'd never learn it from the publisher—which at the same time tries to be a kind of temporal detective story. It doesn't quite succeed as either, and drops down somewhere near the bottom of the list of Tucker books.

Somewhere not too far from now the Illinois Security Police are plagued with the problem of trying to foresee and forestall a series of strange bombings in and around Chicago, which are eroding away the upper echelons of the dictatorial Sons of America party. The Department's telepath, Mr. Ramsey, is no help, and Lieutenant Danforth presently finds himself dealing with an even queerer couple, Gilbert and Shirley Nash, the nigh-immortals of the earlier book. Finally it appears that the only logical explanation must be that the bombs are coming out of Time: and how do you set about detecting that kind of public enemy?

Tucker's considerable detectival and science fictive talents haven't quite meshed here.

DOME AROUND AMERICA, by Jack Williamson.

THE PARADOX MEN, by Charles L. Harness. Ace Books, Inc., New York. 1955. 187 + 133 pp. 35¢

This Ace back-to-back adds a rather inconsequential Williamson short novel of 1941 vintage, whose original name I can't spot. It's the one in which North America, under a force dome, preserves the water and air which have been stripped off the planet by a passing dwarf star. Outside the Dome another vengeful

culture hangs on in isolated fortresses and plots to destroy the Dome and America. And our hero, a Ring Guard, goes out into the airless sea bottoms disguised as the agent he has captured—while the agent escapes and follows.

"The Paradox Men" is a new name for Harness' "Flight Into Yesterday" (Bouregy & Curl, 1953), the story of a future society in which only the Society of Thieves and its swashbuckling head, Alar, uphold the lost principles of freedom and individuality.

Pure action-adventure, both of 'em.

REPRINTS OF THE MONTH

THE CAVES OF STEEL, by Isaac Asimov. Signet Books, New York. 1955. 189 pp. 35¢

Asimov Month among the paperbacks begins with his successful blend of science fiction with detection in a world of robots and ruling Spacemen.

THE MAN WHO UPSET THE UNIVERSE, by Isaac Asimov. Ace Books, New York. 1955. 254 pp. 35¢

This is a new name for "Foundation and Empire." Ace published "Foundation" as "The 1000 Year Plan" in one of its Double Books. This, of course, is the section of the epic dealing with the Mule.

DEEP SPACE, by Eric Frank Russell. Bantam Books, New York. 1955. 165 pp. 25¢

You get only the eight short stories from the Fantasy Press collection which was a highlight of 1954. The opening novelette of the hard-back edition, "First Person Singular," is out. Same superb Mel Hunter cover illo, though.

THE ANALYTICAL LABORATORY

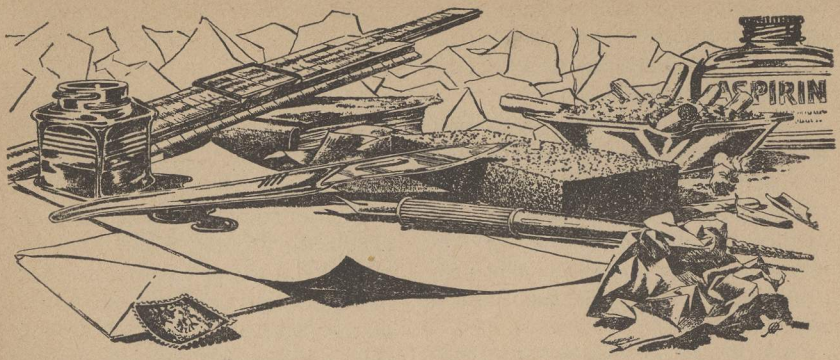
(*Continued from page 99*)

Naturally, I'd like to have it a five-way battle royal, knock-down-drag-out contest all the way, all the time. Well, they say heaven's lovely too . . .

Anyway, here's the score:

PLACE	STORY	AUTHOR	POINTS
1.	Call Him Dead (Pt. II)	Eric Frank Russell	1.19
2.	The Gift of Gab	Jack Vance	2.04
3.	Aspirin Won't Help It	John A. Sentry	3.80
4.	Blessed Are the Meek	G. C. Edmondson	3.85
5.	Scrimshaw	Murray Leinster	3.89

THE EDITOR.



BRASS TACKS

Editor's Note:—

There have been many letters suggesting methods of combating the highway hypnosis problem suggested in the article "Design Flaw": I cannot answer them all, nor can I publish all. But I can thank you for your efforts. Many new specific instances of highway-hypnosis type accidents were reported; it is evident that considerable thinking was done.

One basic type of suggested counter-agent appeared in many letters; an automatic, random-timed warning buzzer, hooter, or other signal device which, if the driver did not take some specific action, such as pressing a reset button, would cut off ignition, apply brakes, or the like.

This problem is tough—really tough. These devices constitute a deliberately installed irritant; it is essentially similar to the idea of the night-watchman's one-legged stool. He falls off and is rudely awakened if he falls asleep. But . . . will a night-watchman buy such a stool *for himself?* Will a normal human being go out of his way to install in his car something deliberately designed to be as irritating as possible?

Second; hypnosis is not sleep. A man in hypnosis can carry out a complex task with great skill . . . provided it is a routine task. It would take a man about one hour's exposure to the mechanical irritator to establish a habit-pattern response to the warning hoot, or what-not. The tremendous adaptability of a human being is, in this instance, a tremendous weakness. Once the automatic warning gadget is handled by a habit-pattern, hypnosis can set in, and the habit-pattern will go right on resetting the anti-hypnosis device!

Seemingly, the only sure test for hypnosis is that a hypnotized human

being does not have judgment. A judicious human being can detect lack of judgment; a machine, having no judgment, cannot.

Until the nature of hypnosis itself is fully elucidated, irritant devices *not* under the voluntary control of the driver seem to be necessary. Examples: interfering traffic, at frequent intervals. Something that produces real insecurity in the driver's mind.

Which is, of course, precisely what no human being thinks he wants!

THE EDITOR.

Dear Mr. Campbell:

The judgment and good taste you evidence in selecting material for publication has always made me respect you. Your editorials have always made me admire you. After reading of your fight for less murderous highways, so that Joseph Kearney and others like him may not have died in vain, those feelings are multiplied tenfold.

By way of sympathy I can only offer you an idea. It may be valueless, but if you get enough ideas perhaps some of them may in turn suggest something that will be valuable. How about colored concrete sections? It shouldn't be too expensive, and color researchers have long proclaimed the psychological value of color. Personally I have been impressed by an awakened interest in the highway in passing from one road district to another where different materials used changed the color of the highway.

My husband and I have felt for a long time that modern cars and highway conditions call for the "two heads are better than one" system with the co-pilot taking an active part in the driving. While the driver behind the wheel has charge of the car and most decisions, the person on the right has charge of the maps and is responsible for watching directional signs and signifying when to turn into another highway. The co-pilot also *verifies* potential hazards such as livestock, farm implements, small motorized units, vehicles ahead which may be slowing or stopping, vehicles at intersections—anything which is or might get on the highway. The assistant on the right is in a better position to spot a car in the oncoming lane which might attempt to pass without enough room and to check for clearance on the right when passing trucks on narrow roads or when crossing narrow bridges.

When there is nothing about the highway to comment on, from time to time we talk about where we're headed or where we've been. And if we run out of desultory conversation we sing. So far we've been lucky. —Mrs. Tom E. Hille, 4803 Elgin Avenue, Lubbock, Texas.

Railroads have long had the "co-engineer" verify the signal lights. Most automobile drivers feel, at present, that they are being subjected to "back-seat driving" rath-

er than verification. A change in that feeling might help a lot!

Dear Mr. Campbell:

Your article "Design Flaw" deals with a problem, road hypnosis, with which I am familiar. As a working news photographer I have seen more than one accident which could be attributed to no other cause, and then, too, I had one experience of my own that I won't soon forget. I had been driving for some hours when I came upon a car in my lane which was not moving. Not only did I not notice that it wasn't in motion, I didn't even see it. My wife, whose reactions are as fast as mine normally are, realized I didn't see the car, shouted, and I applied the brakes coming to a panic stop with my front bumper lightly tapping the bumper of the other car. I left skid marks for over a hundred feet and could actually see smoke from burned rubber drifting away from my car. Now as to possible solutions to the problem . . . there's no harm in letting the imagination roam freely and that's what I'm going to do here.

In the first place I will take the stand that it is impractical—at the moment—to do anything about the highways themselves and that there must be some better way of dividing the driver's attention than peppering the countryside with billboards. So let's deal with the obvious first: the car radio. Does it help? It might seem at first thought that the fixing of attention visually could quite overpower the sound from the speaker and cause it to recede into the background along with other noises . . . but can it? How passive is the act of listening? Do you not take some active part in nearly every radio program, if only to damn it's stupidity? I don't know, but according to your pragmatic approach to the problem we should ask: In how many of these highway deaths which might be attributed to road hypnosis *was the car radio turned on?*

Carrying this a step further, can we increase participation in what comes out of the speaker? Sure, hams do. They talk back. It's highly effective, too. In many miles of operating while driving I've never had the problem of road hypnosis. Of course every driver can't have a ham ticket but there's the citizens' band. And, getting fanciful, suppose each car had a transmitter and receiver on fixed frequencies and that the State Police and Turnpike authorities maintained stations every few miles. The motorists could get information on traffic conditions, weather, warnings from automatic radar units coupled to transmitters, could ask for directions or for help if they ran out of gas. And station operators would be encouraged to chat with motorists whenever possible.

Next, we might consider some method of warning the motorist in time that he is creeping up on a slower moving vehicle. The obvious method would seem to be radar, except that present sets are expensive

and cause too much battery drain. Eventually transisterized radar sets might solve the second if not the first of these problems. The warning signal could be some kind of a wavering screech calculated to break up the deepest hypnosis. This might keep drivers from following too closely on the tails of other drivers as well. Another possible method might be to place a parabolic microphone in front of the car and feed its output into an amplifier through some sort of noise gate or adjustable squelch. Most trucks make quite a racket and as the motorist gets too close and the squelch opens the racket in the speaker might bring him out of his trance. In any warning scheme, if you figure that the motorist is overtaking the slower moving vehicle at fifteen to twenty miles an hour, not too much warning would be necessary, assuming normal reflexes. (According to your article we don't have to worry about those drivers who are slow or stupid . . . they don't hypnotize.)

Getting more fanciful as we go along, we must consider that some sort of instrument might be evolved that could detect a hypnotic condition and actuate a warning device. I don't know about the physiological evidences of a state of hypnosis, but I know that it is supposed to be detectible in brain-wave tracings on an encephalograph.

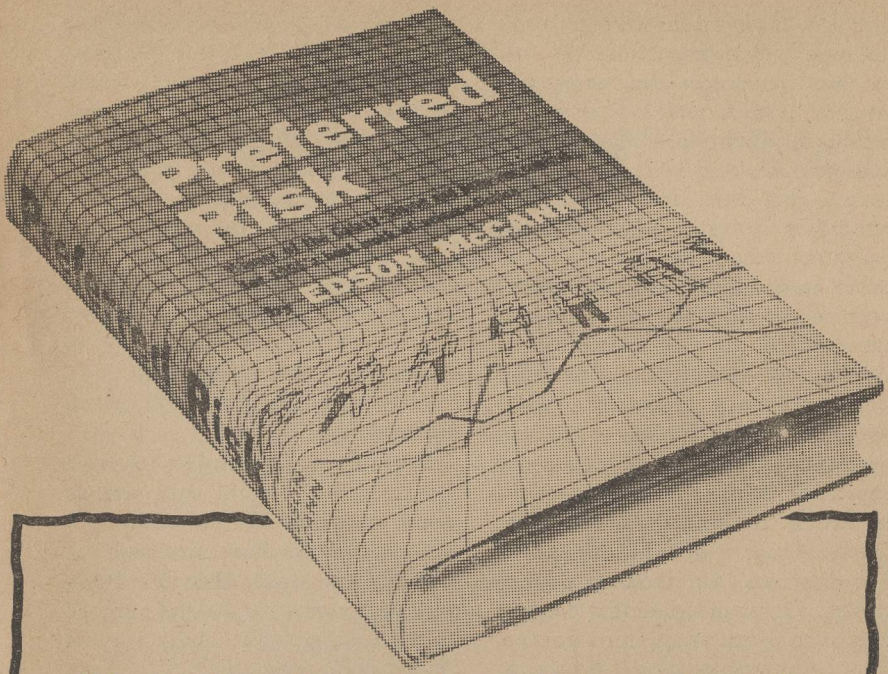
So far we have considered prevention of hypnosis by division of interest, detection of the approach to a slower moving vehicle, and direct detection of a hypnotic state. One other possibility which might merit a lot of research is a direct medical preventive of hypnosis. It may well be that just as benzedrine and other drugs help produce a concentrated state which favors hypnosis, a drug might be found which will make hypnosis impossible without at the same time producing any undesirable effects which in other ways would jeopardize the safety of the motorist. —Lawrence F. Willard, Box 262, Yalesville, Connecticut.

Radios do not seem to be of much help, the pragmatic, trial-and-error approach to a solution is necessary—but must not be allowed to make a fundamental attack on "What is hypnosis" unnecessary.

Dear Mr. Campbell:

Your editorial, "Game Theory," was quite good, as usual, and I agree with most of it. However, I take exception to part of your remarks concerning the "chastisement" of Einstein and Oppenheimer for expressing social opinions.

You say "The culture has clearly expressed its extremely powerful conviction that technicians *must not* attempt to form social judgments." I suggest that that is only half true; it would be more accurate if instead of "technicians" you say "people." In our society one is not supposed to "form" social judgments; they are



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supplied ready-made. If one forms his own judgments, it must be that he does not accept the ready-made ones of custom, and *that* is strictly forbidden. Einstein, Oppenheimer, and other scientists were not attacked because they were scientists, nor because they expressed social opinions; but rather because the opinions themselves were unpalatable. *All* prominent people who state such opinions are attacked, not just technicians.

You also remarked that when Einstein tried to express some social opinions, he was shushed as "incompetent to speak in a field he was not expert in." It is, of course, thoroughly wrong to hinder anyone from speaking his mind, especially on social questions. But there is a small kernel of sense in saying that Einstein was incompetent to speak on politics. That's an exaggeration, of course; he had as much right to make social pronouncements as anyone else. But he assuredly had no greater right, nor should his opinions have met with any special respect. When one steps outside his field of professional competence, his opinions deserve no more consideration than anyone else's; one cannot logically bring in his reputation as a physicist to support his views on any subject other than physics. That a man is an expert nuclear physicist does not mean that he is *ipso facto* qualified to pronounce on the sociopolitical phases of nucleonics, any more than being able to build a stove automatically qualifies one to pass as a cook.

This, I think, brings me to the question of whether scientists have a special responsibility for the social consequences of their work. I would say that the scientist, as a scientist, has no such responsibility. But the scientist is also a citizen, a member of society, and as such he does have that responsibility. *And so does every other citizen.* Those who say that scientists have a special obligation to control the social effects of science are, in my opinion, just trying to evade their own responsibilities as citizens, by pushing the load off on the scientists.

We are all responsible for such things as the control and use of atomic weapons. If, for example, it was a crime to have dropped the A-bombs on Japan, then the President was guilty for having ordered it, the Congress was guilty for not immediately impeaching the President, and the general populace was guilty for not unseating the Congress. That these things were not done amounted to a tacit approval of the bombings, and thereby we all became accessories after the fact, each of us with his full share of whatever guilt there might be. In a democracy, politics is everybody's business, and we can't evade the responsibility by foisting it off on scientists or any other group. End of sermon.—George W. Price, 519 East 41st Street, Chicago 15, Illinois.

If thinking and forming judgments is a function, then some men can become experts at that. Einstein, I feel, was a wise thinker.

(*Continued from page 6*)
clusion—and that leads to the inevitable difficulty of the confusion of all non-science. The problem is perhaps best expressed by the answer sometimes given to the famous "Alice" conundrum, "Why is a raven like a writing desk?" Answer: Because you can't ride either one like a bicycle.

Now that answer is unarguably true. Beyond question, a raven and a writing desk do share that characteristic. Of course everything in the universe that isn't a bicycle shares the characteristic too, including canoes, spaniel dogs, atomic bombs and fountain pens. When you define something by exclusion, you immediately confuse it with everything else that is excluded from the category.

The consequence is that since frauds, charlatans, crackpots, and fools do not use honest, scientific methods of work, they belong in the category excluded from "honest scientific researchers." So, however, does Buddha, Jesus, and President Eisenhower. Both groups do not belong in the category of "honest scientific researchers." Both groups use methods other than those used by physicists in their laboratory work, for example.

Yet it is evident from that strong response that you, the readers, want to know what honest *non-scientific* research is being done in the field of psionics, and what is being accomplished.

I can obtain articles reporting on such work; the work exists, and Dr. Rhine, at Duke University, is far from being alone in the field. Also, he is not working in the most interesting area—the area of the psionic machine.

The problem, however, is going to be exceedingly hard to handle. First, the very statement "psionic machine" will call forth strong reactions of denial from both the sincere mystics, who are doing their own research in the field of ESP, and hold strongly that it is an essentially *human*—nonmechanical—thing, and from the physicists, who hold the "psionic" concept is nonsense. The mystic detests the idea of a psionic *machine;* the physicist is outraged at the idea of a *psionic* machine.

But the problem is to bridge the gap between the purely-human detector—the mystic's approach—and the pure-machine-as-we-know-it, the physicist's approach. What is needed is a reproducible machine that can detect a nonphysical phenomenon which is also a psionic phenomenon. When the photoelectric cell replaced the observer's eye, it could be calibrated and reproduced. When the camera replaced the astronomer's eye, angular measurements could attain a new order of precision.

I can obtain and run such articles. They are appropriate to the essential function of science fiction—that of speculative consideration of those phenomena of the Universe which have not yet been fully understood, fully worked out. But there is pow-

erful resistance to the psionic ideas. It must, necessarily, look like mysticism—and because it is defined almost entirely by negation—even Dr. Rhine defines it by negation; *extra*-sensory perception specifically holding that it is *not* sensory—we will be handling material that is in the same category with frauds, charlatans, and the work of the great religious and political leaders; it won't be honest scientific reseach, because it lies outside of and beyond known science.

The work is being done; there are psionic machines that have produced incredible results. It is the necessary characteristic of all such work that the results are clearly impossible. The entire field is full of palpable nonsense, claims of things that are obviously illogical, things that anyone who knows anything about the basic laws of science can immediately recognize as obvious impossibilities.

For example, typical of several psionic-machine devices and claims is that the machine makes it possible to analyze a mineral without the mineral. That they can determine the chemical composition of a mineral by using the machine on a photograph of the mineral. This is obvious and errant nonsense.

So it is. It is also the consistent report turned in by entirely separate groups working on psionic machines in different parts of the world.

We're going to have to face a very simple fact before we can start discussing articles on the researches being done toward psionic machines.

The fact is this: Unless the machine does something *known to be impossible* there is no evidence of a new field of research, is there?

The physicist wants the machine to make sound, scientific, logical sense—to behave in a sensible manner, and do sensible, reasonable things. When it does do something sensible and understandable . . . he explains that what it has done is nothing new. He can do the same thing by physical means; it is clear, therefore, he says, that there is no advantage in this cumbersome contraption.

But if it does something he knows cannot be done by any conceivable application of any conceivable law of science . . . then he denies that the effect is real, because he knows it is impossible.

If the psionic machine *can* analyze minerals—and if you're interested, you might look up United States Patent No. 2,482,773, issued to T. G. Hieronymous—when they are placed in the machine itself, it is doing something that a lot of known mechanisms can accomplish. Therefore, there is no point in fussing with it, is there?

But if what the machine does is clearly impossible, no one but a fool would try doing it, or believe it was not fraudulent if he saw it demonstrated.

Very well, gentlemen, how will you have it? The only possible proof of a new discovery is a crucial experiment. A crucial experiment requires accomplishing an act, Q, which can *not* be accomplished by any previously known methods, but can be demonstrated by the new method.

But this means that proof of discovery requires the demonstration of the clearly impossible! Only doing the "clearly impossible" can constitute full proof of discovery.

Therefore, if you want articles on the work that has been done on psionic machines and ESP amplifiers —gentlemen, work has been done. There are reports—honestly worked up reports—of much amateur work and success with such devices. I can obtain and publish such material.

But I must state clearly beforehand that the statements made in such articles will be claims of having accomplished things that any intelligent modern man knows are clear, pure nonsense—impossibilities. Precisely; that is the necessary condition for proof of discovery.

What is the difficulty? Why, if such work can be demonstrated, can't it be accepted in a more conventional framework?

The answer is that it is not *demonstration* that is lacking, but *explanation.*

Assume for a moment that T. G. Hieronymous is correct in his statement that he can analyze a chemical compound, by the use of his fully described machine, by using a photograph of the material. Let us suppose that he demonstrates this phenomenon before a group of chemists.

It won't work for all of them,

when they try it. Some get results; some do not. Hieronymous can do it—but he may not have a fully integrated theory to explain *why* he gets results.

That results in the actual present situation; Hieronymous has a United States Patent, because the Patent Office requires only that you specify exactly *how* to do it. You are not asked to explain *why* it works. The Patent Office was designed to aid the Nation's economy, and a businessman need not know *why* a device works. He need only know how to make it work, and be able to predict whether it will work or what percentage of success he can expect. A mechanism that works fifteen per cent of the time is entirely satisfactory for a business venture, remember. A production line with ninety per cent rejects isn't ideal, of course, but it can be highly profitable—well worth while. I believe some of Western Electric Company's exceedingly special, and exceedingly critical tubes show rejection rates as high or higher than that. The ten per cent or so that do work do something so valuable that they more than pay for the failures.

The Patent Office, then, unlike a scientific journal, doesn't demand that the inventor explain why his device functions. That's part of the fact that you can not patent a Law of Nature.

But science simply does not accept *that* a thing works, nor is it satisfied with *how* it works. It cannot be accepted until a logical bridge has been built from known theoretical structures to the new concept.

Einstein built a logical-mathematical bridge to the concepts of relativity, and predicted the "impossible" phenomenon of light "falling" in a gravitational field. Because he could build a logical bridge, his work was accepted. If, instead, Einstein had studied solar eclipse pictures, and insisted that the stars moved when the Sun was near them, he would have been laughed out of sight.

He would have been wrong of course; the stars do *not* move. But his observations of the shift of star-*images* would have been dismissed with him. The effect is, after all, so small that it can be determined only

with the greatest difficulty; the errors of measurement are nearly as great as the effect being measured. It would certainly be easier to dismiss the phenomenon as measurement error, rather than to accept that, somehow, the stars were being shifted by the passage of the Sun, and seek a whole new cosmology based on that!

Of course, since Einstein actually provided the whole new cosmology, all neatly worked out for them—they could accept it.

A while back, I mentioned in these pages, the idea of the individual who could see ultraviolet in a world of people who could not. Let us suppose we have a population wherein about one individual in one thousand has the ability to see ultraviolet. One of these individuals, experimenting with devices, finds that it is possible to detect the nature of a mineral by the UV fluorescence of the mineral when it is struck by X rays. That is . . . it is possible *for one who can see UV.*

But he doesn't know what UV is; he simply knows by experience that he can see a difference. About one in a thousand who investigate his claims finds that he's absolutely right . . . but can't explain it either. Because, we must assume, the level of the science at that time has not discovered UV radiation, hasn't invented photography, and hasn't invented photoelectric cells.

It doesn't matter a bit that he's right; he can't explain it, nor can he explain why some individuals can and others cannot do it. Those who cannot outnumber those who can nine hundred ninety-nine to one; he is, necessarily, in the spot of saying "All nine hundred ninety-nine of you are incompetent; only he is competent," but not being able to explain to the nine hundred ninety-nine what he means by "competent."

I published an editorial on "Organic Detectors" a while back. The reading and investigating I've done indicates that organisms, living entities, are necessary as part of the psionic machine, so far. Usually, the human being who is doing the work is also the detector, though a mechanism is used to amplify the phenomenon he is to detect. After all, a telescope can't see anything; it's capable of amplifying the image, however, so that a sensitive human being can see it.

But the evidence that's come in so far seems to show that most human beings are not sensitive enough to be able to use the crude amplifier devices so far developed. Some work done in England appeared to have a magnificent line on the problem, because photographic plates were able to detect the results. Dozens of different operators had used the machine successfully, though special adjustments had to be made for individual operators. Things seemed to be really booming beautifully . . . until it was found that the photographic plates did not work unless their darkroom technician handled them. It wasn't that he marked them, put images on them, or anything of

the sort; it was simply that he in some unanalyzable, inexplicable manner hypersensitized them so that other men could use them. Unfortnuately, *no* other individual having that characteristic has been found.

Experimenting in the field is, in consequence, most uncertain. You may duplicate the mechanism that worked magnificently for A . . . and find it does nothing whatever. Why? What do you want, a research project, or to build something according to a fully-worked-out engineering diagram? If the latter, you can amuse yourself building a television receiver, or an electric motor, or a gasoline engine.

If you want true frontier research, you can try the psionic machine experiments. Being frontier work, it probably won't work for you when built the way it is supposed to be. You may succeed in modifying it so it does work for you—and find that it won't work without you. Or, again, you might be one of those who just "hasn't got it," whatever "it" is, and isn't going to have it. If you have good sense, you'll stay away from the field, because it's going to cost time, money and effort—and it's fascinating work.

In optics, the unsolved problem is how to build a ruling engine that can make perfect twelve-inch or larger diffraction gratings. A number of people have tried. The story has it that getting started on the job is fatal; people stop trying only when they are too broke to try any more.

The history of the psionic machine research is of that order. It's bad business to get started in it; people who have seem to be stuck with the research. It starts with a simple little contraption that produces weird and wonderful effects . . . very unreliably. Further research makes the contraption more complex, more reliable—and more expensive.

Eventually, a stage is reached where it shows high reliability for its inventor—and won't work for others. The original crude device usually works, unreliably of course, for many people. The reliable machine, however, works only for one.

I strongly recommend that you

keep that fact in mind; the work evidently has a powerful tendency to draw in more and more of the researcher's attention and efforts. Keep away from it; it'll break you if you get started.

But it is fascinating to read about. If you readers indicate interest, I'll get hold of some articles on what has been, and is being done. Before I do so, however, it is necessary that it be fully realized that such articles will, necessarily, discuss devices that:

1. Work unreliably, or work only under seemingly arbitrary conditions, and usually work only for one individual.
2. Of which it is claimed they do the obviously impossible.
3. Demonstrations can be reported, in which the obviously impossible, errant nonsense, was seemingly demonstrated.
4. The explanations offered are inadequate, unconvincing, and cannot be verified by experiment.
5. But . . . devices which, developed by totally isolated individuals or groups, working without knowledge of each other, have none the less demonstrated similar impossible phenomena. For example, they agree in full with the law of Sympathetic Magic that a part of a thing is equal to the whole, and that what is done to an image of the thing is done to the whole. That things can be done to a photograph that affect the original of the picture.
6. Most of them combine light and electronics in their operation.
7. Most of the groups have started with very simple gadgets that can be home made. They start off about as complex as an Ouija board, and wind up with an electro-optical bankruptcy device.

I think that's fair and honest warning. Honest and sincere work is being done; there are machines. If you want, we can have reports on them. I can get reports written not by the people engaged in the work, but by someone who can make a simple statement of the physical structure of the device, where the inventor agrees, and a direct statement of demonstrations and claims made for it.

My personal hunch is that these individuals and groups are prodding at the edges of a new field that will open a totally new concept of the Universe. And that, within the next twenty years, the barrier will be cracked; a reproducible machine will be achieved when a valid theory of operation is achieved—and not before. But I believe that that can be, and will be done before 1975.

In the meantime, it might be interesting to see what sort of common principles are emerging from these amateur efforts toward a new field of science.

If you want a series of such reports—it's your right to indicate policy. I'll carry it out.

THE EDITOR

—Continued from Back Cover

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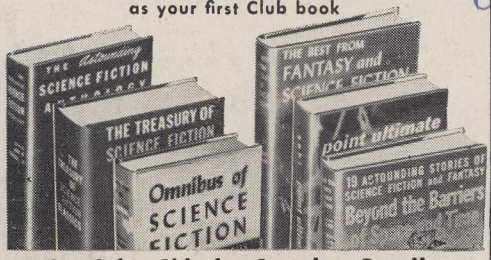

See Other Side for Complete Details