

Beam Pirate

By GEORGE O. SMITH

Beam Pirate

Mark Kingman was in a fine state of nerves. He looked upon life and the people in it as one views the dark-brown taste of a hangover. It seemed to him at the present time that the Lord had forsaken him, for the entire and complete success of the solar beam had been left only to Venus Equilateral by a sheer fluke of nature. Certainly he, nor anyone else, could have foreseen the Channing Layer, that effectively blocked any attempt to pierce it with the strange, sub-level energy spectrum over which the driver tube and the power-transmission tube worked, representing the extremes of the so-called spectrum.

But Venus Equilateral, for their part, were well set. Ships plied the spaceways using their self-contained power only during atmospheric passage, and paid Venus Equilateral well for the privilege. The Relay Station itself was powered on the solar beam, and the costly shipments of potential power had been stopped. There were other relay stations that belonged to the communications company; Luna, Deimos and Phobos, and the six that circled Venus in lieu of a satellite; all were powered by the solar beam. And the solar observatory on Mercury used but little power, so the needs of the observatory became the sole income for Terran Electric's planetary rights of the solar beam, since Mercury owned no air of its own.

Mark Kingman was beginning to feel the brunt of Channing's statement to the effect that legal-minded men were of little importance when it came to the technical life in space, where men's lives and livelihood depended more on technical skill than

upon the legal pattern set for their protection in the complex society of planetary civilization.

It seemed that way. For instead of gaining their ends by legal restrictions on the power-transmission tube investigations, Terran Electric had lost their chance. Venus Equilateral had the legal right to tinker with the transmission tubes all they wanted to, and in return, Terran Electric held all of the planetary rights to Venus Equilateral's solar beam—which in the domain covered by natural celestial bodies was about as valuable as the gold-mining rights to the crater Tycho.

And everyone knows that Luna, as a valuable piece of real estate, is useful only to Venus Equilateral as a place to plant the Lunar Relay Station that handled the Terran Beam and punched downward at the Heaviside Layer. Luna's valuable assets as to mineral rights consisted of a bit of talc—no longer used because of plastic engineering—and pumice—no longer used because of synthetic engineering.

And Kingman knew that only if Terra were not abundant in granite would the Lunar granite come in handy as a source of tombstones; and that made him writhe because when he thought of tombstones he also thought of his position with Terran Electric, which had been endangered because of his own legal connivances.

He swore vengeance.

So, like the man who doggedly makes the same mistake twice in a row, Kingman was going to move Heaven, Hell, and the three planets in an effort to take a swing at the same jaw that had caught his fist between its teeth before.

Out through the window of his office, he saw men toiling with the big tube of the far roof; the self-same tube that had carried the terrific load of Venus Equilateral for ten days without interruption and with no apparent overload. Here on Terra, its output meter, operating through a dummy load, showed not the slightest inclination to leave the bottom peg and seek a home among the higher brackets.

The Channing Layer barred the passage of radiation of this so-called sub-etheric energy as effectively as the Heaviside Layer had blocked Interplanetary Communications for many, many years.

So Kingman cursed and hated himself for having backed himself into trouble. But Kingman was not a complete fool. He was a brilliant attorney, and his record had placed him in the position of Assistant Chief Attorney for Terran Electric, which was a place of no mean importance. He had been licked on the other fellow's ground, with the other fellow's tools.

He picked up papers that carried, side by side, the relative assets of Venus Equilateral and Terran Electric. He studied them and thought deeply.

To his scrutiny, the figures, seemed about equal, though perhaps the Interplanetary Communications Co. was a bit ahead.

But—he had been licked on the other fellow's ground with the other fellow's tools; he thought that if he fought on his own ground, with his own tools, he might be able to swing the deal.

And Terran Electric was not without a modicum of experience in the tools of the other fellow. His engineering department was brilliant and efficient, too; at least the equal of Channing and

Franks and their gang of laughing gadgeteers. That not only gave him the edge of having his own tools and his own ground, but a bit of the other fellow's instruments too. Certainly his engineering department should be able to think of something good.

William Cartright, business manager for Venus Equilateral, interrupted Don and Walt in a discussion. He carried a page of stock market quotations and a few hundred feet of ticker tape.

Channing put down his pencil and leaned back in his chair. Walt did likewise, and said: "What's brewing?"

"Something I do not like."

"So?"

"The stock has been cutting didoes. We've been up and down so much it looks like a scenic railway."

"How do we come out?"

"Even, mostly; but from my experience, I would say that some bird is playing hooky with Venus Equilateral, Preferred. The common is even worse."

"Look bad?"

"Not too good. It is more than possible that some guy with money and the desire might be able to hook a large slice of V.E. Preferred. I don't think they could get control, but they could garner a plurality from stock outstanding on the planets. Most of the preferred stuff is in the possession of the folks out here, you know, but aside from yourself, Walt, and a couple of dozen of the executive personnel, the stock is spread pretty thin. The common stock has a lot of itself running around loose Outside. Look!"

Cartright began to run off the many yards of ticker tape. "Here, some guy dumped a boatload at Canalopsis, and some other guy glommed on to a large hunk at New York. The Northern Landing Exchange showed a bit of irregularity during the couple of hours of tinkering, and the irregularity was increased because some bright guy took advantage of it and sold short." He reeled off a few yards and then said: "Next, we have the opposite tale. Stuff was dumped at Northern Landing, and there was a wild flurry of bulling at Canalopsis. The Terran Exchange was just flopping up and down in a general upheaval, with the boys selling at the top and buying at the bottom. That makes money, you know, and if you can make the market tick your way—I mean control enough stuff—your purchases at the bottom send the market up a few points and then you dump it, and it drops again. It wouldn't take more than a point or two to make a guy rich, if you had enough stock and could continue to make the market vacillate."

"That's so," agreed Don. "Look, Bill, why don't we set one of our Terran agents to tinkering too? Get one of our best men to try to outguess the market. As long as it is being done systematically, he should be able to follow the other guy's thinking. That's the best we can do unless we go gestapo and start listening in on all the stuff that goes through the Station here."

"Would that help?"

"Yeah, but we'd all land in the hoosegow for breaking the secrecy legislation. You know. 'No one shall ... intercept ... transmit ... eavesdrop upon ... any message not intended for the listener, and ... shall not ... be party to the use of any information gained ... et cetera.' That's us. The trouble is this lag between the worlds. They can prearrange their bulling and bearing ahead of time and play

smart. With a little luck, they can get the three markets working just so—going up at Northern Landing; down at Terra; and up again at Canalopsis, just like waves in a rope. By playing fast and loose on paper, they can really run things hell, west, and crooked. Illegal, probably, since they each will no doubt claim to have all the stock in their possession, and yet will be able to sell and buy the same stock at the same time in three places."

"Sounds slightly precarious to me," objected Cartright.

"Not at all, if you figure things just right. At a given instant, Pete may be buying at sixty-five on Venus; Joe may be selling like furious at seventy-one on Mars; and Jimmy may be bucking him up again by buying at sixty-five on Terra. Then the picture and the tickers catch up with one another, and Joe will start buying again at sixty-five, whilst Pete and Jimmy are selling at seventy-one. Once they get their periodicity running, they're able to tinker the market for quite a time. That's where your man comes in, Bill. Have him study the market and step in at the right time and grab us all a few cheap ones. Get me?"

"Sure," said Cartright. "I get it. In that way, we'll tend to stabilize the market, as well as getting the other guy's shares."

"Right. I'll leave it up to you. Handle this thing for the best interests of all of us."

Cartright smiled once again, and left with a thoughtful expression on his face. Channing picked up the miniature of the power-transmission tube and studied it as though the interruption had not occurred. "We'll have to use about four of these per stage," he said. "We'll have to use an input-terminal tube to accept the stuff from the previous stage, drop it across the low-resistance load,

resistance couple the stage to another output terminal tube where we can make use of the coupling circuits without feedback. From there into the next tube, with the high resistance load, and out of the power-putter-outer tube across the desk to the next four-bottle stage."

"That's getting complicated," said Walt. "Four tubes per stage of amplification."

"Sure. As the arts and sciences get more advanced, things tend to get more complicated."

"That's essentially correct," agreed Walt with a smile. "But you're foreguessing. We haven't even got a detector that will detect driver radiation."

"I know, and perhaps this thing will not work. But after all, we've got the tubes and we might as well think them out just in case. We'll detect driver radiation soon enough, and then we might as well have a few odd thoughts on how to amplify it for public use. Nothing would tickle me more than to increase those three circles on our letterhead to four. 'Planet to Planet, and Ship to Ship' is our hope. This one-way business is not to my liking. How much easier it would have been if I'd been able to squirt a call in to the Station when I was floating out there beyond Jove in that wrecked ship. That gave me to think, Walt. Driver-radiation detection is the answer."

"How so?"

"We'll use the detector to direct our radio beam, and the ship can have a similar gadget coupled to their beam, detecting a pair of drivers set at one hundred and eighty degrees from one another so

the thrust won't upset the Station's celestial alignment. We can point one of them at the ship's course, even, making it easier for them."

"Speaking of direction," said Walt thoughtfully, "have you figured out why the solar beam is always pointing behind Sol?"

"I haven't given that much thought. I've always thought that it was due to the alignment plates not being in linear perfection so that the power beam bends. They can make the thing turn a perfect right angle, you know."

"Well, I've been toying with the resurrected heap you dropped into Lake Michigan a couple of months ago, and I've got a good one for you. You know how the beam seems to lock into place when we've got it turned to Sol, not enough to make it certain, but more than detectably directive?"

"Yep. We could toss out the motor control that keeps her face turned to the sun."

"That's what I was hoping to gain—" started Walt, but he stopped as the door opened and Arden entered, followed by a man and woman.

"Hello," said Walt in a tone of admiration.

"This is Jim Baler and his sister Christine," said Arden. "Baler, the guy with the worried look on his face is my legally wedded spouse—souse—no, spouse. And the guy with the boudoir gorilla gleam in his vulpine eye is that old vulture, Walt Franks."

Walt took the introduction in his stride and offered Christine his chair. Arden stuck her tongue out at him, but Walt shrugged it off,

ignoring her. Channing shook hands with Jim Baler and then sought the 'S' drawer of his file cabinet. He found the Scotch and the soda, and then grinned: "Should have the ice under 'I,' but it's sort of perishable, and so we keep it in the refrigerator. Arden, breach the 'G' drawer and haul out the glasses, will you please? I suppose we could refrigerate the whole cabinet, but it wouldn't sound right if people heard that we kept their mail on ice. Well—"

"Here's how, if we don't already know," said Walt, clinking glasses with Christine.

"Walt earned that 'wolf' title honestly," laughed Arden, "he likes to think. Frankly, he's a sheep in wolf's clothing!"

"What are his other attributes?" asked Christine.

"He invents. He scribbles a bit. He cuts doodles on tablecloths, and he manages to get in the way all the time," said Don. "We keep him around the place for his entertainment value."

"Why—"

"Quiet, Walter, or I shall explain the sordid details of the Walter Franks Electron Gun."

"What was that one?" asked Christine.

"You really wouldn't want to know," Walt told her.

"Oh, but I would."

"Yeah," growled Franks, "you would."

"Would you rather hear it from him, or me?" Arden asked.

"He'll tell me," said Christine. Her tone was positive and assured.

"And that'll take care of that," said Arden. "But I think we interrupted something. What were you saying about gaining, Walt?"

"Oh, I was saying that I was tinkering around the skyways with the *Anopheles*—that's the ship we hooked up with the solar beam for power, you know—and I got to wondering about that discrepancy. The faster you go, the greater is the angular displacement, and then with some measurements, I came up with a bugger factor—"

"Woah, goodness," laughed Christine. "What is a bugger factor?"

"You'll learn," said Arden, "that the boys out here have a language all their own. I've heard them use that one before. The bugger factor is a sort of multiplying, or dividing, or additive, or subtractive quantity. You perform the mathematical operation with the bugger factor, and your original wrong answer turns into the right answer."

"Is it accepted?"

"Oh sure," answered Arden. "People don't realize it, but that string of 4's in the derivation of Bode's Law is a bugger factor."

"You," said Christine to Walt, "will also tell me what Bode's Law is—but later."

"O.K.," grinned Walt. "At any rate, I came up with a bugger factor that gave me to think. The darned solar beam points to where Sol actually is!"

"*Whoosh!*" exclaimed Channing. "You don't suppose we're tinkering with the medium that propagates the law of gravity?"

"I don't know. I wouldn't know. Has anyone ever tried to measure the velocity of propagation of the attraction of gravity?"

"No, and no one will until we find some way of modulating it."

Jim Baler smiled. "No wonder Barney was a little wacky when he got home. I come out here to take a look around and maybe give a lift to your gang on the transmission tube—and bump right into a discussion on the possibility of modulating the law of gravity!"

"Not the law, Jim, just the force."

"Now he gets technical about it. You started out a couple of months ago to detect driver radiation, and ended up by inventing a beam that draws power out of the sun. Think you'll ever find the driver radiation?"

"Probably."

"Yeah," drawled Arden. "And I'll bet a hat that when they do, they won't have any use for it. I've seen 'em work before."

"Incidentally," asked Christine, "you mentioned the *Anopheles*, and I think that is the first ship I've ever heard of that hasn't a feminine name. How come?"

"The mosquito that does the damage is the female," grinned Jim. "The Mojave spaceyards owns a sort of tender craft. It has a couple of big cranes on the top and a whole assortment of girders near the bottom. It looks like, and is also called: *The Praying Mantis*. Those are also female; at least the ones that aren't afraid of their shadow are."

Channing said suddenly: "Walt, have you tried the propagation-time of the solar beam on the *Anopheles*?"

"No. How would we go about doing that?"

"By leaving the controls set for 1-G, and then starting the ship by swapping the tube energizing voltages from test power to operating power."

"Should that tell us?"

"Sure. As we know, the amount of energy radiated from the sun upon a spot the size of our solar tube is a matter of peanuts compared to the stuff we get out of it. Ergo, our beam must go to Sol and collect the power and draw it back down the beam. Measure the transit-time, and we'll know."

"That's an idea. I've got a micro-clock in the lab. We can measure it to a thousandth of a second. Anyone like to get shook up?"

"How?" asked Jim.

"Snapping from zero to 1-G all to oncet-like isn't too gentle. She'll knock your eyes out."

"Sounds like fun. I'm elected."

"So am I," insisted Christine.

"That's out," said Jim. "I know what he's talking about."

"So do I," said Arden. "Don't do it."

"Well, what better have you to offer?"

"You and I are going down to the Mall."

Channing groaned in mock anguish. "Here goes another closet full of female haberdashery. I'm going to close that corridor some day,

or put a ceiling on the quantity of sales, or make it illegal to sell a woman anything unless she can prove that 'she has nothing to wear!'"

"That, I'd like to see," said Walt.

"You would," snorted Arden. "Come on, Chris. Better than the best of three worlds is available."

"That sort of leaves me all alone," said Don. "I'm going to look up Wes Farrell and see if he's been able to make anything worth looking at for a driver detector."

Don found Wes in the laboratory, pouring over a complicated circuit. Farrell was muttering under his breath, and probing deep into the maze of haywire on the bench.

"Wes, when you get to talking to yourself, it's time to take a jaunt to Joe's."

"Not right now," objected Wes. "I haven't got that hollow leg that your gang seem to have developed. Besides, I'm on the trail of something."

"Yes?" Channing forgot about Joe's, and was all interest.

"I got a wiggle out of the meter there a few minutes ago. I'm trying to get another one."

"What was it like?"

"Wavered up and down like fierce for about a minute after I turned it on. Then it died quick, and has been dead ever since."

"Could it have been anything cockeyed with the instruments?"

"Nope. I've checked every part in this circuit, and everything is as good as it ever will be. No, something external caused that response."

"You've tried the solar tube with a dynode of the same alloy as the driver cathodes?"

"Uh-huh. Nothing at all. Oh, I'll take that back. I got a scratch. With a pre-meter gain of about four hundred decibels, I read three micromicroamperes. That was detected from a driver tube forty feet across the room, running at full output. I wondered for a minute whether the opposing driver was doing any cancellation, and so I took a chance and killed it for about a half second, but that wasn't it."

"Nuts. Does the stuff attenuate with distance?"

"As best as I could measure, it was something to the tune of inversely proportional to the cube root of the distance. That's normal for beams of a not-too-tight nature and it shows that the stuff isn't globularly radiated. But the amplifier gain was hanging right on the limit of possible amplification, and the meter was as sensitive as a meter can be made, I think. You couldn't talk from one end of Venus Equilateral to the other with a set like that."

"No, I guess you're right. Hey! Look!"

The meter took a sudden upswing, danced for a minute, and died once more.

"What have you got in there? What did you change?"

"Oh, I got foolish and tried a tuned circuit across the output of one of the miniature transmission tubes. It's far enough away from the

big beams and stuff at the North end so that none of the leakage can cause trouble. Besides, I'm not getting anything like our beam transmissions."

Channing laughed. "Uh-huh, looks to me like you're not getting much of anything at all."

Farrell smiled wryly. "Yeah, that's so," he agreed. "But look, Don, Hertz himself didn't collect a transcontinental short-wave broadcast on his first attempt."

"If Hertz had been forced to rely upon vacuum tubes, his theories couldn't have been formulated, I think," said Channing. "At least, not by him. The easier frequencies and wave lengths are too long; a five hundred meter dipole can't be set up in a small room for laboratory tinkering. The kind of frequencies that come of dipoles a couple of feet long, such as Hertz used, are pretty hard to work with unless you have special tubes."

"Hertz had rotten detectors, too. But he made his experiments with spark-gap generators, which gave sufficient high-peak transients to induce spark-magnitude voltages in his receiving dipole."

"I'm not too certain of that tuned-circuit idea of yours, Wes. Go ahead and tinker to your heart's content, but remember that I'm skeptical of the standard resonance idea."

"Why?"

"Because we've been tinkering with driver tubes for years and years—and we have also been gadgeting up detectors, radio hootnannies, and stuff of the electronic spectrum all the way from direct current to hard X rays, and we have yet to have anything react to driver radiation. Ergo, I'm skeptical."

The call bell rang for Channing, and he answered. It was Walt Franks.

"Don," he said with a laugh in his voice, though it was apparent that he felt slightly guilty about laughing, "got a 'gram from Addison, the project engineer on the solar beam from Terran Electric. Says: 'Finally got through Channing Layer. Power by the megawatt-hour in great shape. But the atmosphere from the Channing Layer right down to the snout of the tube is a dull red scintillation. Something like the driver-tube trail—but it ionizes the atmosphere into ozone. Power by the megawatt, and ozone by the megaton."

"Ozone, hey? Lots of it?"

"Plenty, according to the rest of this. It looks to me like a sort of 'denatured' power system. There it is, all nice and potent, cheap, and unlicensed. But the second swallow going down meets the first one on the way back. Power they got—but the ozone they can't take; it's poisonous like a nice dose of chlorine. Poor Terran Electric!"

Mark Kingman sat in the control room of a ship of space, and worried. Below the dome, Venus covered three quarters of the sky, and it circled slowly as the Terran Electric ship oscillated gently up and down.

Before Kingman, on the desk, were pages of stock market reports. On a blackboard, a jagged line denoted the vacillation of Interplanetary Communications, Preferred. This phase of his plan was working to perfection. Gradually, he was burning share after share out of uninterested hands, by his depredations. Soon he

Thank You for previewing this eBook

You can read the full version of this eBook in different formats:

- HTML (Free /Available to everyone)
- PDF / TXT (Available to V.I.P. members. Free Standard members can access up to 5 PDF/TXT eBooks per month each month)
- Epub & Mobipocket (Exclusive to V.I.P. members)

To download this full book, simply select the format you desire below

