

Galaxy

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GALAXY Science Fiction is published monthly by Galaxy Publishing Corporation. Main offices: 421 Hudson Street, New York 14, N. Y. 35c per copy. Subscriptions: (12 copies) \$3.50 per year in the United States, Canada, Mexico, South and Central America and U.S. Possessions. Elsewhere \$4.50. Entered as second-class matter at the Post Office, New York, N. Y. Copyright, 1952, by Galaxy Publishing Corporation. Robert M. Guinn, president. All rights, including translation, reserved. All material submitted must be accompanied by self-addressed stamped envelopes. The publisher assumes no responsibility for unsolicited material. All stories printed in this magazine are fiction, and any similarity between characters and actual persons is coincidental.

OCTOBER, 1952

Vol. 5, No. 1

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Printed in the U. S. A.
by the Guinn Co., Inc.

Reg. U. S. Pat. Off.



Wait for Weight

By JACK McKENTY

*Sometimes the best incentive
is to tell a man that success
will throw him out of a job!*

Illustrated by SIBLEY

WHEN Dr. Allport Brinton's alarm clock sounded, it brought madness. It was very clever; it not only rang chimes of amazing penetrating power, it turned on all the lights in the room, closed the window, and started his bath water running. But this morning it was not appreciated. In fact, as Dr. Brinton got out of bed, he silently called down evil on the technician who had built it for him.

The "off" switch was on the wall farthest away from his bed and was controlled by a hairtrigger combination dial that couldn't



be operated by anyone not fully awake. Dr. Brinton fumbled for a while, then gave up and started looking for his bedroom slippers. They had apparently crawled away during the night.

He padded into his bathroom barefoot. He was about to see what a hot bath would do for what he had already diagnosed as a histamine headache when the alarm clock, having decided that anyone who could sleep through ten minutes of chiming was unwakable, stopped chiming, turned off the lights, opened the window, and let all the water out.

Dr. Brinton was walking back toward the light switch when he tripped on his bedroom slippers and fell back into bed. No further invitation was necessary; he slept till noon.

Dr. Brinton unmistakably had a hangover. Considering the party he had attended the night before, it was not surprising. Actually, it was remarkable that he had been able to get out of bed at all. During the fourteen years that the Rocket Research Station had been in operation, the parties that were held every time another test flight resulted in failure had grown from a few drinks in somebody's room to a mammoth bust-up that left the whole place partially paralyzed for days afterward.

First as chief chemist, and later

as director of the Station, Dr. Brinton had attended every one of the scores of parties during every one of the fourteen years. It spoke well for his endurance to say that he was back at his office at one o'clock. Some people didn't make it until the next day.

HIS secretary, who didn't drink, was one of very few who were at work on time. She walked into his office and stood in front of his desk, tapping her foot. Her facial expression showed that she thought people who got drunk at parties were amoral, degenerate, and entirely unfit for administrative positions. Dr. Brinton, who had been mentally comparing the relative merits of Prussic acid and hanging as pain relievers, sat up straight to prove that he was moral, alert, and ready for any problem that might come up. His secretary sniffed to indicate that she didn't believe him. Dr. Brinton dropped his eyes to admit that maybe he wasn't at his best at the moment, but it was only a temporary condition, and by tomorrow he would be okay.

"In two minutes you'll wish you were dead," said his secretary. "Read this."

She handed him a letter. He read it and his knuckles cracked as he gripped the arms of his chair.

"Senator MacNeill coming to

visit here?" he cried in alarm. Though his voice was squeaky, he was surprised to hear it at all. "Get me a line to Washington, our top priority, Audrey at the Naval Department."

The call was put through.

"Commander Audrey? This is Brinton at the Station. Joe MacNeill is coming to visit us. Can you head him off? . . .

"Yes, I know, but he's on one of his economy drives. We just did a test yesterday and if he inspects this place now, we won't get enough money to build a pin-ball machine. Delay him a week, anyway . . .

"Well, try. I'll arrange a tour for him as best I can, but if he doesn't come, I'll be much happier. Let me know as soon as possible. Fine. Good-by."

He scribbled a memo and carried it out to his secretary. "Copy of this to all department heads, right away. Phone the commissary and have them get all the decorations taken down in the dining room. Tell them to lay in some steaks for tomorrow. Phone Harry Sparling in Public Relations—alert him V.V.I.P. tomorrow, extra-special tour including all our movies on the subject. I'm going over to the Fuels Department."

Dr. Ferber, head of Fuels, met Dr. Brinton at the door of his lab.

"I just got your memo," he

said. "Is that budget-butcher really coming down here?"

Dr. Brinton nodded his head gently. "I'm afraid so. I came over to see what kind of show we can put on for him."

"We have some samples to run on the indoor motors. There are a couple of loads left for the acceleration sled. And I suppose if we work all night we could get a sergeant-major ready, but if he's on an economy drive that might be too elaborate. Just a view of everybody pouring stuff from one test-tube to another might be best."

"Do the samples and run the sled once," Dr. Brinton said. "That should provide enough fire and noise. The rest of it will have to be fast talk. I think I'll go home to bed."

DR. BRINTON considered himself a methodical man. He had bacon and eggs every morning for breakfast. He always took a vitamin pill with his afternoon coffee. And he was used to exactly eight hours sleep. It was this last habit that caused him to wake up that night at midnight; he had gone to bed at four that afternoon and habit is a hard thing to break. At first he thought it was morning, but a glance at his watch hanging on its illuminated pedestal corrected that.

He grunted, rolled over, and waited for sleep to overtake him again. Nothing happened. He turned and stared at the ceiling for a while. Still nothing; he had not felt so wide awake for a long time. Then he was struck by one of the flashes of inspiration that had made him famous—he would raid the refrigerator.

DOWNSTAIRS, he found that his son Eric had anticipated him by two minutes, and was busy setting the table with cheese, pickles, ice cream, peanut butter, and everything else necessary to keep a sixteen-year-old boy operating at peak efficiency. A pile of books on the table indicated that he had just finished his homework. Dr. Brinton was pleased that his son had worked so late, but the choice of food made him shudder. He rummaged in the refrigerator himself, found a cold pork chop that Eric had somehow overlooked, and bore it to the table in triumph.

"We were dealt a blow today," he said, between mouthfuls.

"Oh?" said Eric, on guard in case it was about his school work.

"Received word that Senator MacNeill is coming here tomorrow. No, today—it's after midnight."

"Oh." It was an "oh" of relief. A senator couldn't be nearly as troublesome as a teacher.

"Don't say 'oh' like that. He'll probably close the Station tight and we'll all be out of work. You don't realize it, but money has been getting harder and harder to cadge for this place. We're practically running only the Fuels department now."

He got up, threw the bone from his pork chop into a garbage pail, washed his hands at the sink, and sat down again.

He continued, "Wait till he finds out about those four reactor rockets that are cooling off on the Moon, waiting for us to get there. I can hear him scream, 'Five million dollars each! Each full of precious equipment, to say nothing of invaluable fissionable material!' And then this place gets shut down."

Eric had a suggestion. "Give him the old routine about how we have to get men to the Moon or the Russians will do it first and use all the equipment we've sent there without even thanking us."

"Umm," said his father, considering. He shook his head finally. "His answer to that is why send good money after bad. No. I just hope he feels better after a steak dinner. Either that or the wings fall off his plane." He smiled wistfully at the thought. "Oh, well," he said, "let's go to bed."

They went their separate ways.

but only Eric went to bed. His father entered the library, sat down, got his pipe going, and began to reread *How to Win Friends and Influence People*.

THE next day saw Dr. Brinton contemplate suicide, homicide, and voting Republican, though not necessarily in that order. The Senator had viewed their most inspiring onward-and-upward movies and merely asked how much they cost to make. He had eaten a huge steak at the commissary, and then inspected the garbage cans for waste. His visits to various departments had been marred by his lack of interest in anything except the number of men employed by each and their average salaries, though he did comment that they all looked hung-over. In the Fuels Department, he had walked out on the demonstrations, interrupting some actual experiments that were going on outside the test room.

Dr. Brinton was now riding in the back of a jeep, explaining to the Senator that nuclear rockets were not too efficient, and the shielding necessary to make them safe for men weighed more than their payload. The Senator noted down the word "inefficient."

A loudspeaker on a pole a little farther down the road interrupted the explanation. "Twenty-five,

twenty-five, twenty-five," it shouted. "Five-nine, eighteen. Five-nine, eighteen. Seventy-three, ten-eight." It began to repeat the message.

The driver, who had slowed while they listened to the message, turned the jeep around and sped them back the other way.

"What in Heaven's name was that?" asked the Senator, who was busy hanging on.

"Twenty-five means emergency," shouted Dr. Brinton. "Five and nine is fire and explosion in the Fuels Department, which is eighteen. Seventy-three is my call number and ten-eight means they want me to get there in a hurry."

For the first time, the Senator looked impressed. Then he grew angry again when his hat blew off and the driver wouldn't stop to go back and get it. The jeep took a shortcut across the concrete fence, and left tire marks in the grass in front of the Fuels Department. Dr. Brinton jumped out and ran into the building, leaving the Senator to argue with the driver about going back for the hat.

The lab outside the test room was dusty and littered with broken glass. Two technicians were receiving first aid for minor cuts, but everyone else seemed to be in an almost holiday mood.

Dr. Ferber saw Dr. Brinton standing in the doorway and

came over to him immediately.

"That telephone operator gets too excited," he said. "There's no fire, and I think it was an implosion, not an explosion. Wrecked our new pressure catalyzer. Harrison's gone to hospital and the two you see are hurt, but none of it's very serious. I suppose Butcher Boy is going to put this down in his little notebook, too."

"If you are referring to me," said the Senator's voice behind them, "I most certainly am going to make a note of it. And I suggest you both start advertising for other jobs."

BRINTON had been indulging in a pleasant little fantasy in which he had cut Senator MacNeill up into twenty-eight pieces, placed them in aluminum cans, and made them radioactive in the Station pile. He was smiling at the newsreel cameras, about to fire the first Senator-powered spaceship in the history of mankind, when his alarm clock, which had maliciously been waiting for just such an opportunity, spoiled his dream by waking him up.

That was how the next day started. It continued in the same vein when, in a fit of petulance, he strode into his clothes closet and kicked the alarm control box, barefoot. He was working the combination dial for the third or

fourth time when he noticed that his feet were getting wet. His kick must have jammed some relays in the control box; the bath water was overflowing. Since the box was sealed to prevent him from fooling with it, he had had to prevent a flood by limping downstairs and pulling the master switch.

With no electricity, his breakfast consisted of cold fruit juice, cold cereal, and cold milk. When he got to his office, he ordered a pot of coffee and made out a requisition for a pipe wrench. If it ever happened again, he was going to shut the water off instead.

His secretary came in with the coffee and poured him a cup.

"I have some letters for you to sign," she said brightly, to cheer him up. Dr. Brinton drank his coffee. "Our new filing system is working very well," she added, pouring him another cup. The doctor's face relaxed a little, but it was because the snow bank in his stomach was beginning to melt. His secretary played her trump. "And somebody from the Fuels Department phoned and said something was passing the yellow line and might make the blue."

She was never sure afterward whether Dr. Brinton had gone around his desk, or over it. She had blinked and by the time her

eyes were open again, he was gone.

Dr. Brinton found a crowd in the indoor test lab, chuckling over the line being drawn by a differential analyzer. He elbowed his way to the front, looked himself, and began a little dance of impatience. The analyzer was connected with linkages to the test stand where a tiny rocket motor was thrusting out a hot blue pencil of flame. The results from the analyzer were plotted as range capability against time on a piece of graph paper which had four curved colored lines overprinted on it. The curved lines were marked in succession: "Earth," "Moon," "Moon" and "Earth."

If the first Earth line, colored red, was passed, the fuel under test could power a rocket to leave Earth, carrying men with it. If the yellow line—the first Moon line—was reached, the rocket could theoretically land men on the Moon. Several rockets, carrying dummy loads, had already tried and failed: their fuels, though the best available, barely reached the yellow line when under test.

The blue—second—Moon line was calculated to indicate an escape from the Moon without refueling, and the last line, in green, was a theoretical powered landing back on Earth.

The pen of the analyzer had already passed the blue line and was more than halfway to the green!

"This is the stuff that was left in the catalyzer after the explosion yesterday!" Dr. Ferber shouted to Dr. Brinton over the roar from the little engine. "It looked as if it would burn, so I tested it. Jackpot!"

"What is it?" asked Dr. Brinton.

"Supposed to be an artificial base for a *perfume*!"

The last word seemed louder because the test rocket just then ran out of fuel and grew silent. The tracing of the pen stopped a fraction short of the green line.

Dr. Ferber continued in his normal voice while he busied himself with the connections of the engine: "We didn't have anything to do to put on a show for MacNeill yesterday, so I told the lads to carry on with experiments of their own. It was Harrison who made this stuff. He was cut by flying glass and landed in the hospital. I phoned there this morning and found the damn fool doctor took his appendix out. Said he figured he might as well while Harrison was in there. He's still under the anesthetic and we won't be able to ask him anything for several hours."

"Doesn't matter," said Dr. Brinton. "We know it works; we have to find out why it works. Got any left? We'll analyze it."

The next few hours saw Dr. Brinton rapidly become a bitter and disillusioned man.

When a qualitative test informed them that the presence of nitrogen meant they were going to have to use an even longer and more laborious process than the ordinary one, he uttered a few sentences that made a couple of nearby German exchange students wonder if perhaps they hadn't a portion missed in the English language learning.

When he found that he had forgotten his pipe at home, and the analysis required too much of their attention to allow him to go home and get it, he quoted a paragraph or two that earned him the undivided attention of everyone in the lab.

But when he took the results over to a calculator and worked them out to carbon 281.6% he had barely started the prologue when frustration overtook him and he subsided, speechless. He was at a loss to say or do anything except mumble that 281.6% was impossible.

DR. FERBER came over and took the paper with the results from him. Everyone in the lab watched while he checked the

calculations patiently.

A delegation minutely checked the apparatus the two doctors had used; it was faultless. One person even went so far as to cast a suspicious look at the big automatic micro-balance standing on its pedestal in the center of the room. He weighed a piece of paper, wrote his name on it in pencil and reweighed it. The difference was satisfactory. For a few moments, they all just stood and looked at each other. Then the whole lot of them set to work.

A junior technician headed for the spectrograph, came back in three minutes with a freshly developed spectral photograph and a puzzled look. He spent some time comparing both of them with the illustrations in a manual entitled *Structural Formulae as Indicated by Spectral Groupings*.

The two German exchange students made a few tries at finding the class of compound. They soon were deep in a technical discussion in their own language, the only recognizable words being "biuret," "dumkopf," and "damn."

A senior research chemist tried crystalizing some and invented an entirely new swear word.

With four helpers, Dr. Brinton and Dr. Ferber redid the combustion analysis in slightly less than twice the time it would have

taken only one of them. Of course they were assured of accuracy; each step was checked at least twice by everyone.

The result was still carbon 281.6%.

Dr. Brinton escaped the ensuing mental paralysis since he had already been through the experience once. He went over and began to study the figures written in on the side of the spectral photograph. Out of little more than idle curiosity, he compared the ratios of the rough quantitative estimate found spectrographically with the more accurate but impossible answer of the combustion micro-analysis.

While he was doing the necessary figuring, he listened sympathetically to the technician. The young man was complaining bitterly about things in general, and chemistry in particular. Chemical reference books came in for a special roasting, because: "either that lousy book is incomplete, or this structural formula is out of this world."

That did it.

Brinton got out a scratch pad and drew a little diagram.

Then he went to talk to Dr. Ferber.

"Would it be possible that Harrison started with a multi-ringed phenol?" he asked. Dr. Ferber nodded. Dr. Brinton showed him the drawing. "Does that

remind you of any geometrical figure?"

Dr. Ferber looked. There was a pause, then his eyes lit up.

"Of course," he said. "Since formulae are usually drawn in one plane, I doubt if anyone ever noticed that before. And when it comes under stress by compression, it's only natural that it should fold." He paused and looked at the calendar. "Four weeks?" he asked.

"That'll do fine," said Dr. Brinton. "I'll arrange the details. You look after the fuel. Harrison can give us the details of this one, but there are probably any number of fuels based on this principal. Some will be even more efficient, too."

He excused himself, went to a phone, and asked for a Washington number. The call was answered.

"Hello, Senator MacNeill?" he said. "How would you like to be guest of honor at a party?"

BRINTON peered through the ring of reporters over to the head table where Senator MacNeill was speaking, and speaking, and speaking.

"He's on his home state," Dr. Brinton said. "About half an hour to go. Now, gentlemen, you were asking about the new fuel. You all received press handouts containing the information. You

will probably receive copies of the Senator's speech. And the broadcast from our first men on the Moon went out over several networks hours ago. It seems to me that you have enough for several stories."

One of the reporters asked bewilderedly, "What is a tesseract? I read the handout twice and I still don't understand."

"A mathematician would be better qualified to explain," said Dr. Brinton, "but I'll try. A tesseract is a fourth dimensional cube. A line has one dimension, a square has two, a cube has three, and a tesseract has four. A cube can be unfolded into six squares, and a tesseract unfolds to eight cubes. The new fuel had a molecular structure resembling an unfolded tesseract. When pressure is applied, it folds up into a tesseract so that it takes up less room and relieves the pressure."

"The practical application is that we can get eight pounds of it into a one pound can. The other seven pounds of it are riding around in the fourth dimension. As soon as it starts to burn, the structure is destroyed, so that it comes back out of the fourth dimension. Several people have assured me that it can't work."

"They're probably right, except that it does. Oh, I'll be back in a minute."

He went over to another group and spoke to one of its members. The man addressed nodded his head and left. Dr. Brinton returned.

"If there are no more questions, I suggest we do some serious drinking. I am now out of a job and I want to celebrate."

PROMPTLY at seven-thirty, a relay clicked and the alarm clock went into its usual daily routine with the chimes, window, lights, and bath water.

Dr. Brinton woke up enough to reach out a lazy arm and flip a newly installed toggle switch beside his bed. Everything returned to normal. The light and the chimes both faded away, the window reopened, and a soft gurgling came from the bathroom.

A slight gurgling also came from the bed, where Dr. Brinton, with a happy little smile on his face, had gone peacefully back to sleep, perfectly satisfied that he had worked himself into unemployment by finding the fuel that would power spaceships to—and from—any part of the Solar System.

—JACK McKENTY