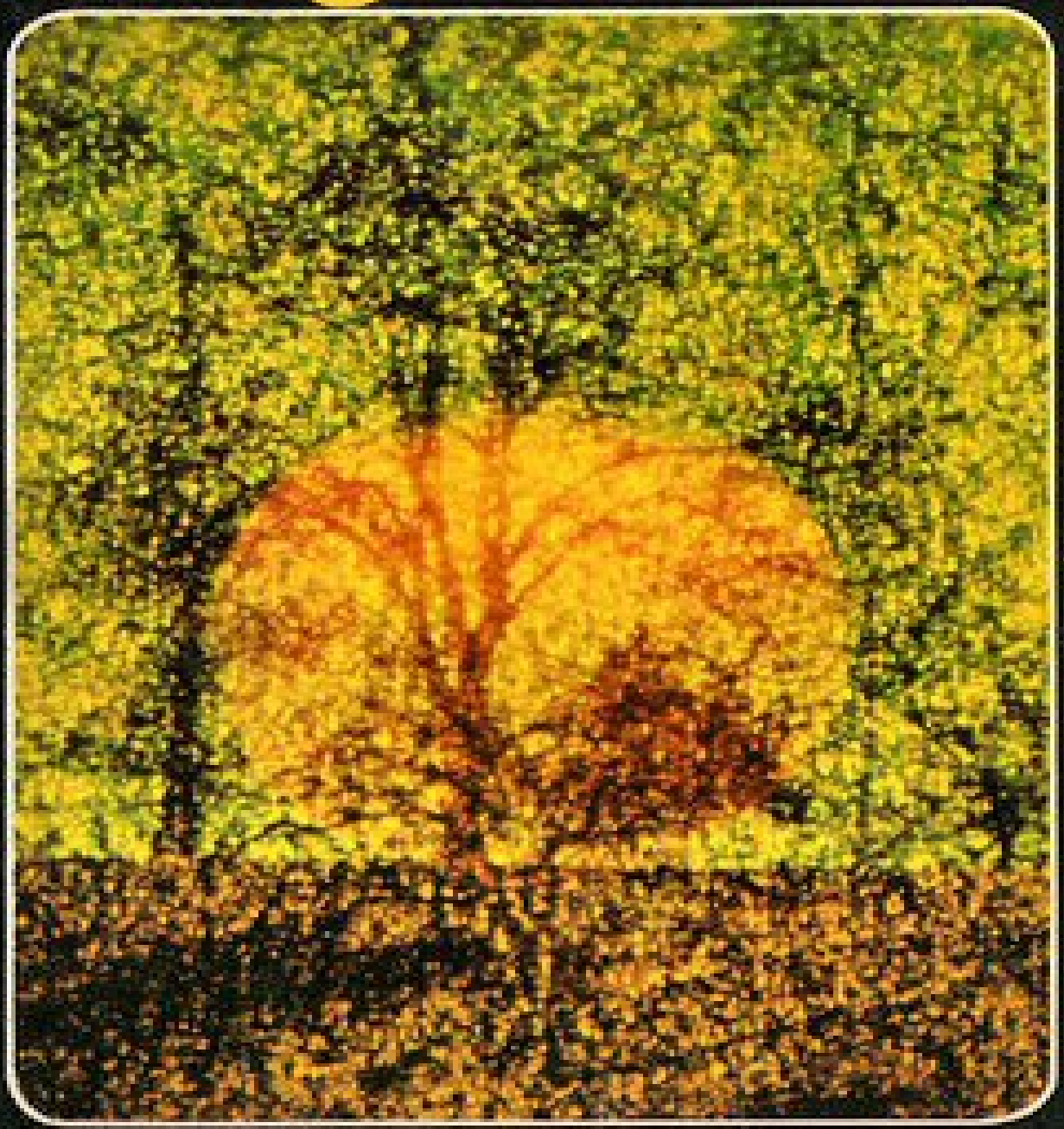
Four

Short Stories

George O. Smith



Four Short Stories

by George O. Smith

Counter Foil

It was near the close of a normal day in late July, if a day in late July can properly be called normal. The temperature and the humidity were tied in the mid-nineties; a reporter from the News fired the usual egg on the pavement while his photographer snapped the picture that would adorn tomorrow's front page. There had been three flying saucer sightings reported, and the Loch Ness monster had made his appearance right on schedule. The cases of heat prostration were running at par, and nerves in the un-airconditioned areas were fraying short. Still, the clock displayed hope as it crawled on toward the end of the work day and promised freedom from bondage and the right to pursue both internal and external liquid happiness.

Gertrude, the videophone receptionist, still looked crisp in her office. Her voice as she responded with the singysongy, "Tele-por-TRAN-sit," had not lost its lilt. But it was obvious to the caller that Trudy sat in air-conditioned splendor. And either she loathed the idea of leaving her comfort and going home, or she despised him who called. For after the lilting greeting, her voice dropped to a flat, "Oh, it's you again."

Johnny Peters smiled. "Show?"

"No."

"Swim?"

"No."

"Dinner?"

"No."

"Nothing?"

"Nothing!"

"Trudy, I'm not poison, you know."

"Johnny, I know you're not poison. But you're not very ambitious, either."

"Now listen," he said sharply, "I'm only asking for a date. I'm not offering to have you share my frugal life, bed, and board as a lowly technician. A date I can afford; a wife I can't."

"You could try to get ahead."

"I've made my bid. I asked my illustrious leader for advanced training and an accelerated course so I could move along faster, and he said that moving too fast was bad for a young man. Shall I quit now and go elsewhere?"

"Where would you go?"

"That's the trouble, Trudy. I majored in teleportonics, and it's either teleportonics or I go back to school and start something new. Think the boss-man will move me faster in Greater Chicago? I doubt it. So I might as well stay right here in Megapolis."

"I suppose you're right."

"All right, let's start over again. Show?"

"Johnny, not tonight. I'm busy."

"Tomorrow?"

"If we're not all cooked by then. Call me, Johnny." "Will do," he said with a growing smile.

Johnny Peters broke the connection and checked his instrument panel. The primary powerline from Con Edison was running a tenth of a volt low; with bored, routine gesture he twitched a knob, watched the voltage rise, and then he settled back with little more to do until the end of his shift of duty.

In the distant reaches of the city, the uneasy slumber of a napping woman was broken by a wave of pain. A gush of body-warm wetness brought a flash of things to mind that came and went as fast as thought, far too rapidly to reproduce in any electromechanical medium of expression. She thought, in turn: It was her firstborn. The doctor said there was little point in predicting the arrival of a firstborn because they had no record upon which to base an estimate. The women in her family were prone to deliver in taxicabs and ambulances on the way to the hospital.

A second wave of pain assailed her, interrupting the rapid flow of thought. Then as the pain subsided, she went on: That was fast!

She struggled to her feet and duckwalked heavily on her heels to the videophone. She pressed the button for one of the stored-program numbers and immediately a crisp, cool voice responded, "Tele-port-TRAN-sit," in the lilt with all four clear tones sounding in order.

"Trudy, this is Irma Fellowes. Can you connect me with Joe?"

"Sure thing. Half a mo' and you're on. How's things?"

"Baby's on the way." The simple statement was emphasized by a smothered groan and the grimace of pain on Irma Fellowes' face.

Trudy gulped and lost her cool, crisp, composure. "Whoops! I'll give Joe the double-whammy ring."

The muted wail of a siren came, and almost instantly the scene on the videophone switched to a man, seated at his desk. His face was still changing to a look of puzzled concern. He barked, "Where's the emergency and wha .. . oh! Irma. Wh . . . er . . . ?"

"Baby's on the way, Joe."

"Fine," he said. "Have you called Maternity?"

"Not yet."

"Irma, I can't do you any good at all. I appreciate the information, but it could have waited until you got to the hospital."

"Joe! It's your child!"

"Sure. And you're my wife. Now buzz off here and call the hospital. Get going."

He hung up; reluctantly because he hated the harshness of the act, but deliberately because it was the only way he could get her to move in the right direction.

Irma Fellowes stared at the videophone as though it should resume operation after a brief interruption. It didn't. Whatever she started to think at that moment was stopped by another wave of agony. When it subsided, she pressed another button, one that had been set up for a temporary emergency. It connected her with the maternity ward of City Hospital; the plate showed an elderly woman in nurse's uniform, who said, "Maternity, Nurse Wilkins speaking."

"This is Mrs. Fellowes. Baby's on the way."

"Just how frequent are your pains, Mrs. Fellowes?" "Rapid. And coming faster all the time."

Irma was interrupted by another pain, through which, faintly, she heard the muted siren. Nurse Wilkins read off some detailed instructions from a card, speaking unhurriedly to someone that could not be seen on the videophone. When she finished, Nurse Wilkins said to Irma Fellowes, "Take it easy now, there's a resident doctor, an interne, and a nurse on their way."

Irma closed the circuit, waddled to the kitchen and drank a glass of water, returned to the living room and paced a bit. Perhaps two minutes passed, then came a rap on the door. She opened it to admit doctor and nurse, followed by the interne pushing a wheeled stretcher. "Hop on," said the intern.

"I can't," groaned Irma.

The doctor scooped her up and deposited her on the stretcher. He applied stethoscope, then palpated her abdomen gently. "O.K.," he said after a moment. "Let's go. No problem."

Irma said, "But I was born in an ambulance, and--"

The doctor laughed. "Mrs. Fellowes, from what little I know of the process, teleportation flips you from entry to exit at the speed of light. Now, even if it were from here to Alpha Centauri, your baby couldn't be born en route simply because at the speed of light all timing processes come to a quiet standstill. And by `timing processes' I mean things like clocks, and biochemical reactions, births, aging, and death. O.K.?"

"That's what Joe always says, but--"

"Well, let's find out if he's right."

The corridor was partly cooled from leakage from the air-conditioned apartments, but by contrast it was stifling enough to make Irma gasp. The interne had used foresight; the elevator door was blocked open so that no one could call it away and tie it up. He held the "No Stops" button as the elevator dropped them smoothly to the stage below the first floor. Here the full heat of the city hit them as they made their way along a short corridor to the teleportransit booth.

The signal light turned green as soon as the interne inserted the credit key in the lock-register. He pressed the buttons with a practiced hand, then paused to check the number in the address readout carefully.

"Pays to be careful," be said.

"Ever goof?" asked the nurse.

"Not really bad," he replied turning the credit key. The green light changed to orange, which started the circuit-computer on its faster-than-lightning task of selecting the route from this entry station to the address in the read-out panel. The orange turned to red. "Um-m-m. Maternity seems to have another customer," he said. "We'll be on our way as soon as they get her out of the booth and close the door." He looked at the number again.

"Worried?" asked the nurse.

"Not really worried," he replied. "But I've been thoughtful ever since I watched a hapless, well-dressed citizen trying to walk on air back to the diving exit they have over the ocean at Jones Beach. He was still protesting and waving his brief case as he disappeared beneath the

billowy wave."

"I hear you can watch about one per hour on a busy day," chuckled the doctor.

"Yeah," said the interne. He looked at the red light. "All right, all ready. Let's get cutting, huh?"

Two men whose names are legion paused and stood in momentary indecision halfway between Father's Bar and Grill on Eighth Avenue and the kiosk that led down to the 14th Street Teleportransit Station. Habit clashed with common sense; there was also the reluctance to part company.

"Fast one?"

"In this heat?"

"Father's is air-conditioned."

"So's my apartment. And there I can have the Little Woman construct me a cool, tall one whilst I get out of these clothes and into something comfortable. Then I can sit on the terrace in shorts and have my drink in comfort."

"You've got a point. No sense in leaving the office early if we don't take advantage of it."

They turned and headed for the kiosk. Down below, where the subway once rumbled, 14th Street Station was lined with booths, and before each booth was the start of a line-up of people. The big rush hour hadn't started yet, but there were enough citizens in this area who had the kind of job they could leave early to avoid the big jam. There were quite a number who didn't have that kind of job, but they left anyway, hoping their dereliction would either be overlooked or

forgotten by Monday morning.

The legion of citizens who left their jobs early to avoid the rush were not being watched by Big Brother, but by an impersonal peg-count that drove a dial that indicated the number of completed transits per minute. Beside the dial was a series of animated graphs that compared the day's traffic against yesterday's traffic, the same day a year ago, the maximum and minimum for this day any year, and the grand maximum and minimum for any day any year. All of the statistical graphs showed a sudden upsurge at the line denoting five o'clock, and the animated graph-line that displayed today's traffic was approaching a record.

Today's traffic had surpassed yesterday's for the past half hour, but this was not surprising because the rush-hour and just-before-rush traffic was heavier on Friday afternoons. It would undoubtedly repeat itself on Monday morning.

But as the moving finger wrote on toward the critical hour, it approached an all-time record. This would ring no bells nor toot any whistles. It would be duly noted, and a memorandum would be issued authorizing a survey to determine the possible future expansion of facilities; the probable cost of such an expansion; and above all, how much more income would pour into the coffers of Teleportransit, Incorporated.

Walter Long said, "I appreciate your interest, Harry, but I simply can't go out of line for your Johnny Peters." "Is it out of line?" asked Harry Warren.

"Yes, and it is also obvious to us in this section. Or, rather, it would be obvious if I did it."

"I should think you'd jump at a chance to reward someone who asked

for advancement."

"I would. And I could justify jumping Peters over a number of his seniors if he were outstanding in just one department. But he isn't outstanding in anything but his ability to lolly-gag with Trudy."

"You make him sound like a washout."

"Oh, Peters is no washout," said Walter Long. "He's just not sufficiently outstanding to warrant special attention."

"Well, you must admit that maintaining a monitor over a function-panel for a system that's adjusted and operated by a computer is not a job that provides an opportunity to be outstanding. There's just so much verve and vigor with which an ambitious man can turn a small knob to twitch the incoming line voltage by a couple of tenths. This operation gets pretty dull, especially when the computer will twist the knob itself if the line gets more than about a quarter of a volt off."

"I suppose you've a point."

"I think I do. But why not ask Johnny's boss? Joe knows him better than either of us."

"All right." Walter Long pressed a button; the intercom on his desk came to life.

Trudy, her composure regained, said, "Yes, Mr. Long?" "Trudy, connect me with Joe Fellowes, will you?" "Mr. Fellowes took off a few minutes ago."

'Where, for the love of Pete?"

"Mrs. Fellowes called and said that her baby was on the way. Joe took off for the maternity ward right after that. I could call him."

"No, don't bother right now. Just ask him to see me when he gets back. You've no word from the hospital yet, have you?"

"No, but from the way things looked, we won't have long to wait."

"O.K. Trudy. Keep me informed."

"Yes, sir." She closed the circuit; contact died in the middle of her lilting response, "Tele-por-TRAN-sit," to some incoming caller.

The clock hit five. The dial registering transits per minute rose sharply, and so did the graphs that displayed today's traffic compared to statistics. The increased load ran the incoming line down, the computer compensated for the drop before Johnny Peters could react. Somewhere down in the power distribution frames, a fuse blew; the local emergency power took over with no interruption while the blown fuse was replaced by a device that had neither nerves to twitch nor fingers to fumble.

The first inkling that something was wrong was given to Joe Fellowes.

Down in the computer, Joe's emergency trip from the Teleportransit Building to the maternity ward of City Hospital was racked up by the peg count circuits and added to the statistics being compiled in the Accounting Department. The computer also registered the awaiting trip of Mrs. Fellowes, the doctor, the interne, and the nurse. Being a machine, it did not understand about birth and life or death, so it can't be blamed for not registering the unborn Fellowes infant, alive and a passenger though he be.

Machinelike, it awaited the closing of the booth door that exited in the maternity ward, and when the signal came it promptly processed the party--people, stretcher, and unborn--into the system.

In the maternity ward, Joe Fellowes stared at the door to the teleportransit booth; mentally, he was urging it to open upon his wife. "What's keeping them?" he asked nervously.

"Heaven only knows," replied Nurse Wilkins, calmly.

"Something's wrong," he said.

"Hardly."

"What makes you think so?" he demanded.

"If anything were wrong, they'd call for help. Or come for it. That booth can't be used when... er... how did you get here, young man?" she demanded sharply.

"I'm with Teleportransit," he said bluntly, showing his identification card. "I used the override on your pre-empt circuit."

"Well, that's--" and she fell silent simply because it was done and neither locking the barn nor bawling out the stable boy would correct the act.

"Irma's family have their babies fast," he said. "Maybe--?"

Nurse Wilkins shook her head. "Even with delivery underway, they'd bring her back. That's why we send doctor, interne, and nurse along with everything necessary to handle any contingency. Your teleport things work so fast we can send a whole team out on a call each time."

"Fine," said Fellowes. "Then where's my wife?"

Nurse Wilkins replied sharply, "Mr. Fellowes, please grant that we

know our business and how to conduct it.

Granting that our hospital and its medical staff are competent, it's your teleport machinery that they're using. Maybe something broke down."

"Well, we can find out about that," he snapped back. "Teleport circuits either work or they don't. It neither swallows people nor does it go off its electromechanical rocker and run off a squadron of duplicates. So if it will run with me, it'll run with your medicos and my wife. Me? I think there's trouble at home and so I'm going to look."

Nurse Wilkins started to tell Joe Fellowes that he couldn't use the maternity ward teleportransit; but Joe, with a practiced hand, inserted his credit key with one band and plugged in his home address with the other. He waved as he withdrew the key and he disappeared as the computer processed him into the system.

The man's disappearance brought an uneasy nervousness to Nurse Wilkins. The system must be working or, by Joe Fellowes' own statement, he couldn't have entered it. Ergo something must have gone wrong with the team of medical people dispatched to help Mrs. Fellowes. The latter did not seem likely; despite the urgency of the call and the obviously imminent parturition, it was an uncomplicated, routine matter well within the competence of the medical personnel and their equipment.

Further, the door to the booth remained dormant, its indicating lamp signaling a priority for incoming traffic. Nurse Wilkins' uneasiness increased as the minutes passed. For now was added the complication of a second level of puzzlement; granting trouble with the medical team, Joe Fellowes might well stay home with them and his wife--and baby. On the other hand, they should have warned the hospital of the emergency. And third, granting that someone goofed

and returned the hospital team to a wrong address, it took but a second to correct any such error.

Nurse Wilkins stared at the door that had, despite the statement of Joe Fellowes to the contrary, swallowed one doctor, one interne, one nurse, a wagon, and one civilian whose identification card said that he was an engineer with a degree in teleportonics. And unsaid, she wondered uneasily whether the door at the other end hadn't maybe swallowed one woman in final labor and her a-borning child.

The commuting businessman comprises three general types. There is he who leaves early for any number of reasons, and he who habitually stays overtime either because he is intrigued with his job or bucking for a raise, or both. The in-between is the myriad who report in slightly before opening time and leave promptly at zero five zero-zero. When the latter turns up early, he surprises his family, sometimes in activities that astonish him. When he is late, his family think in terms of dragging the river, canvassing the hospitals, and sticking hatpins into an effigy of the boss, and when he turns up the family is likely to smell his breath and inspect his handkerchief for evidence of dalliance.

Teleportransit, Incorporated, did not change the habits of the commuter. At five o'clock, long queues of people lined up before the teleport booths that stood awaiting them on old subway platforms, in the basement of every large building in central Megapolis, and in special buildings to serve less densely populated areas. To serve the commuter better, Teleportransit provided a commuter key with the two terminals coded in the matrix. It worked only at the commuter's home and office stations, in one and out the other exclusively. For other destinations, the address had to be spelled out digit by digit.

The upshot of this special commuter's key was rapid transit with

capital letters. Step into the booth, insert the key, turn, restore, and withdraw it. How fast can a person move? With deft commuters, one teleportransit booth can handle one person every three seconds. Twelve hundred an hour. Times Square Station has three hundred booths; 34th Street has two fifty. Multiply these various values by the couple of hundred stations in Megapolis, then add the smaller numbers in the basement of the prominent buildings, and the capacity of Teleportransit to handle the four million daily commuters becomes clear.

The rush hour swung into gear and the transits-per-minute dial in the Teleportransit Building clicked into an upper register, reading kilotransits.

And at the terminals in Scarsdale, Mountainside, Freehold, and Sea Bright, wives collected in their station wagons to await their breadwinners. They waited. Then they looked at watches. Some turned on radios to check be time. Quite a few worried, and an equal number changed their expression from bored tolerance to knowing accusation of infidelity. Only one thing was glaringly obvious. Either the teleport system had broken down, or all husbands were delinquent at the same time, if not at the same place.

Giving the poor devils the benefit of the doubt the thing to do was to ask someone what went on. And so

"Tele-por-TRAN-sit," sang Trudy, waiting for her date. "Hello," came a female voice, "is something wrong?"

"Wrong?" asked Trudy.

"Yes. My husband hasn't come home yet."

"Well, I haven't--No, I mean, why ask me?"

"This is the Teleportransit Office, isn't it?"

"Yes, but--"

"Well, miss, it isn't only my husband. None of them have come home."

"I don't understand."

"Neither do I. Every night there're about forty of us waiting here, and our men come home one at a time over about fifteen minutes. Now we're here a half hour and not a one has come out of your station."

"Wait a moment. I'll check." Trudy buzzed Walter Long and told him. "There's a woman on the videophone who thinks the system has broken down."

"It couldn't," said Walter Long, stoutly. "Put her on, Trudy."

The harassed voice, having run through the story once for Trudy, had it better prepared for Walter Long. When she finished, he assured her, "Madam, we apologize for this inconvenience, and I personally thank you for bringing it to my attention. It's the first I knew of any tie-up. Now, let me attend to it at once, and we'll have your husband home in a jiffy. And thank you for calling."

"But where is he?" the woman wailed.

"Don't worry, madam," he said calmly. "If he hasn't come out of the exit, he hasn't gone into the entrance. So there are probably a lot of irate husbands standing angrily in front of an inoperative teleport booth."

"But they all come from different places," she wailed.

"We'll get them home," repeated Walter Long. He broke the circuit because talking to this anxious woman was not letting him get to the source of the problem. He buzzed Trudy and heard her sing, "Tele-por-Tran-sit," with some of the zing gone from her lilt. "Oh! Mr. Long. White Plains and Far Hills have both reported some sort of trouble."

"Trudy, call the hospital and find out where Joe Fellowes is, and how fast can he get back here."

"Yes, sir." Long waited on the circuit while Trudy got Nurse Wilkins, who explained that neither doctor, interne, nurse, stretcher-wagon, nor Mr. Fellowes had returned, and that they'd been gone for almost half an hour. When that was finished, Walter Long said, "Trudy, call Joe's home." Once more he waited on the circuit, but this time it was completely unfinished because the videophone ring-back burred and burrrred without an answer.

"Something's gone a long way wrong, Trudy," he said solemnly. On the open circuit, Walter Long could hear the incoming calls beginning to pile up. Trudy's usual singsong diminished until it became a flat and uninspired, "Teleportransit," followed by a wait and the terse explanation that a minor breakdown had occurred, that they were working on it; and no, she was merely the receptionist and didn't know a three-port circulator from a dithrambic foot. Sorry, but the technical staff is all busy correcting the fault and can't be interrupted.

"Trudy!" barked Walter Long.

"Yes?"

"Put the lilt back in your voice, and then record that last explanation and switch your board to automatic response. Just keep the private company incoming lines open."

"Yes, sir."

"And then come in here."

"Yes, sir. As soon as I finish."

When she entered, Walter Long said, "Trudy, among the things that are wrong is the absence of Joe Fellowes. That nurse said he went home, but hasn't returned. Maybe something's wrong at the Fellowes end of that circuit--by which I mean his wife and baby. Will you take a minute to run over to Fellowes' station and check?"

"Surely."

"And come back immediately. Understand? At once. Don't wait even if they have something vital that depends on you. Come back here and report. Understand?"

"Yes, Mr. Long. That's a promise."

Trudy used the teleport booth in the main front office. She was ultra-careful, inserting her credit key and entering each digit in the Fellowes address with deliberation. She checked the read-out digit by digit before she was satisfied enough to return the key in the lock-register to start the teleport process.

Like the four million commuters who disappeared once each morning and once each night, Trudy ceased to exist in the teleport booth that stood in the main front office of Teleportransit, Incorporated.

Like Nurse Wilkins and four million waiting wives, mistresses, girl friends, and terminal-station bartenders, Walter Long stared at the closed booth door and prayed for it to open. His staring became a vigil, for minutes stretched out and the girl did not return.

"Blast that girl," muttered Walter Long, "and she promised."

It was ten minutes of six when Walter Long called Harry Warren. "Harry, something's wrong."

"Wrong? Can it wait until morning. Walter? We've company coming tonight, and--"

"Tomorrow's Saturday, Harry."

"Yes. I know. So I'll come in tomorrow and settle it. Leave me a note about it. I'm off to home."

"Wait, Harry. Don't go. Don't, of all things, use the teleport."

"Now that's downright silly. How else can I get home?"

"Harry, to the best of my knowledge, people seem to be going into the system, but none are coming out."

"What?"

"You beard me right."

"Where's Fellowes?"

"That's the trouble. Fellowes was one of the first." "But what are we going to do?"

"Has the technical staff--?"

"Yeah. At five o'clock they headed for the teleport on a dead run."

"Right into this Frankenstein's Monster we own."

"Moloch was the god that ate 'em alive," said Harry Warren absently. "Well, there's still maintenance and monitor. The night man."

"And if I guess right, he's probably the closest guy this side of Pittsburgh, Boston, or Washington who knows anything about the technical side of teleportation. Get him up here."

"Maybe we'd better go down to him."

"That'll leave the office empty if someone calls."

"Ask Trudy to stay over a bit. After all, this is an emergency."

"I can't. I sent Trudy through the teleport to look for Joe Fellowes. She's gone, too."

"There are days when everything goes wrong," said Harry Warren. "Now I find that monitor and maintenance is none other than Johnny Peters."

"How come? If he has the duty tonight, why was he asking Trudy for a date?"

"It seems that she three-quarters promised him a date for tomorrow night, so Peters swapped nights with Frank Nash."

"Well, if I can plug up the company lines on the switchboard without electrocuting myself, I'll set them up on the downstairs set."

Johnny Peters lounged at the big test and control console, his feet hooked on one edge of the desk-panel. He was reading a magazine, and from time to time he let his eyes stray over the meters. He was bored, and he was frustrated because being the back-up to a completely self-adjusting, self-repairing, automatic machine does not leave much opportunity to perform noteworthy deeds. He was in this

attitude when Harry Warren and Walter Long burst in upon him.

"Hell breaking loose all over Megapolis," yelled Harry Warren, "and you sit there as if nothing were going on."

"So what's going on? No one tells me anything," replied Johnny Peters.

"You don't know?" asked Walter Long incredulously.

"No, I don't."

Harry Warren looked at the control console full of meters, dials, and multicolored pilot and warning lamps. "Is that thing functioning properly?"

Peters cast a rapid eye over the board. "Perfectly," he said, reaching out and giving one small knob an imperceptible turn.

"How can you be so sure so fast?"

"There isn't a red lamp showing," he said with a sweeping wave of his hand. "Blue-green indicates operating circuits that are functioning properly; yellow-orange indicates feed-back information--a continuous incoming flow of variables--that keep the operating circuits so properly adjusted that they maintain a continuous show of blue-green. Hasn't been a red lamp shown since I've been with Teleportransit, but I'm told that whistles blow, bells ring, cannon are fired and--"

"Well, something's gone to hell in a handbasket."

"For instance, what?"

"Our teleport system isn't working."

"Nonsense!" Peters pointed to a large dial. "Load's low tonight, but we're still making a couple of--"

"Stop them!" yelled Walter Long. "Peters, since somewhere about a quarter to five this evening, people have been a-pouring into the entrances, and not coming out of the exits."

"But that can't happen."

"You explain that to four million commuters--if we ever get 'em back."

"And if we don't, you try to explain it to their heirs and assigns," said Harry Warren.

"Is this condition local or widespread?" asked Peters.

"It's the entire system."

"No," said Peters, "I mean, has Pittsburgh or Greater Chicago reported the same mess-up?"

"That we don't know."

"Then let's find out," said Peters. On the console, he snapped a switch. A videoplate came to life, there was a brief ringback burr, and then a man's face appeared.

"Peters here, Megapolis. Teleportransit, Inc."

"Hi. James Gale. Pittsburgh Rapid. What's on your mind?"

"Have you any trouble reports?"

"No. What kind of trouble?"

"No tie-ups?"

"No. Now what can happen to a teleport circuit to tie it up?"

"I don't know, but everybody who goes into our machine just simply stays there."

"But that's not possible."

"All right. So that makes it a manifestation of the supernatural and it's swallowed more'n four million commuters, and it's continuing to swallow them at the rate of about fifteen hundred per minute."

"Turn it off," advised Jim Gale.

"I don't dare," said Johnny Peters. "I have the uneasy feeling that continued operation is the only contact that lies between here and the limbo they're lost in. I've no sound, scientific logic for that queasy feeling; it's just a conviction that I must follow." He turned to look at Walter Long and Harry Warren. Both of them looked blank until Johnny Peters said, "Unless I'm ordered to," at which they both shook their heads violently.

"Well, this I've got to see," said Gale. "I'm coming over."

"Whoa!" cried Peters. "I'd advise some other mode of transportation."

"Urn... guess you're right. So is there anything I can do to help?"

"Yes," said Walter Long quickly. "Get in touch with your top-level technical staff and tell them what we're up against. You can also call Boston and Washington and ask them what to do. See if the best technical brains of all three cities can get trains or cars to come here as fast as possible. In the meantime, we'll have to muddle through

with a junior technician, a business administrator, and one puzzled personnel relations counsel."

Throughout Megapolis, the news was spreading fast. In an earlier day, the radio in the automobile or in the depot bar would have spread the news like wildfire. But the habit of the commuter was to get where he was going first, and then relax to get the news. The news was thus delayed in its dissemination by the recipient's habits, not by any machination of press, government, big business, or unfavorable foreign powers.

The transits-per-minute meter began to taper off in an increasing drop as the news was spread. But it did not drop to zero because there were those that had not heard, those who did not believe, a number whose curiosity exceeded their good sense, a few misguided self-sacrificers, and a low but continuous counting rate pegged up by sheer habit. For just as people during a power failure will enter a room and flip the light switch in a reflex action, people preoccupied with other things turned into the teleport booth out of habit and whisked themselves into limbo.

More time passed; it takes time for the central nervous system of a vast Megapolis to react to a widespread emergency. Had one called two and the two then called four, and the four called eight, the word would have spread fast. But plans and programs such as this fail unsafely at the first breach in the pattern for there is no way of bridging the missing link. So in the usual ponderous way, the commissioners called the captains and the captains notified their lieutenants, and soon the word was spread to the patrolmen. And where there was a missing link to bridge, the radio called the patrolmen, firemen off-duty, members of the civil defense, and anybody who could be sworn to duty.

And not a few of these succumbed to habit by trying to take the

teleport system to the teleport station they'd been assigned to prevent people from using.

Ultimately, the stations were under control and the transits-per-minute meter was down to an unreadable, but still-not-zero figure. By this time, the hidden, unknown plane beyond the entrance of the teleports had its share of policemen and other keepers of the civic peace.

Johnny Peters looked at the mass of gray hammertone finish, chromium, and glass, and he realized a helplessness, a complete futility, the utter impossibility of doing anything useful. For what had always worked properly had stopped abruptly at about four-thirty in the afternoon. It was as if the sun, having come up on time since the dawn of eyes to watch for it, failed to show.

For Teleportransit was to Megapolis as hundreds of other teleport companies were to their respective cities. Take twelve years of handling commuter traffic five days each week and multiply that by the number of cities that had solved the commuting problem by licensing teleport companies, then quote the figure as a statistic with zero accidents in transit. The odds begin to approach the probabilities that the sun will not be late tomorrow morning.

Still, to Johnny Peters, Walter Long, and Harry Warren, there was no realization of the enormity of the situation. It was too impersonal, too remote, too vast. That four or five million human souls had vanished into their machinery was a fact they could not comprehend.

But as the word spread throughout the city, millions of individuals became intimately aware of a shocking, abrupt personal loss. And for the number who fold their hands and say "Kismet," there are an equal number who want to strike back. And so part of the public became a mob.

The night watchman on duty at the main door of the Teleportransit Building saw the mob approach but did not comprehend until the leaders crashed the big plate glass doors with a timber. As the mob came boiling into the lobby of the building, the night watchman fled in terror, taking the obvious way out along with two of the mob who pursued him into the teleport booth.

Had there been no stairs, the elevator system might have cooled some of the anger, for a mob completely articulated into tiny groups out of communication with one another loses the ability to regenerate its mass anger. The leaders, without a shouting mass behind them, might have listened to reason. But the elevators, at night, would respond only to authorized employees with special keys. And so the mob, strung into a broad-fronted wave, trailed up the stairs after the leaders. The toil of climbing added to their anger.

To prove the paranoiac quality of the mob, the air-conditioning in the Teleportranist Building did not give them any comfort; it made them resent even more the men they held responsible because they sat in comfort to perpetrate the outrage.

Within the equipment room, the status remained quo. But not for long.

The heavy doors muffled the sound of the mob; by the time the noise penetrated loud enough to attract the three men in the room, the same timber used to crash the main doors came hurtling through the doors to the equipment room.

The foremost of the mob milled into the room and grabbed the three men. There were shouts of lynch-law: "Give it to 'em!" and "String 'em up!" and someone with a length of clothesline weaseled his way through the mob to the fore.

A slipknot is not as efficient as the hangman's noose with its thirteen turns, but it is effective. It is also terrifying. Being in the hands of a mob is panic-making in its own right. The sight of rope adds terror. Such shock makes some people faint, some are simply stunned into inaction, and some enter a strange mental stage through which they watch the proceedings without realizing that the mob is going to harm them.

Some men take on a madman's fury, break free, and try to run.

As three of the mob held Johnny Peters, a fourth started to put the slipknot over his head, while the fifth tossed the other end of the clothesline over a ceiling strut. Johnny Peters lashed out, broke the grip of the three who held him, smashed the noose-holder in the face, and took off through the room, scattering the mob by sheer force. Behind him trailed the clothesline, for his wild, round-house swing had passed through the noose.

Wildly, Johnny Peters headed for the only haven he knew, and as the door to the teleport booth closed behind him, the man who held the end of the rope shook it with a mad roaring laugh:

"He ain't going nowhere!"

With deliberation, he started to collect the line, hand over hand. It slung in a tightening catenary from the ceiling strut over to the teleport booth door frame.

Unmindful of his tether, Johnny Peters fished his key out, plugged it in, and twisted.

With a roar, three of the mob grabbed the rope and hauled. The end, cut clean, pulled out of the door frame gasket and trailed across the floor; the three who had hauled went a-sprawl. For, as a moment of

thought must reveal, the system could hardly teleport a material body instantaneously into an enclosed exit booth without creating an explosion of thermonuclear proportions. The teleport booths were carefully made to rigid dimensions; in the transit, everything contained in one went to the other; they swapped.

Johnny Peters disappeared trailing his length of line.

Johnny Peters was in a nearly indescribable state of--awareness. There was no sense of feeling; the tactile sense no longer existed. The sensitive tip of the tongue did not send continuous messages to the brain about the state of teeth or the amount of saliva. The telemetry that provides feedback of limb position was missing. Pressure against the feet was gone, as if there were no gravity.

Where he was, there was no sound. Or, if sound existed there, he had not the ears with which to hear--nor taste, nor sight, nor olfactory sense.

Yet he felt an awareness of self, of being, of existing.

A remnant of long-forgotten Latin occurred, "Cogit, ergo sumt." And he wondered whether his Latin was correct. But right or wrong in the classics, Johnny Peters thought, and therefore he existed.

And once this became evident to Johnny Peters, there came the usual return of hope, for so long as life existed, there was hope of getting back from whatever strange plane he had entered. Then, with panic subsiding, Johnny Peters became faintly aware of others.

This, too, was a strange awareness. In life, for example, on a streetcar or subway, a person is aware of the presence of others because every sensory channel is bombarded, assaulted, overloaded. One can say, "They were so thick I could taste it!" and

not be far from wrong because the chemicals that carry the spoor of close-packed humanity to the sense of smell are soluble in water; in saliva the smell becomes a taste.

This was, or was it, like telepathy?

What is telepathy like? Does the telepath dial a mental address and then carry on a two-way remark-and-rejoinder, or does he broadcast on an open band? Can he extract the mental peregrinations of someone who is unaware of this invasion of privacy, or does the human desire for privacy act as a barrier? Is that why telepathy is not a going process?

In any event, Johnny Peters was aware of the presence of others; perhaps it is better to say that he was aware of the awareness of others. Then as this awareness became stronger and less puzzling, he became vaguely and faintly cognizant of identity. Not identity in the sense that an individual is identified, but rather in the sense that his awareness included a number of separate entities. He recognized none of them, which may not be surprising since he had, by now, about five million individuals for company.

Johnny Peters knew how the teleport worked, but still had difficulty in freeing his mind of the feeling that others who had used the teleport booth in the equipment room of the Teleportransit Building should be somewhere just beyond the entrance portal. Where they were he could not imagine, but he knew that the medium was not like a plugged tunnel, even though the tunnel albeit virtual, was the foundation for the teleport'.

For when the junction of a diode is very thin, and the energy of the electrons is very low, Heisenberg's Uncertainty says that they have a definite probability of crossing the forbidden gap in the junction and appearing on the other side. In the tunnel diode, simple probability is

loaded with a voltage bias so that a current flows across the forbidden gap; electrons pass through invisibly as if they flowed through a tunnel. The teleport performed the same operation with humans and things--or had until five million people occupied the forbidden gap between terminals.

And so the people, instead of compact, locatable entities, were diffused essences of their beings, their awarenesses, occupying a volume of probability that encompassed and more likely exceeded the most distant of Teleportransit's wide-flung network of terminals.

Aware that he was mingled with other entities, Johnny Peters felt the need of finding and identifying someone, anyone he knew as an individual; an awareness that was not simply another being, but a definite being. Simple want called her name to mind, and somehow he formed the silent concept:

"Trudy!"

It gave directivity to his being, and cleared things; now he became aware of others, trying to make contact in the same way. Some of them had. Two were commenting on the situation in exceedingly uncomplimentary terms; in fact, they made his mind blush. Another was radiating the concept that he didn't know where he was but at least he wasn't suffering from the heat.

Johnny Peters tried again. "Trudy!"

If a completely diffused being had feelings, he might have felt something. Instead, he merely became aware of being surrounded by more essences of awareness, a mental crowding. This corresponded to his concept of the volume of probability; given absolutely zero energy, the probability was equally good to be anywhere in the Universe. But as the energy became significant, the

volume of probability shrunk. Furthermore, there was a higher probability of occupying the center or near-center of the volume than occupying the outer edges. The distribution, of course, was Gaussian.

Then he became aware of a reply. The concept, "Johnny?"

"Yes, Trudy."

"What happened? Where are we?"

"Where we are I don't know," he formed. "It's supposed to be a forbidden gap between terminals that nothing can occupy. That's why nothing ever got lost before. It's either here or there, but never between."

"I don't see," came the faltering reply. "But what happened?"

"I don't know, but I think it's some sort of traffic jam on the teleport."

"But why?"

"Lord knows. Let's figure it out after we find out how to get out of this in-between mess."

"Do you think you can?"

"I'm not too sure, but Joe Fellowes must be in this mess somewhere."

"Let's both call him."

Together, they formed the concept, "Joe Fellowes!" Again there was the awareness of something shifting, of a mental crowding; a reshuffling of the entities.

Trudy radiated, "Johnny?"

"Yes?"

"Johnny--I get the distinct impression of a baby crying."

"Uh--yeah."

The awareness of reshuffling became intense. At one point, Johnny Peters caught a thought that might have been a reply from Joe Fellowes.

"Trudy?"

"Yes, Johnny?"

"Let's try Joe Fellowes again."

"No, let's try Irma Fellowes. I think women are more sensitive."

"Only a woman would make that statement," was his response, "but I'll try anything."

Now the reshuffling was almost a physical motion; the awareness of movement through a densely packed medium, of motion blocked from time to time, of packing tight, of flowing ever-so-slowly through extreme difficulty toward some focal point.

"Irma Fellowes?"

Faintly, dimly came the reply, unformed and wordless, but nonetheless it was the awareness of Irma Fellowes. Motion became a struggle, but they fought to move, urged on by some unknown drive.

Now the awareness of Irma Fellowes was stronger, mental flashes of

Joe Fellowes began to come in, and as the latter increased in clarity, others began. There was the doctor; his awareness was concern for his patient. The interne was merely anxious to get back to his post. The nurse was impatient because she had a date that evening and didn't want to miss it. The baby was complaining, as babies do, about the rough treatment that was meted upon one's first appearance on Earth.

"Is it a boy or girl?" wondered Irma Fellowes.

"How can we possibly find out in this... this... nothingness?"

The interne advised, "Find out whether baby's thinking blue or pink thoughts."

Nurse wanted to know, "Is it born?"

Joe Fellowes' thought was a snort. "How can anything be born of a diffused essence that's spread out over a spherical volume of probability about a hundred and fifty miles in diameter? The term's meaningless."

"But what are we breathing? And how will we eat?"

The question, unanswerable by any form of reasoning or logic, was interrupted by a stronger cry from the baby, a feeling of strain having been eased. The packed-in awareness flowed away and throughout the entire volume of probability, motion became fluid, fast, and free.

The exit terminals of Teleportransit began to spew forth humanity. They landed running, some of them; others were pushed violently because they did not move forward out of the way fast enough. The big rush hour of Megapolis, started two hours ago, was finishing. With the finish on one hundred and twenty minutes of overtime, the mysterious medium between the terminals was doing its best to live

up to the definition, "forbidden gap."

Being people once more instead of merely aware essences, they raised their voices.

"It's a boy," said the doctor.

"But what happened?" asked Trudy.

"It was like a log jam," explained Joe Fellowes. "And baby was the key log."

"But how could the teleport system form such a jam?" demanded Johnny Peters.

"We were too efficient," said Fellowes. "Our coincidence-counting circuits are set up to make a double check on the transits. Some shiny-bottomed accountant wanted to be more than certain that every transit was paid for, so all trips are checked at the entrance and again at the exit. Baby made 'em mismatch."

"All right, so how did we break the jam?"

"You did," chuckled Fellowes. "You went in to the teleport booth and plugged in your key without entering a destination. That made the number of in-counts match the number of out-counts. And once your awareness approached the troubled area, the uncertainty of which was which, or in this case, whose was whose, became high enough in probability to effect a transfer. Boom! The log jam breaks and everything comes tumbling home."

"But--?"

"Baby? Well, you've heard it said that when they start, nothing will stop 'em," chuckled Fellowes. "And so baby has the dubious honor

of being the first kid born en route to the hospital by teleport."

"And," said the doctor dryly, "delivered by a diffused medical team of essences."

Spaceman's Luck

By George O. Smith

Illustrated By Ebel Holt wasn't interested in mere glory. He was on his way to the Moon, but only because that's where he'd find the road to all the money he could spend. Holt had it all planned.... A flare of light arced upwards and moments later the shattering report dinned in the ears of the crowd, rolling across the field like thunder. The noise covered the sharply indrawn breath of ten thousand people. A sonorous voice, amplified a millionfold announced: "X Minus Fifteen Minutes!"

There was a second or two of absolute silence and then the waiting crowd let out its breath all at once in an audible sigh. They wiped their glasses nervously, or poised their binoculars, or scratched, their heads for the last nervous time, hoping that they would not sneeze at the improper second and so miss the takeoff; it would be over just about that quickly.

Out across the field, the focus of ten thousand pair of eyes; stood the Lady Luna. She looked small from the crowd, but the three men who stood at one tail-fin were dwarfed by her size.

"This is about it, Gordon," said the oldest of the lot.

Gordon Holt nodded. "I've about five minutes yet," he said nervously.

The middle-aged man said, "Time for a last cigarette, Gordon."

Holt shook his head. "Not after training to do without for six months. Save it until I come back."

Doctor Walsch nodded. "That's good sense, Gordon. We'll be waiting for you. How do you feel?"

"Fine. Just a bit jumpy."

"You ought to feel as fit as a Guarnerius. You've been trained and you're trim and fit. I doubt that you'll ever feel any better in your life than you do right now."

General Towne nodded. "Don't forget the honor, either," he said. "The excitement should give your high feelings another lift. Imagine being the first man to ever set foot on the soil of another world."

"It's a bit of a sterile world, I'm told. Not much more honor than the first man to put his sandal on the top of Pike's Peak. They sell postcards there, now."

"Too bad we've named all the visible Lunar Craters," said General Towne. "Seems to me that some signal honor--well, anyway, Gordon, we'll name a big one on the other side after you."

"It--"

A siren wailed and Holt jumped. "That's it," he said.

"Good luck, Gordon," said the general, wringing the spaceman's hand. The doctor clapped Gordon on the back as he turned away.

Doctor and general got into the waiting jeep, and the driver turned and called, "Don't take any wooden moonbeams up there, Holt!"

Holt shrugged noncommittally and climbed the ramp into the spacelock. He sneered at the crowd beyond closing spacelock.

"Wooden moonbeams?" he said aloud. "Oh brother!"

He went to the control chamber of the Lady Luna and ran through his checklist almost mechanically. He waited almost breathlessly until the radio barked the word that told him to hit the ignition switch, and when it came he hit it with a vigor and enjoyed the crushing sensation that followed. The thunder from below was music in his ears; now he was on his way and they wouldn't call him back.

Holt was no mere glory machine. Not for him was the simple honor. He had it planned, had it planned from the moment he was selected.

For Holt, the honor of setting the first foot on another world was a flat and tasteless award. It would last only until someone else did something slightly better. What could he get out of driving a space rocket to Luna? Not a hell of a lot. He was not headed for an adventure and he knew it; with everything precalculated, including the risk, what adventure could he have? To land and collect a quart of pumice and a pound of rock and maybe a shiny stone. Look for lichen or moss. Listen to the Geiger.

This sort of dry action would sell no books, collect no royalties, make no moving pictures, bring in no dough. Gordon took a deep breath as soon as the motor shut off. He was on his way and he knew how to handle everything from here on in.

He had seen enough of human nature to foresee it all. A slight mishap and a call for help would start it. A landing just hard enough to bend the control vanes or to plug up the rocket exhaust. Maybe to ding up the spacecraft enough to make it unspaceworthy. Then:

The cry for help and the whole world crying in return that a Human Being was marooned out there, helpless and alone.

They'd come.

They'd turn handsprings to get out there. Time and money would be tossed down the drain, and men would strive and women would cry, and the news would be filled with daily columns of how the rescue was progressing.

Drop a man in the ocean and the navies of every country go out and comb the sea to find him. Put a cat on the telephone pole and three hundred people struggle to get the animal down. Drop a child in a well and the countryside turns out en masse to help.

Well, maroon a man on the moon and watch 'em struggle.

He had air for ninety clays and food and water And just about anything a man would need. He could sit it out and he knew it. And he knew that there was a second rocket that could be put in space within a couple of months. Sixty days he'd sit it out and then-- It would be the story of his life, the tale of his rescue, the bright lights and the personal appearances. Radio and television and endorsing this junk and that googoo. Women and liquor and money.

He came down in the Crater Plato, tail first but far too fast. The tailfins crumpled and the sifting pumice drove up into the exhaust and packed like cement. A seam whistled far below to let out some air from a sealed compartment, cracked in the bump.

The crash staggered him a bit, but all he suffered was a nosebleed and a set of sprained chest muscles. He sat up and looked around.

The radio. He snapped it on and called: "Lady Luna Gordon Holt reporting. Made a crash landing. May be dangerous. Will check and call at 0300."

He eyed the radio thoughtfully; it only took about three seconds for an answer, but in that time Gordon considered smashing the radio in

the middle of the next broadcast and. then discarded the idea because it might lead people to think that he, too, had been smashed. Gordon wanted to be rescued, not given a hero's brief hail and farewell.

"Calling Lady Luna. Holt! Are you all right? Explain!"

"I am all right. I am not hurt. Crash landing rather rough but nothing broken. No air leakage, nothing completely ruined that I can tell. Landed as per program in the dead center of Plato, but a little too hard."

That ought to do it. Let 'em get excited slowly. They'll forget me less slowly.

"Lady Luna what happened?" They were worried.

"I don't know. I have a hunch that the pumice does not provide a true ground-plane for the radar. We landed as though the ground were about thirty feet below the surface."

That sounds logical. Such things are entirely possible, I'm told. Powdery, filmy stuff with no water shouldn't have a firm ground-plane.

"Lady Luna inspect your damage and report as planned at 0300."

Holt checked his air first. Plenty of it. Not a bit gone. Water next and food next. He checked the hull as well as he could from the inside and then went out in his space suit to view the damage.

He had done an admirable job. The tail fins were bent messily and the hull was crumpled a bit, just above the place where the rocket motor ended. If this ship took off--

"Lady Luna calling home. Reporting as per plan. Hull bent, tail fins

ruined. Crater filled with powdery pumice and I feel that the exhaust is packed. Shall I try a blast to clear it?"

While he waited for the answer Gordon found a bit of wire and shorted the battery for a second. He had to fade out slowly enough to fool them completely.

"Lady Luna, do not try a clearing blast. You'll explode. Wait for instructions."

"Will do. Will do."

He shorted the battery a couple more times and watched the voltmeter drop.

"Lady Luna can you dig down to the exhaust port?"

"Will try. Note battery dropping. Nothing else in danger. Food, water, air all okay. Hull sound but battery dropping."

Seconds went on and Holt could see the resources of the entire world collecting to prepare the First Spacewreck Rescue. Complete with video, reporters, clergymen, politicians, and humanity waiting.

"Lady Luna repeat. You are fading."

Holt repeated, insisting that he was all right. "I can stick it out. I can stick it out."

He watched the radio battery fade.

Let it fade. He could stand the silence for two months until rescue came.

A billion people listened to his voice die away. And when their radio

networks went dead, they raced to their telephones and clogged the land wires demanding that something had to be done.

Congressmen gave speeches and clergymen spoke and doctors gave opinions and scientists differed. A government seldom known for its cooperation announced that its new atomic-powered rocket was about to effect the rescue single-handedly. But the atomic part blew up in front of the video cameras and took some of the landscape with it. The Council of the United Nations called a meeting. The newspapers and networks covered everything.

A man known for his brilliance came on the air.

"The batteries of the Lady Luna have run down," he said.

"We must get there in less than ten days."

They tried to do it.

A second rocket exploded in France.

A third blew up in Germany. The fourth would not be ready for space for sixty days.

That was seventy long days after Holt's landing.

Without a miracle, Holt would be dead, even if the experts were wrong.

Protestants prayed, Catholics crossed themselves, and Mohammedans called it kismet and let it go at that. A scientist suggested that since there was no habitable planet in the solar system and that mankind could never reach the stars, there was small point in this effort to make space travel pay off. An economist computed the sum of money shelled out already and called it

damned foolishness. A Senator Maculay suggested that taxes could be lowered if such expenditures were cut out.

And ten days after the accident there was a world-wide prayer said for Gordon Holt.

The other rocket at White Sands grew cobwebs in its empty fuel tanks.

And the Lady Luna slipped into the dark of the moon. It grew colder and colder as time went on...

In The Cards

An Amazing Novelet

By George O. Smith

When Jim Forrest stole the block of zonium from Ellen Haynes he almost upset the entire Solar System, but he had the most compelling motive for theft in history!

Chapter I

The Theft

THE masked man crept down the corridor stealthily. It was quite dark in the hallway but he knew that it was a synthetic darkness, a matter of temporal convenience, for on a spaceship, time is regulated by the Terran daily cycle of twenty-four hours.

On spacecraft the passenger-sections observe a strict twelve-hour division between sheer brilliance and utter darkness. He estimated that it was a full two hours before light-time, which meant that those couples who preferred to sit and hold hands whilst staring at the rather over-stable aspect of the sky were by now bedded down and asleep.

Even so the masked man understood that with such it was not the sky that was appealing, and that under such circumstances time was a minor and often disregarded item. So he went carefully just in case he should happen upon such.

He was lucky. There were no couples immersed in one another's dreams and so the masked man went all the way from the auxiliary

spacelock near the bottom to the "B" deck, just below the rounded hemisphere of seamless plastiglass that domed the top of the spacecraft.

He entered the corridor that led to the staterooms and, by the dim hall lights, found the room he sought. The lock was obviously intended to keep out only honest men and the door was of the same manufacture. He took a tiny fountain-pen-sized implement from a loop in his belt and applied the business end to the door.

There was neither sound nor light. Silently the thing worked and it completely removed a sliver ten-thousandths of an inch wide as he moved the tiny beam in a careless square around the lock. He grasped the knob in his hand as he completed the cut. That way it would not drop to the floor and make an unwanted racket. .

Shoving the door open gently, he entered and closed it behind him. He took a moment to replace the square of aluminum with the lock and, with a couple of quick motions, he welded the square back in place.

An experienced welder would have called the job 'buttering' because the patch was held by only two minute battens of welded metal. It could be broken out with a single twist of the hand.

Then, reasonably safe from outside detection--if the steward passed, he would not notice unless he gave each door a careful scrutiny--the masked man took out a tiny flashlight and searched the room quickly.

A tousled head of luxuriant hair half covered the pillowcase but the face beneath it was not visible from the door. The masked man shrugged and turned to the wall compartment where the baggage was stored. He knew about where to look. He fumbled through three drawers, and finally came up on a box of some ten cubic inches.

It was not too heavy and the masked man tucked it under one arm and smiled confidently. His pen-beam he used to weld the call-button to its frame so that it could not be pushed. He used it to weld the lock in a barred position and, again outside, he welded the patch together firmly. The inhabitant was to all intents and purposes a prisoner until she could command attention by yelling and beating upon the door.

With the same stealth that he had used in coming this way he returned to the auxiliary spacelock. He donned the spacesuit he had left there and looked at the safety-switch that had been welded closed. He shrugged--no need of opening the switch to close the door upon it. He'd welded the switch shut so that opening the auxiliary lock hadn't flipped the warning lamp on the pilot's panel.

Then the masked man stepped out of the airlock into empty space, kicking himself away from the side of the spacecraft. At once he became a separate celestial body, and the motion of the ship with regard to his present status was an acceleration of one gravity, though his velocity was intrinsically that of the spacecraft upon his instant of severance.

But intrinsic velocity of this nature never harmed a soul and the action as he saw it, was that the ship was stable and he was falling with Terran constants towards the tail.

HE WAITED, counting off the minutes by his watch. The spacecraft dwindled and was finally lost in the distance. Yet he waited, for the first use of his suit-drive would raise a spot on the pilot's celestial sphere, giving warning.

An hour later he applied the drive on his suit and, using a small direction finder, he located another, arriving ship. Using extreme care, he put himself in the course of the oncomer and applied his

suit-drive with extreme caution. He matched the acceleration of the other ship, matched its course and then, by increments, let the ship catch up with him.

Eventually it passed him close enough, and he drove himself through the main open spacelock. He slammed the airlock door and went to the control room. He made a rapid turnover and applied the drive to put as many miles as possible between himself and the pirated superliner.

Only then did he remove his suit, stow it, and address his interest to the package. It contained a strange crystal. The crystal was a perfect cube two inches to a side. From face to opposite face it was as transparent as space itself. Even the surfaces were non-reflecting. Looking through it one derived a sort of tunnel effect, for the surrounding faces were opaque. Holding it at a distance from the eye and looking though it gave the impression of a two-by-two square tube made of some metal having zero thickness. A thin square--an optical illusion--marked the boundary of the optical axis.

He nodded. This was the crystal he sought. He checked one of the opaque pair of faces with a continuity tester and confirmed his belief. For one axis of the crystal was optical, another axis was a superconductor of electricity. The third axis was a magnetic axis and was a perfect conductor of magnetic flux. This was harder to check with simple equipment but the testing of the other two axes gave him sufficient proof.

He nodded in satisfaction.

Success!

Now, give him time to work out his problem, and everything would be just as he had planned. Getting his hands on that crystal, he felt, was

going to be the first step in the success of Jim Forrest. He opened a cabinet door and started to push things aside to make space for it, when from behind him, a cool voice said: "I'll take that!"

He turned at the voice and his face went through several changes, coming out finally with a stunned look.

"You were locked in."

"Yes?" The girl shrugged. "Well, you were locked out! Now I'll take that crystal!" Her statement was backed up by a heavy blaster that looked like a semiportable in comparison to her spacegloved hand. The hand was small and the blaster was heavy but there was no waver to the green-crystal muzzle. It was trained perfectly upon Jim Forrest's belt buckle.

"Yes? And where will you take it?"

"None of your business!" she snapped.

He looked at her suit and shrugged. "Better call for aid," he said, pointing at the space radio. "You'll never make it in suit-drive."

"Drivel!" she snorted. "You'll run me near Terra before we part."

"My dear Ellen Haynes," he said with exaggerated politeness, "may I point out that we are not going to Terra?"

ELLEN laughed nastily, which made it seem worse because it went against the human grain to hear such purely vicious laughter coming from such an attractive girl.

"We'll go," she said shortly, "whether you drive or not. I can run this doodlebug too." She waved the blaster suggestively. "Turn it--or else!"

"Y'know," he replied, "maybe you'd better drill me. I don't know that I like the idea of chasing all over the solar system with Ellen Haynes."

"Turn the ship and get going."

"No," he said flatly. He stretched and went into a relaxed posture. "We're heading for Ganymede." He looked at her--stared at her--and smiled slightly. His attitude became almost paternal, as he stepped forward. "You know," he said quietly, "we both want the same things. We ought to do them together."

"Not on my life," she said. "And stop right there!"

"You stole it first," Jim Forrest told her. "Right out from under my hands. I know why. You want to prove the opticostrictive effects, don't you?"

"It is my right to try it," she said flatly. "And I'm going to do it my own way!"

"But I know more about it than you do," he told her gently.

"I doubt that," she snapped.

"I've studied it," he said quietly. "I can identify the proper magnetic and electric axes without test. Can you?"

"I can learn," she said sharply. "Now stop--or I'll fire!"

"You see, when your dad discovered this thing he turned it over to the government. That was the law with any by-product of the uranium pile. They, however, happened to be working on something else, looking for some definite effect and couldn't take time off to investigate a crystallographic monstrosity. So it just laid around and

grew dust until I--"

"I know all that," she snapped. Now..."

"Right," he said calmly. "Right. And I was merely holding your attention until..." He leaped forward--forward and slightly to one side. She pulled the trigger hastily and the beam spat viciously but invisibly, scorching the aluminum wall of the little craft, where its reflection ricocheted across the room to burn a wall map. The aluminum behind that reflected it again, and this time it lost itself in the absorbing surface of some methacrylate plastic, which swelled and exploded gently into shards of gooey stuff.

By this time, Jim Forrest was beside the girl. He chopped down on her arm viciously. She dropped the blaster and he kicked it into the corner. Then, using his weight, he crowded her into the pilot's seat and reached over and slammed on a full five gravities.

"I can take that and move," he told her. "But you can't. Ellen Haynes, we're heading for Ganymede."

"Captain Turner will kill you," she snapped. "Captain Turner will have to catch me first." He laughed. "And in the meantime perhaps we can come to some agreement."

"I'll never deal with a common criminal," she told him.

"How righteous!" he scoffed. "And how did you come by this in the first place?"

"Well, it was my father's," she told him.

"A matter of opinion only," he said. "Just your opinion against most of the Solar System. The odds, Ellen, are against you!" He laughed. "And your Captain Turner? Whose side will he take? Yours--or the

Solar Guard, for whom he has worked for eight years?"

"Mine," she said stoutly. "He understands moral justice."

Forrest laughed bitterly. "Uh-huh--and a pair of luminous, provocative brown eyes!"

She turned her head angrily away. There was no sense in arguing with the man. Furthermore, she knew that Captain Turner was a long way from an impersonal member of the law so far as Ellen Haynes was concerned. She would bide her time.

Turner would be certain to find them soon and then this criminal would get what he deserved--even if she had to use her charm to enrage the officer. She knew that Jack Turner would see a mad, flaming red if he thought that Forrest had harmed her in any way.

Chapter II

Rescue in Space

NOT very far behind them, Captain Jack Turner of the Solar Guard was following the little cruiser grimly. When it leaped in acceleration to five gravities, he assumed that they knew he was following them and decided that stealth was no longer necessary.

He crammed his power on, getting a full six gravities out of the Guardship. From time to time he considered the problem that confronted him. His--well, she was not his fiancee, but she meant more to him than the word `friend' implies--was in possession of material labeled contraband. Nothing of intrinsic value, true--normally it would never have been missed--but it had been removed from the specimen files of the Solar Laboratory, and that in itself was a breach of the law.

There seemed to be a dog-in-the-manger effect here. The government physicists might never get around to looking at the thing regularly, so busy they were. Yet they could not permit any other experimenter to do more than study the peculiar thing through a plate glass specimen case.

Turner's mind rejected the problem. He did not know the circumstances wholly. His matter-synchronized detecter told him that the crystal had embarked on the spaceliner from Venus to Terra, that somehow it had left the liner and was now decelerating in such a back-vector that he suspected one of the Jovian satellites as its destination.

The problem of what he would actually do, he disregarded. Up to the time he confronted the girl he could view the problem dispassionately and impersonally. Whether his love for the girl would overcome his sworn duty--he'd face that when it came.

Watching his range integrator carefully, he set the autopilot to bring him into contact with the fleeing ship and then sat back to relax. It was hard on the human system to hit it up at six gravities, though everything possible had been done to make the flyer comfortable under such accelerations.

Even so, loaded with gravanol, which added tonus to the muscles and prevented the draining of blood from the nerve and brain centers, the record was held by a small, wiry fellow named Tom Whitcomb: Eight gravities for four hours before blackout was his mark.

Whitcomb, of course, was merely out for a record and did not have the emotional impetus of a project to steel his system with adrenalin.

The Guardship approached the fleeing craft and Turner dropped his

acceleration to match the other ship. He sent a flaming beam at them that racketed against the hull and flared greenish hell through the observation ports and rang all the alarms in the ship. His audiostrictor beam caught the hull and his voice, as he spoke into the microphone, made the little cruiser ring to his stentorian tones.

"Guardship under Turner!" rattled the ship's hull in a controlled vibration that shook the eardrums. "Drop to one gravity! Prepare to submit to search!"

In the other ship, Forrest shrugged. "There's your little pal now," he said.

Ellen looked at him, white-lipped. "What are you going to do?"

He laughed as he flipped the power switch down to one gravity. "This is a personal cruiser," he said. "We have nothing to fight back with other than harsh words and a set of knives in the galley. I should dislike to have this crate riddled by a Guardsman. I should even further dislike the possible discontinuation of my checkered career. We'll see your little chum."

"He'll help me," she said with a positive air.

"That's swell." He grinned wolfishly. "I wish you both luck. But I'm sensible enough to think that it might be better if we could circumvent him."

Forrest smiled wearily. There was no reason to tell the girl that laws were laws and therefore inflexible regardless of the instantaneous injustice to an occasional individual. By and large, laws worked for overall justice or they would not be laws. He rested easily, getting up only once to retrieve the girl's heavy blaster, which he inspected and dropped into his pocket idly.

THEN the Guardship was upon them close enough to reach out and take hold of the little cruiser with tractor beams. The spacelocks came together under Turner's manipulations of the beams and both space-locks clanged open.

Jack Turner swallowed deeply. Whatever the score at this point, he was confronted with the problem of his life. "You surrender?" he demanded as he entered the control room.

"You're in," said Forrest cryptically. "Now what?"

"The zonium crystal," stated Turner shortly. "I'll take that first. It is the property of the laboratory."

Ellen looked quietly at him. "What about him?" she asked, indicating Forrest.

"Well?" he said shortly.

"He stole it from me," she said plaintively.

"But you stole it from Venus," said Turner. "Under the law, you are conspiring to deprive the government of its rightful property."

"I presume that I am listed as a criminal?" asked Ellen, more plaintively.

Turner blinked. "What can I do?" he asked.

Ellen looked pleading. "Dad discovered zonium," she said. "Dad predicted it and spent six months producing the single crystal we have. Then because of laws, Dad was deprived of the possible benefits of his study and work. Is that fair?"

"Who is to judge fairness?" asked Turner. "It has been the law for

seventy years that any product of the uranium piles is the exclusive property of the government. That is because danger might attend any individual experimentation on unknown materials. "If you do not know nuclear history I can tell you that Tompkins and Clagone nearly blasted Terra off of the map because they inadvertently stacked a couple of transuranic elements side by side. To prevent such mishaps the law was set up. I ask you, Ellen, do you know anything about zonium?"

"Not much excepting its principal properties."

"Then you might be meddling with something that could destroy Sol."

"Not likely," she retorted.

"So?" asked Turner with a smile. "Remember that the unpredictable effects start with the uranium series. Fission occurs in several of the uranium-rare-earth metals, plutonium and the uranium isotopes two hundred thirty-four and two hundred thirty-five. Number ninety-seven was never known until the uranium pile made it, you know, and it, like other elements of the zero group, is an inert gas.

"But it is a gas which exhibits magnetic properties. Number ninety-eight has been known to combine with all of the acid elements. And number ninety-nine is naturally radioactive, breaking down to protoactinium by a double emission of alpha particles. Unless you know what to do with zonium how can you predict its behaviour?"

"Is it right to bury the results of a man's lifework?" demanded Ellen.

Guardsman Turner faced Jim Forrest. "What can I do?" he asked simply. "My affection and my duty are opposing. I understand both viewpoints. It is hard to see a life work set aside by officialdom, rules and what might seem like bureaucracy. On the other hand I am a

member of the Law. I cannot turn traitor, yet I cannot harm Ellen. I would like to retain both Ellen and my self respect."

"My father--" began Ellen harshly.

"Was, after all, working for the Lab," interrupted Turner. "He was amply paid."

"Yes," she said bitterly. "A laboratory fee. You know very well that every technician in the Lab that discovers something useful is given a royalty in addition. That's what I've been cheated of!"

"They may yet investigate it," said Turner.

"I'd prefer the rewards before I'm a hundred years old," said Ellen.

"Look," said Turner after a moment's thought. "Admittedly the government lab ignored zonium for more important things. The government was not interested in zonium until it was stolen. But consider--this crystal has been stolen by people who have experimental experience.

"The government will wonder just why it is so important that an individual will break interplanetary law to possess it. That is a question that will probably force someone to work on it. Then you can gain the benefits legally."

ELLEN considered that for a moment. It was more or less true. "Then tell me how it is to be returned?" she asked.

"That is easy. I can make you a temporary deputy of the Solar Guard. You return the crystal to headquarters. I continue to pursue the thief."

Forrest, who had been sitting easily in his chair watching the play of personalities, suddenly sat up and looked at Jack Turner pointedly.

"You mean me?" he asked.

"I do."

"That's a nice trick," snapped Forrest, "Why not deputize me and go hunting her?"

"Because you have nothing to lose by jumping deputization," said Captain Turner shortly. "Miss Haynes has every reason in the world to do exactly as I said. As for the true thief, my report will state honestly that I located the crystal in this ship--your craft, Forrest. I will also state that it is my belief that Miss Haynes was not here of her own free will."

"She came here unasked," snapped Forrest.

The Guardsman nodded. "So did I," he said easily. "And possibly for the same reason. To return the zonium crystal to its rightful owner."

Forrest laughed harshly. "Nice sophistry," he said with a sneer. "You'll omit the fact that your definition differs from that of Miss Haynes as to the term 'rightful owner'? She thinks it belongs to her, you know."

"When she returns the crystal," said Turner, "her intent will be shown by act regardless of her statements--or your statements for that matter."

Forrest smiled. "The scales of justice seem to have become unbalanced by the added weight of a lipstick," he said cynically. "I hope you two will be very unhappy together."

"Accusing members of the Guard will get you little," said Turner.

"I seem to have been got already," grunted Forrest. "Frankly, why don't you return the crystal and let Miss Haynes pursue me? As any pursuit is going to be a laughing matter since you've already caught me, I'd prefer to be pursued by Miss Haynes."

"No thank you," replied the girl. "We'll do it as Captain Turner suggests."

"And he'll chase me all the way to Ganymede while we're living in the same ship--with his crate fastened on to mine?"

"That need not be mentioned."

"Well, I'll darn well mention it!" snapped Forrest.

"You can't prove it," she told him.

"Ellen," said Turner to the girl, "you go into my ship and get the tender ready. You'll take off and head for Mars in the tender, which will be a little rigorous but not too uncomfortable nor dangerous.

"Once you reach Mars, you contact Guard Headquarters at the spaceport.

"Your arriving with the ship will give you amnesty until you can see General Harris and I'll write an official letter proving your deputization. Check?"

Ellen Haynes nodded. She turned to Jim Forrest and said, "It doesn't make much difference who does the work on zonium so long as it is done. At least it will not be done by you.

"And when it is done I'll get my legal share, which can't be claimed for any work done by Jim Forrest." Then she turned to Captain Turner. "Be careful," she said sincerely. "He's a glib operator."

"He'll not get away from me," said Turner. Ellen Haynes took the crystal out of the cupboard and tucked it under one arm. Since she was still in space suit she merely flipped the helmet bowl over her head and left the pilot room to make Turner's tender ready for a spacehop.

Chapter III

Counteroffensive

"SO," SAID Jim Forrest, "she won."

"Won?" replied Turner. "She said that she'd end up with the crystal. What makes you think that if she stole it once from the laboratory she wouldn't steal it from you the second time?"

"Ellen Haynes is no thief!" snapped Turner.

"No? Well, consider this, Turner. Ellen Haynes does not consider herself a thief when she appropriates that rare hunk of rock. So far as Haynes is concerned, she believes that she has every right to it, especially in view of the fact that the government ignored it, thus depriving both her and her father of whatever benefits it might bring. Since she considers herself no thief, she is under no moral compulsion to deliver."

"She is a deputized Guardsman," said Turner. "As such, she is sworn to uphold the law."

"She was--and until proven otherwise--a citizen and equally responsible to uphold the law," said Forrest. "But who took the thing in the first place?"

"She is now a sworn member--"

"Look, Captain Turner," interrupted Forrest sharply. "Do you mean to stand there and tell me that a policeman is morally better than a citizen?"

Turner flushed. If he said 'yes' he'd be talking like a hypocrite--if he said 'no' he would almost be admitting that he might have been mistaken in sending the desired crystal out under the supervision of the one who had initially stolen it. His training and loyalty to the Guard made him believe that a man dedicated to the interests of the law was under more compulsion than a mere citizen without an oath.

He admitted it was wrong. He was forgetting that a criminal can swear an oath and be unfaithful to it because he doesn't mind adding false witness to a list of greater crimes providing it is gainful for him.

Forrest noted the turmoil in the Guardsman's mind and pressed his point. "Ellen told me that you'd help her," he said. "And you have. I think that Ellen believed that you'd go all the way and eschew your uniform for her, but the way you did it was to both of your advantages."

"Ellen wouldn't lie to me," said Turner stoutly.

"I know," said Forrest cynically, "because she loves you. Fine. So if she loves you in the first place, why does she break the law you've sworn to uphold? To heck with appearances, Turner. You know in your own mind that if you condone her theft of the crystal you might as well throw that fancy black and gold suit into the converter and join her in a life of--well, she's no criminal save for one breach--petty crime. No doctor ever got along with a medicophobe for a wife. No policeman ever spent a happy married life with a she-pickpocket. So it is either your life or hers that you'll have to follow."

"Perhaps not," replied Turner. "If she does as I expect her to and returns the crystal she can erase her minor offense. Everybody makes mistakes, Forrest. The smart man seldom repeats his errors."

"You're still forgetting that Ellen Haynes considers her act no crime. Whatever the crystal is good for she has been deprived of benefit by a situation that ignores its existence. Her theft of the thing works no hardship on the Solar System or any of its people. Define theft, Turner."

"Look," snapped Turner, "Ellen is no criminal. She has committed a crime which she can erase by her own hand. Why should she be punished for an interplanetary offense when she can and will do that which will nullify her crime?"

"Meaning?"

"Meaning simply that the uninterested arm of the law will be more convinced when she turns up with the crystal and knows that I am still pursuing the thief. I'll gladly sacrifice one criminal--you--who have no justification as she has, in order to see her free and rewarded."

"Well," said Forrest standing up and stretching, "I think this has gone far enough, Turner." He picked up a package of cigarettes from the table, put one in his mouth, and then felt for a match. He lifted the fountain-pen-sized blaster from his belt and triggered it.

The tiny beam lit his cigarette and he drew in a lungful of smoke. He blew out the smoke in a large cloud that hid his actions momentarily. Under the cover of the smoke he turned the cap on the little gadget, pointed it at Turner, and pressed the button.

THE tiny beam seared the air and drilled a tiny hole in the broad

green muzzle-crystal of Turner's blaster. It heated to dull-red almost instantly, and Turner hurled the weapon from him with a shock of unexpected pain. The weapon charred the floor as it landed.

Following the beam as fast as he could Jim Forrest threw his Sunday punch while Turner was still reacting from the burn-shock. The flying fist caught Turner on the jaw and the guardsman went down like a pole-axed steer. He came to as Forrest was snapping the Guardsman's own handcuffs on him.

"I'm no murderer," he told Turner. "I calculate it to be sixty hours to Mars at one gravity. I'll set the autopilot that way. I'll set the warning-radio also. I'll lock you in the living-suite below, where you will have all the comforts of a celibate home excepting the means with which to get out. In sixty hours your velocity will be zero with respect to Mars and the warning radio will hurl out your own personal distress call."

"You're...!" blazed Turner.

"Yes, I know," smiled Forrest. "A criminal. Well, kidnaping a Guardsman is merely adding to my long and checkered career. But you see, Turner, I want that crystal. You can also add theft of an official Guard-ship to my roster of criminal acts. So, lead the way to the living-suite below."

"I'll...."

"Oh. Turner, I might suggest that when you come looking for me you be very careful. I'll be driving a Guardship, you know, and if someone takes a shot at me I'll be psychologically forced to defend myself as a mere matter of survival. Guardships are pretty well-armed, or need I tell you?"

Turner blazed with anger. "Okay," he snarled. "Lock me in. But you

can't lick the whole system! We'll get you cold! And if in the meantime you intercept Miss Haynes, remember that you are interfering with an official deputy."

"Then," smiled Forrest quite cheerfully, "I'm actually helping you to prove that Ellen Haynes is no criminal, aren't I?"

Turner fumed and continued to fume as Jim Forrest welded the living-suite door shut with his pen-beam.

Twenty minutes later, Turner felt the ship turn and accelerate towards Mars. He felt a slight shook a moment later and knew that Jim Forrest had just cast off in his Guard-ship. He cursed roundly and then, sensibly, he sat down and relaxed.

He concluded sensibly there was little to be gained by spending sixty hours in self-villification.

He'd failed temporarily but Forrest couldn't lick the whole solar system....

Using Turner's matter-synchronized detector, Jim Forrest tracked the tiny space tender down in a matter of less than two hours. The tender, of course, was helpless when the Guardship tractor beam fastened onto it, and it was drawn easily into the tender-lock and anchored.

The door opened and Ellen Haynes emerged, furious.

"Before you say anything," said Jim, "tell me whether you were really going to headquarters or were just making off with the crystal again."

"What difference does it make now?" she asked bitterly.

"No difference to me," said Forrest idly. "I'm just trying to estimate

your character."

"I'm not taken in," she snapped. "With certain individuals you might stir their interest enough to make them look at it askance. But with the Solar Lab, who've already ignored the thing for years, they'd continue. So...."

"So you think you're going to work on it yourself?"

"I most certainly am," she said with conviction.

He laughed shortly.

"You think not?" she demanded. "Either alone or with you, since you've been after it and seem to have both me and the zonium at the same time right now."

"Ellen," he said slowly, "I intend to destroy that crystal!"

SHE grabbed for the box and shielded it with her body but Jim shook his head. "Not here," he said. "There's nothing here that would destroy it."

"Your blaster?"

"Wouldn't touch it."

"I--a blaster wouldn't touch it?" asked Ellen Haynes in amazement.

"Wouldn't touch it," he said firmly and convincingly.

Ellen's eyes opened wide. "Armor!" she breathed. And in that one instant the whole mighty idea came, flooding her mind and making her almost reel in dizziness at the flood of jumbled ideas.

Guardships plated with zonium for protection; personal armor because zonium was light in weight; zonium-lined blaster barrels to keep the things from falling apart after a hundred or so shots and perhaps even super-projectors protected by zonium liners.

The big projectors used on the Guardships were none too efficient because they etched themselves into uselessness after a hundred or less of the gigantic blasts. Half of a Guardship's bulk was filled with spare blaster replacements.

"Armor," he nodded, with a look of horror.

"What's wrong with that?" she demanded sharply.

"That's the point. There's apparently nothing wrong with it," he said, "except that there's no real reason for it. Who or what will attack a Guardship? There is no common enemy loose in the Solar System and we know that there are no extra-solar races capable of any massed attack on Sol's family--so far, anyway. There is an occasional, wild-eyed pirate but he is usually tracked down within a few weeks after he takes his first victim. With zonium armor there could be piracy because a pirate could then laugh at the heavily-armed Guardships."

"But it sounds good," she interrupted.

"And you know darn well that the Guard would immediately plate their ships with zonium!"

"Certainly. And my income from that ... Why, I'd be unmentionably wealthy!"

She positively glowed for a moment with the idea. Then she turned to him and said, "But if a blaster wouldn't touch it, how do you hope to destroy it? Toss it into the sun?"

Jim Forrest paled. He walked over to her and pushed her aside. He took the zonium crystal from the box and hefted it while Ellen looked on in fear that he would destroy it then and there.

"Ellen Haynes," he said solemnly, "this much zonium if hurled into the sun would create a nova!"

"But it is so small."

"Yes, but zonium is a strange metal," he said. "The mass-energy relation is carefully disregarded by zonium. In normal matter, energy equals the mass times the square of the speed of light in centimeters per second."

"But its mass is not considerable."

"Zonium is a temporal metal," said Forrest. "When it is under the influence of a magnetic field passing through the magnetic axis--an electrical current through the electrical axis --and a beam of light through the optical axis its mass increases according to some exponential function of the energy levels of the radiation that is passing through it.

"Throw it into the sun where the radiation-energy output is some four million tons of energy per second and zonium increases its apparent mass by a factor of the cube--one exponential power for each axis accepting and passing radiation--of the mass of the zonium times the factorial expansion of the energy passing through it. It would be much like hurling Jupiter into the sun."

He handed her the crystal. "Ellen Haynes," he said dramatically, "you hold in your hand the agent of Sol's destruction!"

She looked at it with fascinated horror and gingerly replaced it in the

packing.

"So develop it. Plate your ships with it. Line the millions of blasters with it. Line your power converters with it. Use zonium in the units that give each dwelling light and power. Load every sportsman's crate with it and have everybody tossing cubes of the stuff around. Interesting stuff--kids will be playing with it. Then calculate your chances of keeping a bit of it out of the sun."

Ellen Haynes shuddered. About once each year some spacecraft didn't return, usually a small, privately-owned job that was trying to cut the perihelion too thin. The mortality was rather high on the drones that rode the inner flame-area of Sol's domain with automatic recorders. Yet, with good supervision, zonium would be safe.

"How," she asked drily, "do you hope to destroy it?"

"I don't know," he said. "But it must be destroyed."

Chapter IV

Biggest Meddler

ELLEN nodded slowly. Her dream of untold wealth dimmed somewhat. Yet she knew that supervision of the zonium metal would insure its safety. It had been so with the original fission of uranium and plutonium.

What had been made before could be made again. She would let Jim Forrest destroy it and then set about getting it rebuilt again in the government laboratory. What could any one man do to stop the development of any single phase of science? The thing to do now was to agree with him, learn from Jim Forrest all the math and reasoning behind the stuff. Just how did he know--he alone of all the

worlds of Sol and their teeming billions--that zonium would react that way. Especially when he had not worked with it.

But Ellen knew that before she could interest the laboratory in zonium, she must have scientific and mathematical basis for her predictions. With that, not only could she interest them but she would be forgiven for her original theft. She would go along for now and learn as much as she could about zonium.

"Tell me," she said interestedly, "how do you know all this about zonium?"

"Know matrix-math?" he asked.

"A little."

"I'll bet I lose you along the way," he said. "But we've a week of hard travel between here and Ganymede in which I can prove to you--and also teach you how to handle matrix-math--that everything I've said is true."

Jim Forrest locked the crystal in the cabinet, and found paper and pencils. He started to talk and he wrote equations as he spoke, explaining each step as he went along. Ellen Haynes nodded. It was thick, and she would require the whole week even to catch up to the theories of Jim Forrest....

Captain Turner, imprisoned in Jim Forrest's personal cruiser, spent a full twenty-hour period wondering. He had been resigned at first, but the idea of sitting there was against his grain.

The welded door was a mean problem. How does one breach a solid aluminum door when the thinner panels are three-sixteenths sheet aluminum-magnesium alloy and the edgings and crossbars that hold the panels are one-inch stock? He undid the floor

thumbscrews that held the chair down against maneuverings in space and hefted it. It too was aluminum alloy. He swung it at the door and dented the panel, but broke the legs of the chair. Had the seat been heavy and solid that would have done nicely, he thought.

But the chair-bottom itself was a mere frame upon which was woven a plastic-rope in the standard pattern of a cane-bottomed chair. The metal of the chair was brittle and he broke it after three swings that put but a few minute scars on the panel of the door.

The floor-lamp was little better--aluminum-zinc-magnesium die-castings. Not only were the parts light and brittle, they were positively friable.

He tried the drawers in the dresser and they added to the pile of broken metal. The bed was no good at all--just a welded-down shelf on top of which was a thick airfoam mattress.

The kitchen quarters produced a couple of sharp knives, which he employed to some advantage, but their very-long blades left Turner with too little leverage until he broke them off short. Cutting three-sixteenths aluminum alloy panel was no job for a knife.

HE SAT down to think after that. Brute force was useless--brainwork might produce an answer.

Aluminum is soluble in certain reagents--and he was in what amounted to a three-room apartment. What common reagents did exist in the average apartment? A few ounces of vinegar--three percent acetic acid. A pound of salt--sodium chloride. Aluminum is soluble in a solution of sodium hydroxide. Electrolysis of water containing sodium chloride produced chorine and sodium, which reacted with the water and produced sodium hydroxide.

It looked like a long process. He was not a chemist, and therefore he was not too certain of any effect. There was no reaction that he knew of that would attack that door. Perhaps a chemist would know and no doubt he would be laughed at by the chemists of the Guard when he told of his futile attempts.

He went into the kitchen again. The drainage from the sink went into the converter far below him in the ship. He had no chance of getting to that at all. There was a small ventilator in every room but he was neither an eel nor a cat and removing them, if he could, would give him no chance. The air was forced out through a larger duct by an electric fan but even so it was too small for him.

The electric fan?

The electric fan!

He tackled the fastenings with a dinner-knife and succeeded in removing the small fan. He hitched it to longer leads from the floor lamp. He removed the blade and saw the swiftly-rotating shaft--it could be used as a drill.

It was blunt and polished, instead of sharp, but none the less a drill in embryonic form. To sharpen it....

He pawed through the bathroom cabinet and returned with a small nail-file. There was a corundum sharpening-stone in the kitchen. He filed and he honed and the end of the fan-motor shaft took on a wide, flat point. He set it against the door and tried to drill.

It was slow work but he made progress. He drilled through and then set the drill near the first hole and continued. Slowly and inexorably Captain Turner of the Space Guard added to his line of holes. He forgot eating, ignored sleep. And as the hours passed Jack Turner

came closer to freedom by the minute.

At last he had a rough oval of holes in the bottom panel of the door. Then, taking a heavy iron frying pan, Turner hammered at one side of the oval where the holes were almost tangent. He broke through, turning the slight end outward.

He hammered until he could set one end of the iron handle through, and then he pried. The webbing between the holes tore until he had an opening that prevented the use of the utensil at all.

He pried with knives, with fragments of the shattered chair, with his bare hands. He finally took the motor itself, which was of steel and heavy though small, and he swung it on its wire leads. He hurled it again and again at the oval. The ship rang with the blows, but each crash saw the oval leaning outward just a fraction more.

And then, lying on his back, Jack Turner kicked the oval outward with his heels. He was free!

Thirty hours instead of sixty--Turner raced to the control room and set the ship on course toward Ganymede. He crammed on the power until he could hardly stand to slow the course for Mars that he was on--almost at turnover where his velocity was highest--and he added a vector that would curve him through space toward Jove. Then, utterly weary, Jack Turner found his bunk and went to sleep....

"You seem to know quite a bit about zonium," said Ellen.

Forrest smiled. "I've had little to do but think about it."

"But why the interest?" she asked him.

"Just think of me as an infernal meddler," he said.

Ellen bit her lip in disbelief.

"Well, I am," he said with a laugh. "I'm the biggest meddler of all time. Now, let's get to work. We've a week."

ELLEN HAYNES nodded. She did not know what to make of Jim Forrest. Here on cold Ganymede he had a comfortable brick building that was built along the lines of a good sized mansion. Though the cold and the winds beat at the outside with an ammoniac odor, inside of the building it was warm and pleasantly filled with the smell of a Terran garden.

Jim Forrest, she knew, was wealthy. But the word 'wealth' had a world of meanings. After Ellen had seen the building and had seen shown the inside--part of it anyway--the was beginning to understand just how wealthy the man must be.

She had wondered about her relations with this strange man until he showed her a small suite of rooms that he said were to be hers. That in itself was comforting but it posed a greater question as to his character. For the apartment was not devoid of the signs of human occupancy--feminine occupancy--also young feminine occupancy.

There were the collections of scents and cosmetics and silks that are unmistakably those of a young, desirable woman. The apartment was more luxurious than any that Ellen Haynes had ever known and, though she felt distaste at the idea of using another woman's things, she found them all cleaned and properly pressed. The cosmetics were enigmatic--some of them looked used and some of them had their original labels and seals intact. The used-appearing ones, on the other hand, bore the stamp of the immaculate. They were unmarred, neither smudges nor fingermarks.

The clothing was a passable fit for Ellen Haynes--not perfect, as

were her own clothes, but passable.

Ellen wondered. She wondered even more as he led her into what would have been the grand ballroom of the mansion-design and found it to be fitted as a physical laboratory. She looked around at the vastness and shuddered slightly at the unpeopled silence of the great house.

"Doesn't the lack of company get you down?" she asked.

"Seldom does," he smiled. "Besides, it is seldom this unpopulated. I've seen the day when the place was positively bulging with people. I hope to return to that happy state soon."

"But that suite you gave me..."

"That's been used, but not recently."

"By whom?" she persisted.

"By several persons," he said noncommittally. He smiled inwardly, knowing what she wondered about. He let her go on thinking mostly because it made no difference and it kept her from brooding on the matter of her father's discovery of Zonium and the things that it implied.

"What are you going to do?" she asked.

"I'm going to make a few tests," he said. "This rock has got to be destroyed. Not just thrown away or buried, but completely destroyed. Disintegrated."

"In what way?" she asked.

"I'm going to try bombarding it with neutrons," he said. "The easiest

way, of course, is to transmute it."

"Where will you get a neutron-supply?" she asked.

"I haven't got a uranium pile," he said unhappily. "But I have got a healthy cyclotron here. We bombard beryllium with deuterons and place the zonium in the resulting output. You see, that is one of the Be9 (dn) B10 reactions, yielding a goodly spread of neutrons with energies from zero to nine million electron volts. I'd try other particles, but the neutron transmutation is always best."

He recalled Turner briefly and smiled. They had a sixty hour start on the Guardsman at least and the vectors of travel made it almost certain that they had a full week before Turner could get away and come after them in a new ship.

He did not believe that Turner could break out and he thought that if he did, the Guardsman would repair to Mars anyway to get himself a new Guardship. There was little sense in a Guardsman trying to fight an armed Guardship in Jim Forrest's unarmed sports cruiser.

Chapter V

Revelation

UNFORTUNATELY for Jim Forrest his mansion was not equipped with space radar and so the only indication of the arrival of Jack Turner was given in the control room of Turner's captured ship. Turner landed in Forrest's ship beside his own and viewed the huge mansion wonderingly.

Then, shrugging, Captain Turner checked his blaster, appropriated from Forrest's supply in the pilot room, and stepped to the front door of the mansion.

He set the blaster against the doorlock and drilled it once, silently but effectively. He pushed the door open and went in on silent feet. He prowled the place quietly, eventually coming to the laboratory. To find that, after the scene of carpeted floors and all of the myriad things that could be expected in this mansion were it upon Terra, made Turner blink. Incongruity followed incongruity--first this definitely lived-in house on a barren place like Ganymede, then this magnificent laboratory stuck right in what should have been a ballroom.

What manner of man was Jim Forrest? He stepped into the room, and saw the opened stairway to the cellar--a heck of a place for such, he thought. He went down and saw the cyclotron and it stopped him with sheer wonder. He saw Jim Forrest and Ellen Haynes, busily engaged in working over the cyclotron-target.

He lifted the blaster and said, "Up with 'em!"

They turned and blinked.

Then Forrest smiled.

"Well," he said in amusement. "Now the picture is complete! We have three factions present. One that wants to make zonium work. One who wants to destroy it utterly. One who wants it to sit in a laboratory case and moulder. Now what, Captain Turner?"

"You are my prisoners," he stated flatly. "You, Jim Forrest, are now accused of attempting to experiment on government property as well as stealing it."

"I intend to destroy it," said Forrest flatly.

"I intend to stop you," said Turner sharply. "And I've had enough foolishness!"

Ellen smiled. She turned, picked up the zonium crystal and handed it to Turner. "Jack," she said softly, "I know what it will do now."

Captain Turner of the Space Guard smiled bitterly. "Well," he said, "what will it do?"

"It will withstand the blaster beam," said Ellen Haynes.

"I don't believe it," said Turner.

She placed the cube on a metal table and motioned for him to drill it. Turner shrugged.

"No," he said, "I'll not destroy government property."

"But you won't," she said.

"There are other things that will withstand the blast," said Turner. "Less difficult elements to make than zonium."

Forrest smiled. "Go ahead and fire," he said. "You'll hurt nothing."

Doubtfully Turner lifted the weapon. Neither of them would have told him to do so if it were not true. Both of them had been willing to steal to get it. They'd not see it destroyed, for Turner did not believe Forrest's statement to the effect that he intended to destroy it.

He pressed the trigger of his blaster and--Nothing happened!

He turned the weapon away from the crystal, pointed it down into the concrete floor and tried again.

Nothing happened!

"What is this?" he asked, checking the weapon. It was charged. It

should have worked.

"This," smiled Jim Forrest, "happens to be one place in the Solar System where no blaster will fire. I have an anti-radiation field working in here that selectively prevents blaster output. Your blaster beam will just not propagate here."

"There's no such field known," said Turner stolidly.

Forrest smiled, went to the wall and pressed a button. "Now try it," he said.

Turner blasted the floor and it worked, but violently. Forrest then released the button.

"So," said Forrest, "we need not fear your weapon, Turner. Now, may I explain?"

"Do so."

FORREST smiled genially. "Come on up into the living room," he said. "It's a long story and we might as well be comfortable. I promise that there will be no violence. I've worked rather hard to see that this identical situation obtained. I'll not spoil it now!"

Wondering, they followed Forrest, who had taken over the leadership again. Forrest mixed a drink at the serviette and handed one to each of them. He opened cigarette boxes on the coffee table before the sofa upon which Ellen and Turner were sitting. He turned to the fireplace and touched a button. The logs flickered.

"Artificial," he said unhappily. "I hope some day to go where I can have a real fireplace but everything that goes up the chimney as air must be replaced from somewhere, since we couldn't use Ganymedian air very long without developing a vicious case of

bronchitis. But it looks pleasant anyway."

"Zonium," said Forrest, "is a rarity. Do you know where the elements of the universe come from?"

"Do you?" asked Ellen skeptically.

"According to established theory," replied Forrest, "the sun is running due to the so-called Solar Phoenix. Carbon is forced to combine atomically with hydrogen under the pressure-temperature conditions of the sun, releasing a gamma quantum, and producing nitrogen thirteen which is unstable and by ejecting a positron returns to carbon thirteen. "Carbon thirteen takes on another hydrogen, becoming nitrogen fourteen, which is stable. Nitrogen takes on hydrogen, becoming oxygen fifteen, which ejects a positron and becomes nitrogen fifteen. Another hydrogen makes it oxygen sixteen, which is stable excepting in the solar conditions, where it ejects an alpha particle and reverts back to carbon again, ready to go through the same process.

"Sometimes the oxygen does not break down but takes on another hydrogen again, becoming fluorine seventeen, which breaks down by positron ejection to oxygen seventeen--and another hydrogen brings it up to fluorine eighteen, back to oxygen eighteen and up to stable fluorine nineteen. You can go up and back, adding hydrogen, to make every known element.

"The curve of elemental stability peaks across iron. Elements lower than iron are more easily built up and elements above iron are more easily broken down. The whole roster of natural elements is accepted as being built by offshoots of the Solar Phoenix."

"And zonium?" asked Turner.

"The ability of zonium to withstand the blaster beam," said Forrest, "is due to the fact that zonium is really an element from another universe!"

"Another universe?" exploded Ellen Haynes.

"Right," he said. "A universe which operates differently from our own but which produces elements fundamentally constructed of the standard atomic particles of energy, which are basic. Zonium will not combine chemically with any Terran element. Its physical effects are outrageous compared with even the transuranic elements which carry the Solar Phoenix to the extremes far above uranium."

Forrest went on to explain in detail the effects of zonium on the sun. "Zonium came into being by unhappy accident," he said. "Only the furious energy of transmutation can breach the dividing energy-levels between the universes of the Cosmos. It takes place under high magnetic, electric, and optical conditions.

"These effects took place, according to my theory, at a coincidental instant when the element under bombardment was adjacent in space-time with a small crystal of zonium in the other universe.

"Using that for a pattern, this crystal of zonium came into being, was measured and accepted as a certain element in the scale. The space occupied by zonium on the periodic chart is fillable, but the metal that will be made will not be zonium like this crystal.

"Any more zonium of this type must have a splinter of this rock for a matrix to start the peculiar intra-atomic structure that gives zonium its bizarre properties.

"Once this is destroyed, as it must be, it can be made again only by extreme happenstance, for the possibility of conjacent matter

between the two universes is no less a probability than possible collisions between--not suns in the galaxy but the galaxies themselves!"

"But why couldn't all this be explained?" demanded Turner. "It seems to have entailed a large amount of mad galloping."

FORREST smiled. "You two people are very much involved," he said. "You are attracted to one another, which is itself good. Yet your viewpoints differed greatly. So long as the zonium existed you could not but let it mar your love. Ellen felt deprived of possible benefits. Jack was a symbol of that which barred Ellen and Ellen was a symbol of that which resented everything that Captain Turner of the Space Guard held honorable.

"It is certain that the future existence of Sol depends upon the destruction of this crystal. A stasis existed during all the years of its dust-collecting stay in the laboratory, a stasis that merely was a threat to the future. For destruction must be complete!

"Supposing I merely hurled the thing into space at a velocity high enough to send it, eventually, into the gravitational grasp of some distant star. A nova would result--a nova with the Solar Phoenix gone wild and with a sample of zonium upon which to build uncounted tons of more zonium, which in explosion would be hurled throughout the universe! A chain-fission extending to every star in the universe, given time!

"Where then," he asked loftily, "would the hoped-for Grand Galactic Civilization be? Yes, I am planning on fifty million galactic years, with Sol grown cold and dead ere man is united throughout the universe. It must have its chance!"

"But why the penny's worth of plotting?" asked Turner.

"I had to do that which would bring you two together," smiled Forrest. "The silent inert threat of zonium in the laboratory was bad enough but stabilized. I could watch that. Knowing that Ellen Haynes would try to take it eventually, I merely spent my time keeping tabs on the young and attractive lady until she swiped it. Then I took it, knowing that you were on the trail.

"I was a little surprised to find Ellen in my spaceship but it saved me the trouble of collecting her at a later date. I anticipated that you would arrive and that I could cope with you, Turner. Well, my machinations over that incident went to pieces and I planned then upon the fact that Ellen was available.

"So I spent the intervening time explaining to her just exactly how I knew the dangers of zonium. I knew also that you'd be arriving but I didn't know how soon. I've still to destroy that rock, you know. But now that I've shown Ellen and explained to you, your psychopathic animosity toward one another's principles is gone.

"By stealing the rock from Ellen and giving you the chance to offer her a means of absolution I showed her your interest. By preventing her experimentation when she took off with it I prevented disaster.

"Instead of zonium, Guardsman, I offer you the anti-propagation field. Here are notes--you and Ellen take them and expand them so that the invention will be yours.

"And now," he said, "I'm going downstairs again and blast this zonium rock into something inert."

"And we?"

Forrest laughed. "You are to go back and explain your deputization of Ellen Haynes and my theft and destruction of the zonium block.

Also," he grinned, "you two have been racing all over the system together. You'd better marry the wench, Turner, and save her good name."

"Will you, Ellen?" asked the Captain. She nodded vehemently but her gaze was on Jim Forrest.

"But you, Jim," she said. "They'll be hounding you from here on."

"Oh me? I'm a lawbreaker," he said. "I'll escape easily."

"How?"

"Easily," he said. "I'll be out of here in time. Just give me time!"

He grinned and insisted that they leave at once. He escorted them, walking between them to the Guardship. He shook hands with Turner and congratulated him. He turned to Ellen Haynes and, with a half-smiling, half-serious expression, bent forward and kissed her lightly on the lips.

"Goodbye--Grandmother," he laughed.

He shoved her inside the spacelock and snapped the starting switch on the frame of the door. The lock clanged shut.

"Grandmother!" exploded Ellen. "What did he mean by that?"

Jack Turner had a flash of inspiration. "He said he would escape in time," he muttered slowly. "The greatest meddler in all time. But look, Ellen, his name is Forrest, not Turner."

"Funny man," she said dreamily, "Egotist. Ever give thought to the idea that your--our --firstborn might be a girl?"

Blind Time

I am going to violate that old rule about beginning at the beginning, because if I begin at the beginning, we'll all be back in the Venus Equilateral days--and until someone twists my arm for another Channing & Franks tablecloth engineering session, The Complete Venus Equilateral tells it all. But I don't mind telling you how it all began:

I'd been reading science fiction since Hugo Gernsback used to fill the center section of Science & Invention with a story or the episode of a serial every month. I graduated to Amazing when it arrived, and took up the old Clayton Astounding with equal pleasure.

Professionally, I'd worked my way upward from the day we all wound wire on oatmeal boxes and used a chunk of galena crystal as a detector to the point where I was designing what we'd call "entertainment" electronics; meaning radio receiving sets for home and household and the family automobile. And somewhere along about 1935, designing radio sets all day and then playing with radio as a hobby in the evening got to be just too damned much radio. I swapped a couple of bushel baskets of radio gear for a camera, which came in handy because I'd acquired, in the following order, one wife, one typewriter, and a daughter named Diane. When I wasn't taking my weekly pictures of my daughter and sloshing up the house with developer, hypo, and the rest, I'd try my hand on the old Woodstock. Because, you see, Doc Smith didn't write as much as I'd have liked, and John W. Campbell had become editor of Astounding with a firm clause in his contract NOT to write science fiction. For anybody, including himself. Ergo, someone had to write the science fiction I preferred, and it had to be me.

Meanwhile, back at the ranch, John W. Campbell was going through

his way of living. I learned the process later, but I'm told with the highest authority that as far back as his college days, John took up concentrated hobbies and rode one until it fell to the ground, whereupon he abandoned it, climbed onto another hobby, and took off in another direction. He'd been trying to develop the fuel cell, and the house had been sloshed up with beakers of acid and alkali, and various salty messes. He swapped the fuel cell for photography, and the house became sloshed up with developer, hypo, and the rest. Then he'd met Harry Walton, one of the home workshop editors of Popular Science who occasionally tossed off a story for Astounding, and Harry got John interested in building things, taking pictures of them, writing the article on how to build the------, and John took up home electronics, somewhere about 1939 or 1940.

John's way of living was to get up in the morning, breakfast, catch the train to New York for work, come home, eat dinner, and then disappear into the workshop until it was time for bed. On the weekends, the only thing that changed was that John did not catch the train to New York.

Now, I said that I'd been toying with science fiction, but not very hard at the time. I was designing automobile radios for the Automobile Radio Laboratory of The Philco Corporation in their special design center in Detroit. It was a fairly good job, and all went well until the spring of 1941, when the special studies group designed a brand new automatic tuner. Everything had to be new, at least on the visual point, and the standard push-button radio had been around a long time. The interest was on floor control, with six pre-set stations on call in a sequence; one whiffled through the sequence by pushing a button on the floor and stopped when the station one wanted came on.

Unfortunately, this model didn't work; instead of staying put, each station-setting moved, with slow but alarming regularity toward the

total high-end of the broadcast band where it stopped because it couldn't wander any further. We filled lab books with data, trying everything. I built a switch run from an old phonograph to click off the push-button routine: fifty times around the sequence in one minute, pause and measure how much each station-setting had drifted.

Studebaker and Chrysler had been sold and others were interested, and the Oak Manufacturing Co. had the basic tools built and were turning out tuners (that didn't work, but hardly their fault!) that were to go into production as soon as we got the bugs out. As a consequence, with a few million automobile sets awaiting a successful tuner, you cart rather quickly gather just how much time I had free to take a hard stab at writing science fiction. Very little, if you're not sure; and guess where we all were on that Sunday afternoon, 7 December 1941? Following the wandering turret tuner toward the high end of the broadcast band!

But things changed as soon as it was known that this war was not going to be a six-week pushover. The turret tuner died and left no address, and we began to get strange-looking equipment, designed as a functional prototype by government laboratories, to be reduced to mass production design.

Our lives changed, too. From the day of my first steady job in the first lab, we'd worked regular overtime, with additional overtime when something came up with problems. When (I think it was the Labor Relations Board or its equivalent at the time, say 1939 or so) ruled that overtime work must be paid for unless the worker was a supervisor, we engineers were appointed to supervise mechanical draftsmen, each of whom supervised one model shop machinist, who didn't have to supervise anything because model shop mechanics belonged to a union that got paid overtime no matter what. But with government contracts coming in, there were government auditors who supervised the supervisors, and overtime

work without pay other than "supper money" stopped. Further, they could hire more engineers and draftsmen, but at no greater pay than we regulars were getting, so it was economically sound to hire help instead of paying time and a half for overtime.

With time on my hands, I took my first real thrust at writing science fiction. I took off on one, double spaced and all, and finished it; a job that might go off today with science fiction's trend toward strange cultures on distant planets, but in 1941 it didn't work.

It came back--but not with a rejection slip. It came back with what I found to be the case: if John W. Campbell were interested (in anything!), one got a six-page letter, single spaced. This one said that he couldn't use the story I'd written, but he liked my style, and he had the firm notion that I had a technical background, and couldn't I write something that used my education and experience as a foundation.

The result was "QRM--Interplanetary." They paid me money for it. I've never been the same since.

And that is how the beginning began.

"QRM--Interplanetary" was purchased in the early spring of 1942, and appeared in the October, 1942 issue. Through that time, Philco closed the laboratory in Detroit, and we were given the offer of moving to Philadelphia or going elsewhere, and I had received an offer to operate as project engineer on one of the programs to develop the so-called "radar" proximity fuse, at the Crosley Corporation in Cincinnati.

Moving and getting settled into a new job kept me busy once more, especially since the program was a flat six-day week, eight hours each, on a job that took everything out of us, both physically and

mentally, because by then it was known that this "six-weeks war" might go on for six years, and we'd been hurt so bad that the United States might come out second.

My writing lagged until Campbell wrote me another of his six-page letters, generally asking about his electronic home workshop, and suggesting that he was waiting for another story of the same kind I'd turned out before. Hoping, then, not to be hauled off before a firing squad, I took some liberties with what little was known about radar, and wrote "Calling the Empress." I got the check in Cincinnati in February 1943, on a cold, cold morning after an icy rain-hail storm. I opened the envelope as I hit the front steps--and the ice--and landed with two feet forward, both arms waving, on the bottom step--no, I mean with my ass on the bottom step. I don't know whether it was worth the check; I was once five feet eleven, since then I've been five feet nine.

Here, once more, came a change in my way of living. Since August or September of 1942, when the proximity fuse program began to shape up, there had been some haphazard scurrying back and forth between Cincinnati and Washington. Now, oh, about the spring of 1943, the haphazard scurrying was replaced by a schedule in which I was sent to Washington for a few days once each month.

Meanwhile, John's response to my reply to his letter was another letter, asking more about electronics, and from there the correspondence went absolutely wild. John found that he had a writer, and a tame electronic engineer, and late in 1943 it became expedient for me to arrange my monthly trip to Washington so that the conference closed on Friday night, and I made arrangements to return to Cincinnati on Monday morning in time for work.

It was on that first trip that I discovered John's way of life. I was promptly escorted into the cellar, where I played supervisor until I

damned near missed my reservations to get me back to Cincinnati because they'd played that "double daylight saving time" process on the clocks for the war effort, but the railroads adamantly stayed on standard time.

That was my first sight of John W. Campbell. The stunt of making weekend reservations went on, neither the government nor the company cared very much how I spent my weekends, so long as two important points were kept. First, there were no expenses vouchered for whatever I did from Washington on Friday evening through Washington on Sunday night, when I picked up my reservation to arrive in Cincinnati on Monday. And second, both the government and the company knew where to find me all the time.

And so, once each month, I traveled to Washington, and on Saturday morning I was hauled into John's home workshop electronics laboratory until it was time to be raced to transportation on Sunday night.

Once I hit Washington without a confirmed railroad reservation home. The Baltimore & Ohio railroad didn't have a place for me, so instead of leaving for New Jersey on Sunday evening I had to stay in John's basement until Wednesday. On Monday morning, I was hauled into John's basement workshop after confirming my position, and my lack of reservation, and the Campbell telephone number, while something called the War Reservation Board (or something like that) tried to pull strings to get me a bunk on a train.

At about 10:30 that Monday morning, I asked whether John was going in to Street & Smith. His reply:

"No. You see, I'm entertaining an author."

That baffled me. You see, I'm an engineer by profession, and I've

always thought that way. My writing science fiction was an avocation, and even now when I'm retired, I'm a retired engineer who happens to have a talent for the typewriter, and can happily make a buck out of it.

"Author?"

John nods at me. "You, George."

Well, now, the word "author" is like the word "esquire." That is, bestowed by others but never used himself, like the word "mister." I'm George O. Smith, and I sign my name that way and answer the telephone that way, and one never calls himself "Mister Smith" unless one is being haughty. So the word "author" is reserved for fellows like Bill Shakespeare or Charlie Dickens. Fellows like Alex Dumas who wrote swords and sorcery are writers. And if I am asked about such as Winston Churchill or John F. Kennedy, my reply is that they are "politicians," and neither writers nor authors.

So I'm a writer, and I write because I like to write, and as I look back upon the past, I must say with cheer that I hope that my readers have had as much amusement as I have had fun in creating.

Late in 1943, the United States was on its way back from the drubbing it took on 7 December 1941. We weren't winning, but we were no longer on our back with all four feet in the air. While the production lines on the proximity fuse were running on three shifts, six days per week, the engineering part worked on improvements, building small quantities on a pilot line for test-firings, and--with a great sigh of relief, the engineering department was put on the old five-day week. This, of course, cut my total pay, since everybody was getting one day of overtime on the six-day week.

That gave me more time to write, and since both John and the

readers were yelling for more Venus Equilateral, that's what they got.

So here comes a bit of a slip-up in the chronology to the later days when I took off from Venus Equilateral to try something else.

Robert A Heinlein wrote "Lifeline" long before this. It was the story about the gentleman who built a time machine, looked forward himself, to find that he was to be killed by an automobile accident the following morning. After explaining his future to his friends and fellow-scientists, he calmly walked out on the street to meet his fate. Calmly, fatalistically; hope not, for there is no future, pray not, for there is no salvation.

But I am not a fatalist, but then no one has ever told me that I am to die precisely on tap, at what spot, and how. My opinion is that if there were any possible choice, I'd be in a slow oceanliner heading for Hawaii if my fate were death on Fifth Avenue by time machine fortune-telling.

John said that I'd pulled my punch, but that it couldn't be helped, but he bought it because of the gimmick of using time machinery as a manufacturing tool.

So--?

Blind Time

The man behind the large, polished desk nodded as Peter Wright entered. "Wright," he said, "the Oak Tool Works will require an adjuster. You're new in this office, but I've been given to understand that you have experience, are willing, intelligent, and observing. The Oak Tool Works has a special contract, and it is always taken care of by Mr. Delinge, who happens to be having a vacation in an inaccessible spot. Therefore, you will pinch-hit for him."

"I understand."

The president of Inteplanetary Industrial Insurance nodded.

"Good," he said. "You are to be at their Charles Street plant at eight o'clock tonight. They are to have an accident then."

Peter Wright nodded. He turned to go, his head mulling over the myriad of questions used by the average insurance adjuster. The questions designed to uncover any possible fraud. Those designed to place the full blame of the mishap, to ascertain whether it were covered by the existing contract, to determine the exact and precise time of the accident--

"What?" he yelled, turning back to the executive.

The president of I.I.I, nodded wearily.

"I heard you right?" asked Peter incredulously.

Edwin Porter nodded.

"But look, sir. An accident, by definition, is an unforeseen incident, which by common usage has come to be accepted as misfortunate, although the term 'accident' may correctly be applied to--"

"Wright, after you have been to the Oak Tool Works, you will become violently anti-semantic."

"But look, sir. If this accident is forecast with certainty, why can't it be averted?"

"Because it has happened already."

"But you said eight o'clock."

"I did," said Porter. "And I mean it."

"But... but it is now about three-thirty in the afternoon. At eight o'clock this evening there is to be an accident that has happened already. The Oak Tool Works is in this same time zone; they're running on Central Standard Time, too. So far as I know, the Oak Tool Works is not manufacturing time machines, are they?"

Porter grinned despite his weariness. "No, Oak is not manufacturing time machines."

"I am still in gross ignorance. If anybody is capable of truly predicting the future on the basis of ten percent accuracy, he'd put the insurance companies out of business--unless they hired him."

"The future, in some senses, can be predicted," said Porter.

"Only on a statistical basis," answered Wright. "The prediction that tomorrow will arrive at precisely such and such an instant is a prediction based upon the statistical experience gained by several thousand years. So is the prediction of what will happen when sulphuric acid and potassium nitrate are mixed. But an accident, sir, is unpredictable by definition. Therefore, he who can predict an accident is a true prognosticates, who needs no statistical experience to bolster up his forecasting."

"Wright, this argument gets nowhere. It, incidentally, is why Delinge always handled the Oaks contract. He knew, and there was never an argument. No, I'll tell you no more, Wright. You'll be incredulous anyway, until you've seen it in person. Eventually, you'll understand."

"I doubt it," replied Peter. "Seems to me that there are a couple of very obvious factors. One, if an accident can be predicted, it can

also be avoided. Two, if such an accident is foreseen, and nothing is done about trying to avert it, then it is a matter of gross negligence, and the contract may be voided on those grounds."

"With but one exception to your statements, I agree," said Porter. "The accident that will take place at eight o'clock has already happened."

"What you really mean is," said Peter Wright, more by way of question than by statement, "is that the accident has occurred, but will not become evident until eight?"

"I'd hate to try to explain it in a few words. Let us try by analogy. A man atop of the mountain sees an avalanche start toward a railroad track. The avalanche takes out the track, preventing a meeting between two emissaries on a vital question. The vital question is not settled, and two countries go to war. In the war, one country discovers a means of nullifying gravity, which after the war is used to start interplanetary travel. Several years after interplanetary travel starts, the rare metals are discovered in plenty, and the cost of shipping is such that the monetary system fails, and the system enters a trying period of depression. Now, could you, a man suffering because of the depression, go back and turn aside the avalanche?"

"No, but I fail to see the connection."

"There isn't any, really. In that case the depression was due to a concatenation of events. In the case at the Oak Tool Works, the accident per se has already happened, but it will happen at eight o'clock. You, Peter Wright, will witness the accident that will happen and make a suitable settlement."

"Let's hire the prognosticator," suggested Wright.

"The laboratory is working full time on a means of utilizing the principle in our business. To date they are not successful. For me, I hope they are never successful. I'll stick to the statistical experience, since true prognostication depends upon some sort of predestination, which, if true, makes a mockery of all effort."

"All right," grumbled Peter Wright. "I'm going. What sort of accident is... will it be?"

"Go prepared for anything from simple abrasion to loss of limb. I doubt the possibility of death, but--"

"I give up," groaned Wright.

* * * *

"Where's Delinge?" asked the man at Oak Tool Works.

"Vacationing on Mars, I believe."

"No offense, young man. I'd prefer him only because he has experience in this. I'll have to spend some time in explaining to you, as a newcomer, just what really goes on."

"What I'd like to know," said Wright, "is some means of averting these predictable accidents."

"We've tried. We've also failed."

"Look, Mr. Simpkins, I'm of the legal profession. I am not too much of a scientist, and I know about nothing regarding machinery--let alone the kind of plant that makes tools that make tools. I took a course in mech, of course, and forgot it as soon as I made my grade."

"Do you know what a blind rivet is?"

"Ah...er...one that can't be seen from both sides?"

"Right. A sealed tank, for instance, usually has a manhole in it for the bucker. The bucker holds a bucking tool against the rivet while the riveter rams it over. Similarly, bolting structures together requires that a counterthrust or torque be applied to the nut or bolt on the other side. Unless the structure is equipped with tapped holes, which are expensive, and cannot be made with driller beams."

"Driller beams?"

"An outgrowth of the war laboratory. What used to be called a Buck Rogers. Doesn't really disintegrate the metal, of course, but dissipates the binding energy between molecules and lets the metal float away in a molecular gas, driven by its own heat energy. The beams are sharply defined as to diameter and depth of penetration; you can set 'em to a thousandth, though it takes cut and try methods to do it. We don't really drill or cut metal any more. We beam-drill it and beam-cut it. It's possible to set a screw-cutting beam, but tapping a three-quarter-inch hole is not for any construction company."

"I follow."

"Well, in setting blind screws and blind rivets, we have a method whereby the bucker need not crawl around on the inside. Actually, we don't use a bucker any more. The riveter does it all from one side."

"I've heard of blind rivets."

"This is not a self-setting rivet," said Simpkins. "This is a real rivet-set system. Wait, I'll show you one."

Simpkins snapped on the intercommunicator. "Ben? Look, Ben,

we've got a new man from I. I. I. here who doesn't know the ropes. Can you bring up a blindy?"

"Sure, but it will be dangerous."

"I'll have the signs posted."

"OK," answered Ben. "I'll be up in a minute."

"Look, have you got one that is about to reform?"

"I would get that kind anyway. No sense in tying up the corridor."

"OK."

* * * *

It was about a minute later, no more, when a knock came at the door. Simpkins called for the knocker to enter. The door opened, and a man in overalls stuck his head in. There was a grin on his face and a smudge of grease on his nose. "Can't, Joe," he said. "You didn't leave the door open."

"I couldn't be going to forget that?"

Peter Wright swallowed. "Going to forget?" he gasped.

"Ben," said Simpkins in a very tired tone, "through the door glass, huh? Let's show this man what we're up against."

"Right."

Simpkins snapped the communicator. "Tony? Get a new glass for my office ready."

"How soon?"

"Within the hour."

"Right. I'll have it cut and waiting."

Peter shook his head, and then watched Ben enter with the riveting tool. He looked at it, and Ben, with a grin, held it up in front of Peter's nose.

There was a regular air ram with handle. That was standard. But the second air ram hitched in opposition alongside of the standard job was new. It projected out, its business end projecting in a caliper arc beyond the standard ram, and returning to buck the standard ram. With this tool, one man could both ram the rivet and buck it with the same tool, and, since both hammer and anvil were driven, the effort was in opposition mechanically, and no great effort would be required of the operator.

But the thing that stopped Peter Wright cold was the... the--

The missing link!

Several inches of the caliper were missing.

Ben nodded.

Peter reached forward gingerly and passed his fingers through the space. He felt of the ends. They were microscopically smooth, true planes of cleavage. The far end, which acted as anvil for the main ram, was solid and immobile despite being separated from the framework by six inches of--nothing.

"You see," said Ben, "we need only a small port in the item we're building. For instance--" and Ben opened the closet door a crack,

slid the far end inside, and then closed the door. He shoved forward and rapped the door panel with the main ram. Then pulled back and--

Rapped the inside of the door panel with the hidden end.

"If we were riveting, now, we could slip in our rivet and pull the trigger. Follow?"

"I follow, but where's the missing piece? What holds it that way?"

"The missing piece is coming," said Ben, retrieving his instrument and sitting down.

"I.. .ah--" started Joe Simpkins, and then, taking Peter Wright's arm in a viselike grip, pointed dramatically to his office door. "The wind," he gasped.

* * * *

Wright shook his head. It was far too much for him. He was strictly out of his element, and struggling madly to keep up. The door, he saw, was swinging shut, propelled by the wind. He recalled what they had said at the portal upon entry, something about the door should be open. With a shout and a leap, Peter raced for the door.

It slammed, and Peter grabbed for the knob.

Then the glass erupted in his face; in shards, it fell to the floor, and a metal piece came soaring through the air, through the glass, and circled the room. Peter's jaw was slack as he watched it flying about with no apparent plan. It poised for a minute before his chair, where Ben had held up the blindy riveter for his inspection. In Peter's imagination, he saw himself sitting there, passing his ghostly fingers through the spot where that piece of steel now hung immobile. It

headed for the closet, and Ben, watching, opened the door wide. The piece slid in, moved this way and that, rapped forward against nothing, and then rapped backwards toward the room--against nothing, and then floated rapidly toward the riveter itself.

With precision, it approached the riveter. It came to rest easily, slipping into place with no shock, and the cleavage lines disappeared. The blindy was complete again.

"See?" said Simpkins.

"Yeah," gulped Peter, weakly.

Laconically, a workman entered, cleaned up the glass on the floor, and started to replace the shattered panel.

"I see--but I don't really believe it," said Peter, flopping into his chair.

The two men laughed uproariously.

Ben sat down, and Simpkins started. "You see, the time field," he said, by way of explanation. "I haven't the vaguest notion of how it works or why. I admit it. But what does happen is that, during the workday, the missing sections of all blindy tools are stored in the tool room. At the end of the day, their respective tools are returned to the tool room, where they restore completely. About seven to eight o'clock, the midsections emerge from the tool room and go through the motions made by the entire tool, eventually following their ah... owners... back to the tool room, where they join. At this point, those tools required for use on the following day are placed in the temporal treater, and treated for whatever period of action is required."

"If it takes four hours for work, they're treated for four hours," put in Ben.

"And once the day's work is finished, the work itself must be moved, since where the tool fits across a barrier, now the missing piece occupies that same space. If it does not find room, the man handling the tool several hours before will not be able to set his tool."

"Which was why I couldn't enter with the riveter," added Ben.

"It acts quite normally," said Simpkins, though with some doubt. "You couldn't bring the thing through a barrier if no time-difference exists. Actually, there is a temporal offset in the thing. It may pass through the same space at another time, but not at the same time."

"And you can't lick it," said Ben solemnly. "I purposely left the door open. But if I had really left the door open, I'd have had no resistance in the first place--I found no trouble in hooking it over the closet door--because when the mislink appeared, I opened the door for it. It does help, sometimes," grinned the shop foreman, "because we can tell when a piece of work is not going to be moved. Then it impedes the work."

"How do you know whether the impedance caused by not moving the work is responsible for the work not having been moved?" asked Simpkins wonderingly.

"I don't mind being on either horn of a dilemma," said Ben. "But I've yet to see the dilemma that I'd ride both horns simultaneously on."

"Urn, a bad animal, the dilemma," laughed Simpkins. "Well, Wright, I trust the demonstration was successful?"

"Successfully confusing," admitted the insurance adjuster. "I gather that the injured party got in the way of a missing link?"

"Whoever it will be was in the way of a mislink from a box-car crane."

"Bad, huh?"

"Could be--we'll know in a while."

* * * *

Ben lit a cigarette and said, "The box-car crane is a gadget made possible by the temporal treating. Prior to its use, they put heavy machinery into the box car by running to the door on a crane, and then they dropped it on a dolly and slid and levered it inside and in place. Now they have a crane with a mislink between the pulley block and the grab hook. They hook it on, lift it up, and slide it inside the car, suspended on the mislink that permits the roof of the car to intervene."

"And the victim fell afoul of one of these?"

Ben nodded.

"You're absolutely certain?"

"Of course not," he said. "A number of things might have caused the trouble. This one is a boom-type crane. The mislinks are in the booms, and when it was swinging back from dropping a case inside, it hit something."

"Something? Can this be identified?"

"With a minor interference, we can feel it," said Simpkins. "With a mislink screwdriver, we can feel the interference. If it is hard, we know that someone has--or will drop something in the way."

"And if it is soft, and moves, you can estimate it to be animal," added Ben.

"Can't you probe with a feeler of some sort?"

"We do--and did. There was a body on the ground after the accident."

"No identification possible?"

"None. Probing with a rod in the dark makes identification difficult. We've tried to make some sort of study, such as wearing a magnetic badge with a key-impression on its face--the magnetic to locate and the key to identify, but frankly," and Simpkins frowned deeply, "it's psychologically dangerous. The accident cannot be averted. After all, it has happened. And we tried it once, and the man who was hurt--well, knowing he was to be hurt, he went into a mental funk far worse than the accident."

"Why didn't you send him home or have him guarded carefully?"

"We tried, kept him guarded closely. Aside from putting him in an air-tight case, we did about everything. When the accident occurred--well, he and his guards went to watch the first time that the thing could be fooled."

"It happened, all right," said Simpkins. "First, another man caught a mislink on his shoulder, which laid him out slightly. That, we thought, was it! And if it was, the time-factor was all screwed up. But we all ran forward to measure, and as we did, our man got clipped with another. The first accident had gone unnoticed by the operator."

"How can you tell that such an accident will happen?" asked Peter. "Seems to me that a hundred tons of crane might not notice a few pounds of human in its way."

"We erect guard wires that register. That is for one reason only. We use it to summon the medicos and the hospital ambulance, and

prepare for action. That's about all we can do."

"I wonder if you could take a picture of such?" suggested Peter.

"Huh?"

"Take a picture with a camera controlled by the operator-- you know, temporal-treat the camera, film, and all but the range finder and the shutter release."

"Look, fellow, that would take a picture of the accident as it happens, all right. It's also done. Makes excellent records. But as for pre-accident stuff, know what happens?"

"No, of course not."

"Well," smiled Ben, "you'll, see. Anyway, the camera comes roaring out, is poised in midair, and is snapped. The timing isn't too good, however. Well, you'll see the camera come out and snap around the place when the accident happens. Remember this is not time travel, and you can't go forward and take a picture and then come back."

"For what good it does, we can tell about when a piece of goods will move by leaning a long-time mislink against it and waiting for it to fall."

"Does electricity cross the gap?"

"Nope. Only force and motion. The television idea isn't good either, young man."

"Um, how did you know?" asked Peter.

"We go through this regular. You're not the first that has been trying to avert accidents."

"You understand that I represent I. I. I.?"

"Yes," said Simpkins. "As such, it is your responsibility to do as much as possible to save your company money. That is your job."

"Right. I still say that there is some means of averting the accident, somehow."

* * * *

"Well, Ben, we've always claimed that we'd tried everything. But they didn't try the electric light until Edison got the idea, and the airplane was a new science when they went to work on it. Young man," said Simpkins, to Peter Wright, "you are a young man with a bright mind for legal intricacies. It usually makes little difference, so long as the mind is capable of handling the intricacies, just what the mind was specialized in. You are a fresh mind, and we've all seen fresh minds enter and lick a problem that stuck the original men for months. You think you can lick it?"

"I don't know. It just seems to me that there must be some way."

"Don't forget," said Ben, "that this is not much different from a regular problem. In construction, I mean. We have accidents where a man is hit by a flying grab hook that is not in any way temporal-treated. Common accidents. The real problem, Peter, is to stop accidents. Not to try to avert them after they have happened."

"But this one--"

"So far as the temporal treatment goes, is--or has happened."

"Could you temporal-treat the stuff so the mislinks pass through first?"

"Sure," laughed Ben. "Not practical. They have no forewarning then. They just go where the tools will go when used. We can't tell when one of the men will try to grind a mislink chisel. As it is, we can clear the area where the tools have been."

"Just remember that this is fact: For a one-hour mislink, we treat the tools for one hour. They are then ready for use for one hour. At the end of that time, the mislinks start to follow, and follow for one hour, at which time the temporal difference decreases on a fourth-power curve, and the mislink catches up with the tool and falls back into place."

"Uh-huh. Well, I'm new at it, gentlemen, but it is my guess that this accident you anticipate need not happen."

"You forget," corrected Ben. "It's happened."

"Then where's the body?" demanded Peter Wright.

"It... ah--"

"Has it really happened?"

"It will, with certainty."

"Thus proving the utter futility of all effort?"

"Ah--"

"See?" laughed Peter.

* * * *

They left the office and proceeded into the factory. Here, where things should have been humming, all was at a standstill. Men sat on

the benches and smoked nervously. They looked into one another's eyes with that "Will it be me?" stare, and they worried visibly. An electrician who tinkered hourly with lethal voltages as his day's work sat and chewed his fingernails. A machinist, sitting on the bedplate of a forming press large enough to stamp out an automobile body around the place where he sat, was biting his lips and looking out through the opened door to the shipping platform. Men outside were working feverishly, however.

"Why?" asked Peter.

"They want to get done. They must get done so that the engine can remove the car where the accident will happen."

"Where is this scene?" asked Peter.

It was out on the loading platform. A mislink crane shunted large cases from the platform, swung around in an arc, and the missing section passed through the door, and the crane ran down the length of the car, dropping the case at the far end. The mislink crane returned, the far end reappeared, and another case was hooked to the boom. The operation was repeated. The cases were fitted in the box car with neatness and dispatch. The pile of cases diminished, and the box car was sealed as the crane went to work on the next car in line. It took time, though, to fill each car, and the men working out here sweated visibly, partly in fear, and partly from the hurried work.

They had little time to stare into one another's faces and wonder which of them would be taking the brunt of the accident. As time wore along, the siren of the ambulance arriving caused some nervousness. The doctor and his corps of nurses came slowly forward, inquired as to the scene, and proceeded to lay out a fairly well-equipped emergency operating set-up.

"I'm beginning to feel the morbidity of this," said Peter. "The doctor, the ambulance, the insurance agent. We're like a bunch of vultures awaiting the faltering step of the desert wanderer."

"A bunch of undertakers waiting for the accident to happen," said Ben. "No, I'm not calloused. I'm scared slightly green. I can't take it unless I joke about it. It's the uncertain certainty--the wondering just which one of us gets caught in the certain accident."

"It seems uncanny to talk about the certainty of accident," said Peter.

"The training at I. I. I. would instill a bit of the perfection of the statistical method in you," nodded Simpkins. "By the time your statistical bureau gets all done checking the chances of a new account, no one would bet against it. I. I. I. also puts the kiss of death on, too. Just try to hire men for a plant that can't be insured by your outfit. They'll ask a thousand credits a day."

"What time is this affair going to happen?" asked Peter.

"Not too long. They're about finished. Then they inert everything as usual, and we'll all retreat to the inside wall and wonder."

"Why not all go home?"

"You can't win," said Ben solemnly. "We did all go home once."

"And the accident happened anyway?"

"Certainly. A thief broke in and it clipped him. Just don't forget that this isn't a probability, it's certain. And the same mob instinct that makes people gather around an injured man will keep the entire gang here, morbidly waiting to see who gets it in what way. There is that element of wonder, too, you know. Every man in the place knows that someone is going to get clipped with that crane. They're all

cagey and very careful. It will be an accident despite planning, and therefore the unforeseen something will be out of the ordinary."

* * * *

"Quite a problem, Peter," said Simpkins.

"I see it is."

"A lot of this veiling is sheer psychiatry. We've consulted the best behavior specialists in the system. Keeping the fact secret is worse than permitting free knowledge, according to them. But identifying the victim is far worse than to have everybody in a slight tizzy."

"Why?"

"Well, when it happens, we have a victim who realizes that part of the chance was his, and shock is not so great as it would be if no warning took place, in light of the management knowing all about it beforehand. On the other hand, all the men who were not hurt get as much uplift after it happens as their downswing of anticipation. On the third hand--pardon the numbers, Peter--if the victim were positively identified, the rest would be no better off, but the victim would be a mental case from then on, and shock would set in prior to the accident. Then we'd be likely to run up the casualty rate. Follow?"

"It seems like a hard row to hoe."

"Well, usually we keep people out of danger areas. We know where they'll be, of course. It's these darned accidents that happen twice in time."

"Twice in time?"

"Yes. The accident happens once invisibly, and once visibly. Once in

the future controlled by the present, and then, as the future unfolds, it is an accident happening in the present, controlled by the past. It's blind time, and there is nothing we can do about it."

"That fatalistic attitude again."

"Well--"

Ben interrupted. "They're stopping now."

They turned to watch. The final box car was loaded, and the engine drew them away. The mislink crane returned for the final time, and was stowed on the platform. A hush fell over the crew, and the windows in the back were filled with faces, watching.

The silence was intense. Peter realized that practically every man was holding his breath, and yet it would be at least a half hour before the mislink began to follow the crane, and some time after that before the mislink caught up to the scene of the accident.

He let his breath out with a sigh, and mentioned the fact to Ben and Simpkins. The foreman nodded and agreed, saying, "We know, but there isn't one of us who won't try to hold his breath for the next two hours."

"Impractical," muttered Peter Wright. "There must be a way."

* * * *

The mislink was a husky section in its own right. The crane boom was no weakling. Thin rods, jointed on toggles, floated about ten inches from the main I-beam, just as long as the temporal-treated section itself. It made an eerie sight, this monstrous slab of solid metal, moving back and forth with determination and purpose, with no visible means of support. To add to the alien sight, the telltale

rods maintained their ten-inch separation with a metallic rigidity, though no connection was visible to the main girder.

On the loading deck were three painted circles. The inner one was a four-inch stripe of brilliant red. The circle approximated the scene of the accident. Outside of that by a considerable safety factor was an orange stripe, almost yellow. Another safety-factor distance away, the third stripe of green inclosed the area. As the mislink crossed the green stripe, all eyes fastened on it. As it crossed the yellow-orange stripe, the watchers tensed, and as the mislink crossed into the danger section, there was a sudden, audible indrawing of breath, which was held solid until the mislink passed across the red line on the way out. The out-go of breath was definitely audible.

The tension mounted. A large clock, set up for the case, swept around and around toward the estimated zero hour. The watchers no longer looked into one another's eyes, and when eyes met inadvertently, they both fell with a sickly smile that lacked courage.

Why were they there? Peter asked himself, and he knew. They were there because of morbid curiosity. The thing that made people watch three-hundred-foot dives into a large washtub of water; people watching a tightrope walker somersault on the wire above Niagara; watching the high trapeze artists performing with no net. That one of them was certain to be called into the act, the element of chance and the element of danger, always a gamble, made them stay. With nothing to win, they stayed to watch, which is a basic characteristic of human nature.

They were there because they were human!

And when the accident came, the laws of the lines would be broken, though everything in every man's power would be done to maintain the safety. For the mislink would stop, after the accident, just as the

crane had been stopped automatically by the contact with the telltale rods in their temporal extension of the crane itself. The green line, across which no one must pass save the authorities, the yellow line across which only the medical corps may cross, and the red line across which only two men may cross and then only to take the victim to the medical set-up on the dock. Men would rush forward, crossing the lines, and the victim would be carried away with a trailing number of watchers. Then someone would have to forget the victim to keep the rest of the men from getting in the way of the mislink as it resumed operations. But, of course, no one else had been hit, so this, at least, would be successful, and the men were very confident that no matter what they did, they would not be hit.

The minutes wore on interminably. Coffee came in great tanks, and sandwiches in stacks. The men ate in gulps, swallowing great lumps of unchewed food, and all courted indigestion. The strain was terrific as the timing clock drew close to the minute.

Who--?

* * * *

Then--came the zero minute.

There was an intake of breath as the clock chimed once, to mark the beginning of the period of probability. No man moved a muscle, yet all muscles were tense with expectancy. Nervously, Ben felt in his pocket and took out a cigarette, stuck it into his mouth, and fumbled for a match. "Match?" he grumbled.

Simpkins fumbled and shook his head.

"Nope," he said, and his voice was loud and raw.

Peter felt in his pocket and found a match.

He lit one and held it over. His eyes were solid on the scene; he did not want to miss it.

"Look out!" someone cried in a strident voice.

The mislink was approaching the circles again.

Peter turned and faced the place squarely, casting an eye across the men's faces. They were all set, and in every man's body were muscles tensed against moving forward.

How, asked Peter of his mind, can they expect anything to happen now?

Every man is psychologically unable to move forward.

There came a stabbing pain, and Peter whirled with a wordless scream. The shock was searing. Instantaneously, he whirled, hitting his upflinging elbow against the wall. The obstruction in motion set him off balance, and he automatically moved a foot to regain it. His foot hit the foot of Ben, who was standing solidly, partly turned, his face just changing from solid-set to one of surprise.

The solid foot tripped Peter, and he fell forward. He flung the still-burning match from his fingers as he put both hands forward to break his fall. The loading deck came up to meet him, and his forward-flung hands went down toward--

The red line!

There was a coruscating flare of stars, bars, and screaming color in his mind, which contracted to a pinpoint and then expanded to infinity, leaving only peaceful blackness.

He returned to consciousness in the ambulance, but his return was brief. He was conscious only long enough to hear:

"Some day we'll lick it," said Ben.

"Only when you lick the regular accident rate. The trouble is," mused the medical attendant, "that people think there's something about mislink accidents that is different. Like either predestiny or something that makes you able to change the future. Fact of the matter is, it is the past that they're trying to change. Funny, to think of this guy getting it."

"Last one got it by a different set of factors," said Ben, "but you can't stop an accident that's already happened."

Peter Wright, adjuster for the solar system's greatest insurance company, Interplanetary Industrial Insurance, went under. His mind was whirling with a mixed desire to argue about temporal accidents, and the certain knowledge that he was in no position to mention the avoidance of same.