

THE WAVERIES

BY FREDRIC BROWN

Definitions from the school-abridged Webster-Hamlin Dictionary 1998 edition:

wavery (WA-ver-i) n. a vader-slang

vader (VA-der) n. inorgan of the class Radio

inorgan (in-OR-gan) n. noncorporeal ens, vader

radio(RA-di-o) n. 1. class of inorgans
2. etheric frequency between light
and electricity 3. (obsolete) method

of communication used up to 1977

The opening guns of invasion were not at all loud, although they were heard by millions of people. George Bailey was one of the millions. I choose George Bailey because he was the only one who came within a googol of light-years of guessing what they were.

George Bailey was drunk and under the circumstances one can't blame him for being so. He was listening to radio advertisements of the most nauseous kind. Not because he wanted to listen to them, I hardly need say, but because he'd been told to listen to them by his boss, J. R. McGee of the MID network.

George Bailey wrote advertising for the radio. The only thing he hated worse than advertising was radio. And here on his own time he was listening to fulsome and disgusting commercials on a rival network.

"Bailey," J. R. McGee had said, "you should be more familiar with what others are doing. Particularly, you should be informed about those of our own accounts who use several networks. I strongly suggest . . .

”

One doesn't quarrel with an employer's strong suggestions and keep a five hundred dollar a week job.

But one can drink whisky sours while listening. George Bailey did.

Also, between commercials, he was playing gin rummy with Maisie Hetterman, a cute little redheaded typist from the studio. It was Maisie's apartment and Maisie's radio (George himself, on principle, owned neither a radio nor a TV set) but George had brought the liquor.

“-only the very finest tobaccos,” said the radio, “go dit-dit-dit nation's favorite cigarette-“

George glanced at the radio. “Marconi,” he said.

He meant Morse, naturally, but the whisky sours had muddled him a bit so his first guess was more nearly right than anyone else's. It was Marconi, in a way. In a very peculiar way.

“Marconi?” asked Maisie.

George, who hated to talk against a radio, leaned over and switched it off.

“I meant Morse,” he said. “Morse, as in Boy Scouts or the Signal Corps. I used to be a Boy Scout once.”

“You've sure changed,” Maisie said.

George sighed. “Somebody's going to catch hell, broadcasting code on that wave length.”

“What did it mean?”

“Mean? Oh, you mean what did it mean. Uh- S, the letter S. Dit-dit-dit is S. SOS is dit-dit-dit dah-dah-dah dit--dit-dit.”

“O is dah-dah-dah?”

George grinned. “Say that again, Maisie. I like it. And I think you are dah-dah-dah too.”

“George, maybe it's really an SOS message. Turn it back on.”

George turned it back on. The tobacco ad was still going. “-gentlemen of the most dit-dit-dit -ing taste prefer the finer taste of dit-dit-dit arettes. In the new package that keeps them dit-dit-dit and ultra fresh-“

“It's not SOS. It's just S's.”

“Like a teakettle or-say, George, maybe it's just some advertising gag.”

George shook his head. “Not when it can blank out the name of the product. Just a minute till I-“

He reached over and turned the dial of the radio a bit to the right and then a bit to the left, and an incredulous look came into his face. He turned the dial to the extreme left, as far as it would go. There wasn't any station there, not even the hum of a carrier wave. But:

“Dit-dit-dit,” said the radio, “dit-dit-dit.”

He turned the dial to the extreme right. “Dit-dit-dit.” George switched it off and stared at Maisie without seeing her, which was hard to do.

“Something wrong, George?”

“I hope so,” said George Bailey. “I certainly hope so.” He started to reach for another drink and changed his mind. He had a sudden hunch that something big was happening and he wanted to sober up to appreciate it. He didn’t have the faintest idea how big it was. “George, what do you mean?”

“I don’t know what I mean. But Maisie, let’s take a run down the studio, huh? There ought to be some excitement.”

April 5, 1977; that was the night the waveries came.

It had started like an ordinary evening. It wasn’t one, now.

George and Maisie waited for a cab but none came so they took the subway instead. Oh yes, the subways were still running in those days. It took them within a block of the MID Network Building.

The building was a madhouse. George, grinning, strolled through the lobby with Maisie on his arm, took the elevator to the fifth floor and for no reason at all gave the elevator boy a dollar. He’d never before in his life tipped an elevator operator.

The boy thanked him. “Better stay away from the big shots, Mr. Bailey,” he said. “They’re ready to chew the ears off anybody who even looks at ‘em.”

“Wonderful,” said George.

From the elevator he headed straight for the office of J. R. McGee himself.

There were strident voices behind the glass door. George reached for the knob and Maisie tried to stop him. “But George,” she whispered, “you’ll be fired!”

“There comes a time,” said George. “Stand back away from the door, honey.”

Gently but firmly he moved her to a safe position. “But George, what are you-?”

“Watch,” he said.

The frantic voices stopped as he opened the door a foot. All eyes turned toward him as he stuck his head around the corner of the doorway into the room.

“Dit-dit-dit,” he said. “Dit-dit-dit.”

He ducked back and to the side just in time to escape the flying glass as a paperweight and an inkwell came through the pane of the door.

He grabbed Maisie and ran for the stairs.

“Now we get a drink,” he told her.

The bar across the street from the network building was crowded but it was a strangely silent crowd. In deference to the fact that most of its customers were radio people it didn't have a TV set but there was a big cabinet radio and most of the people were bunched around it.

“Dit,” said the radio. “Dit-dah-d' dah-dit-danditdah dit-“

“Isn't it beautiful?” George whispered to Maisie.

Somebody fiddled with the dial. Somebody asked, “What band is that?” and somebody said, “Police.” Somebody said, “Try the foreign band,” and somebody did. “This ought to be Buenos Aires,” somebody said. “Dit-d' dah-dit-“ said the radio.

Somebody ran fingers through his hair and said, “Shut that damn thing off.” Somebody else turned it back on.

George grinned and led the way to a back booth where he'd spotted Pete Mulvaney sitting alone with a bottle in front of him. He and Maisie sat across from Pete.

“Hello,” he said gravely.

“Hell,” said Pete, who was head of the technical research staff of MID.

“A beautiful night, Mulvaney,” George said. “Did you see the moon riding the fleecy clouds like a golden galleon tossed upon silver-crested whitecaps in a stormy-“

“Shut up,” said Pete. “I'm thinking.”

“Whisky sours,” George told the waiter. He turned back to the man across the table. “Think out loud, so we can hear. But first, how did you escape the booby hatch across the street?”

“I'm bounced, fired, discharged.”

“Shake hands. And then explain. Did you say dit-dit-dit to them?”

Pete looked at him with sudden admiration. “Did you?” “I've a witness. What did you do?”

“Told 'em what I thought it was and they think I'm crazy.”

“Are you?”

“Yes.”

“Good,” said George. “Then we want to hear-“ He snapped his fingers. “What about TV?”

“Same thing. Same sound on audio and the pictures flicker and dim with every dot or dash. Just a blur by now.”

“Wonderful. And now tell me what's wrong. I don't care what it is, as long as it's nothing trivial, but I

want to know.”

“I think it’s space. Space is warped.”

“Good old space,” George Bailey said.

“George,” said Maisie, “please shut up. I want to hear this.”

“Space,” said Pete, “is also finite.” He poured himself another drink. “You go far enough in any direction and get back where you started. Like an ant crawling around an apple.”

“Make it an orange,” George said.

“All right, an orange. Now suppose the first radio waves ever sent out have just made the round trip. In seventy-six years.”

“Seventy-six years? But I thought radio waves traveled at the same speed as light. If that’s right, then in seventy-six years they could go only seventy-six light-years, and that can’t be around the universe because there are galaxies known to be millions or maybe billions of light-years away. I don’t remember the figures, Pete, but our own galaxy alone is a hell of a lot bigger than seventy-six light-years.”

Pete Mulvaney sighed. “That’s why I say space must be warped. There’s a short cut somewhere.”

“That short a short cut? Couldn’t be.”

“But George, listen to that stuff that’s coming in. Can you read code?”

“Not any more. Not that fast, anyway.”

“Well, I can,” Pete said. “That’s early American ham. Lingo and all. That’s the kind of stuff the air was full of before regular broadcasting. It’s the lingo, the ab-breviations, the barnyard to attic chitchat of amateurs with keys, with Marconi coherers or Fessenden barreters-and you can listen for a violin solo pretty soon now. I’ll tell you what it’ll be.”

“What?”

“Handel’s Largo. The first phonograph record ever broadcast. Sent out by Fessenden from Brant Rock in late 1906. You’ll hear his CQ-CQ any minute now. Bet you a drink.”

“Okay, but what was the dit-dit-dit that started this?”

Mulvaney grinned. “Marconi, George. What was the most powerful signal ever broadcast and by whom and when?”

“Marconi? Dit-dit-dit? Seventy-six years ago?”

“Head of the class. The first transatlantic signal on December 12, 1901. For three hours Marconi’s big station at Poldhu, with two-hundred-foot masts, sent out an intermittent S, dit-dit-dit, while Marconi and two assistants at St. Johns in Newfoundland got a kite-born aerial four hundred feet in the air and finally got the signal. Across the Atlantic, George, with sparks jumping from the big Leyden jars at Poldhu and 20,000-volt juice jumping off the tremendous aerials-“

“Wait a minute, Pete, you’re off the beam. If that was in 1901 and the first broadcast was about 1906 it’ll be five years before the Fessenden stuff gets here on the same route. Even if there’s a seventy-six light-year short cut across space and even if those signals didn’t get so weak en route that we couldn’t hear them-it’s crazy.”

“I told you it was,” Pete said gloomily. “Why, those signals after traveling that far would be so infinitesimal that for practical purposes they wouldn’t exist. Fur-thermore they’re all over the band on everything from microwave on up and equally strong on each. And, as you point out, we’ve already come almost five years in two hours, which isn’t possible. I told you it was crazy.”

“But-“

“Sssh. Listen,” said Pete.

A blurred, but unmistakably human voice was coming from the radio, mingling with the cracklings of code. And then music, faint and scratchy, but unmistakably a violin. Playing Handel’s Largo.

Only suddenly it climbed in pitch as though modulating from key to key until it became so horribly shrill that it hurt the ear. And kept on going past the high limit of audibility until they could hear it no more.

Somebody said, “Shut that God damn thing off.” Somebody did, and this time nobody turned it back on.

Pete said, “I didn’t really believe it myself. And there’s another thing against it, George. Those signals affect TV too, and radio waves are the wrong length to do that.”

He shook his head slowly. “There must be some other explanation, George. The more I think about it now the more I think I’m wrong.”

He was right: he was wrong.

“Preposterous,” said Mr. Ogilvie. He took off his glasses, frowned fiercely, and put them back on again. He looked through them at the several sheets of copy paper in his hand and tossed them contemptuously to the top of his desk. They slid to rest against the triangular name plate that read:

B. R. Ogilvie

Editor-in-Chief

“Preposterous,” he said again.

Casey Blair, his best reporter, blew a smoke ring and poked his index finger through it. “Why?” he asked.

“Because—why, it’s utterly preposterous.”

Casey Blair said, “It is now three o’clock in the morning. The interference has gone on for five hours and not a single program is getting through on either TV or radio. Every major broadcasting and telecasting station in the world has gone off the air.

“For two reasons. One, they were just wasting current. Two, the communications bureaus of their respective governments requested them to get off to aid their campaigns with the direction finders. For five hours now, since the start of the interference, they’ve been working with everything they’ve got. And what have they found out?”

“It’s preposterous!” said the editor.

“Perfectly, but it’s true. Greenwich at 11 P.M. New York time; Pm translating all these times into New York time—got a bearing in about the direction of Miami. It shifted northward until at two o’clock the direction was approximately that of Richmond, Virginia. San Francisco at eleven got a bearing in about the direction of Denver; three hours later it shifted southward toward Tucson. Southern hemisphere: bearings from Capetown, South Africa, shifted from direction of Buenos Aires to that of Montevideo, a thousand miles north.

“New York at eleven had weak indications toward Madrid; but by two o’clock they could get no bearings at all.” He blew another smoke ring. “Maybe because the loop antennae they use turn only on a horizontal plane?”

“Absurd.”

Casey said, “I like ‘preposterous’ better. Mr. Ogilvie. Preposterous it is, but it’s not absurd. I’m scared stiff. Those lines—and all other bearings I’ve heard about run in the same direction if you take them as straight lines running as tangents off the Earth instead of curving them around the surface. I did it with a little globe and a star map. They converge on the constellation Leo.”

He leaned forward and tapped a forefinger on the top page of the story he’d just turned in. “Stations that are directly under Leo in the sky get no bearings at all. Stations on what would be the perimeter of Earth relative to that point get the strongest bearings. Listen, have an astronomer check those figures if you want before you run the story, but get it done damn quick—unless you want to read about it in the other newspapers first.”

“But the heaviside layer, Casey—isn’t that supposed to stop all radio waves and bounce them back?”

“Sure, it does. But maybe it leaks. Or maybe signals can get through it from the outside even though they can’t get out from the inside. It isn’t a solid wall.”

“But—“

“I know, it’s preposterous. But there it is. And there’s only an hour before press time. You’d better send this story through fast and, have it set up while you’re having somebody check my facts and directions. Besides, there’s something else you’ll want to check.”

“What?”

“I didn’t have the data for checking the positions of the planets. Leo’s on the ecliptic; a planet could be in line between here and there. Mars, maybe.”

Mr. Ogilvie’s eyes brightened, then clouded again. He said, “We’ll be the laughingstock of the world, Blair, if you’re wrong.”

“And if I’m right?”

The editor picked up the phone and snapped an order.

April 6th headline of the New York Morning Messenger, final (6 A.M.) edition:

RADIO INTERFERENCE COMES FROM SPACE, ORIGINATES IN LEO

May Be Attempt at Commu-nication by Beings Outside Solar System

All television and radio broadcasting was suspended.

Radio and television stocks opened several points off the previous day and then dropped sharply until noon when a moderate buying rally brought them a few points back.

Public reaction was mixed; people who had no radios rushed out to buy them and there was a boom, especially in portable and tabletop receivers. On the other hand, no TV sets were sold at all. With telecasting suspended there were no pictures on their screens, even blurred ones. Their audio circuits, when turned on, brought in the same jumble as radio receivers. Which, as Pete Mulvaney had pointed out to George Bailey, was impossible; radio waves cannot activate the audio circuits of TV sets. But these did, if they were radio waves.

In radio sets they seemed to be radio waves, but horribly hashed. No one could listen to them very long. Oh, there were flashes—times when, for several consecutive seconds, one could recognize the voice of Will Rogers or Geraldine Farrar or catch flashes of the Dempsey-Carpentier fight or the Pearl Harbor excitement. (Remember Pearl Harbor?) But things even remotely worth hearing were rare. Mostly it was a meaningless mixture of soap opera, advertising and off-key snatches of what had once been music. It was utterly indiscriminate, and utterly unbearable for any length of time.

But curiosity is a powerful motive. There was a brief boom in radio sets for a few days.

There were other booms, less explicable, less capable of analysis. Reminiscent of the Welles Martian scare of 1938 was a sudden upswing in the sale of shotguns and sidearms. Bibles sold as fast as books on astronomy—and books on astronomy sold like hotcakes. One section of the country showed a sudden interest in lightning rods; builders were flooded with orders for immediate installation.

For some reason which has never been clearly ascertained there was a run on fishhooks in Mobile, Alabama; every hardware and sporting goods store sold out of them within hours.

The public libraries and bookstores had a run on books on astrology and books on Mars. Yes, on Mars—despite the fact that Mars was at that moment on the other side of the sun and that every newspaper article on the subject stressed the fact that no planet was between Earth and the constellation Leo.

Something strange was happening—and no news of developments available except through the newspapers. People waited in mobs outside newspaper buildings for each new edition to appear. Circulation managers went quietly mad.

People also gathered in curious little knots around the silent broadcasting studios and stations, talking in hushed voices as though at a wake. MID network doors were locked, although there was a doorman on duty to admit technicians who were trying to find an answer to the problem. Some of the technicians who

had been on duty the previous day had now spent over twenty-four hours without sleep.

George Bailey woke at noon, with only a slight headache. He shaved and showered, went out and drank a light breakfast and was himself again. He bought early editions of the afternoon papers, read them, grinned. His hunch had been right; whatever was wrong, it was nothing trivial.

But what was wrong?

The later editions of the afternoon papers had it.

EARTH INVADED, SAYS SCIENTIST

Thirty-six line type was the biggest they had; they used it. Not a home-edition copy of a newspaper was delivered that evening. Newsboys starting on their routes were practically mobbed. They sold papers instead of delivering them; the smart ones got a dollar apiece for them. The foolish and honest ones who didn't want to sell because they thought the papers should go to the regular customers on their routes lost them anyway. People grabbed them.

The final editions changed the heading only slight-ly-only slightly, that is, from a typographical view-point. Nevertheless, it was a tremendous change in meaning. It read:

EARTH INVADED, SAY SCIENTISTS

Funny what moving an S from the ending of a verb to the ending of a noun can do.

Carnegie Hall shattered precedent that evening with a lecture given at midnight. An unscheduled and unadvertised lecture. Professor Helmetz had stepped off the train at eleven-thirty and a mob of reporters had been waiting for him. Helmetz, of Harvard, had been the scientist, singular, who had made that first headline.

Harvey Ambers, director of the board of Carnegie Hall, had pushed his way through the mob. He arrived minus glasses, hat and breath, but got hold of Helmetz's arm and hung on until he could talk again. "We want you to talk at Carnegie, Professor," he shouted into Helmetz's ear. "Five thousand dollars for a lecture on the 'vaders.' "

"Certainly. Tomorrow afternoon?"

"Now! I've a cab waiting. Come on."

"But--"

"We'll get you an audience. Hurry!" He turned to the mob. "Let us through. All of you can't hear the professor here. Come to Carnegie Hall and he'll talk to you. And spread the word on your way there."

The word spread so well that Carnegie Hall was jammed by the time the professor began to speak. Shortly after, they'd rigged a loud-speaker system so the people outside could hear. By one o'clock in the morning the streets were jammed for blocks around.

There wasn't a sponsor on Earth with a million dollars to his name who wouldn't have given a million

dollars gladly for the privilege of sponsoring that lecture on TV or radio, but it was not telecast or broadcast. Both lines were busy.

“Questions?” asked Professor Helmetz.

A reporter in the front row made it first. “Professor,” he asked, “Have all direction finding stations on Earth confirmed what you told us about the change this afternoon?”

“Yes, absolutely. At about noon all directional indications began to grow weaker. At 2:45 o’clock, Eastern Standard Time, they ceased completely. Until then the radio waves emanated from the sky, constantly changing direction with reference to the Earth’s surface, but constant with reference to a point in the constellation Leo.”

“What star in Leo?”

“No star visible on our charts. Either they came from a point in space or from a star too faint for our telescopes.

“But at 2:45 P.M. today-yesterday rather, since it is now past midnight-all direction finders went dead. But the signals persisted, now coming from all sides equally. The invaders had all arrived.

“There is no other conclusion to be drawn. Earth is now surrounded, completely blanketed, by radio-type waves which have no point of origin, which travel ceaselessly around the Earth in all directions, changing shape at their will-which currently is still in imitation of the Earth origin radio signals which attracted their attention and brought them here.”

“Do you think it was from a star we can’t see, or could it have really been just a point in space?”

“Probably from a point in space. And why not? They are not creatures of matter. If they came from a star, it must be a very dark star for it to be invisible to us, since it would be relatively near to us-only twenty-eight light-years away, which is quite close as stellar distances go.”

“How can you know the distance?”

“By assuming-and it is a quite reasonable assumption-that they started our way when they first discovered our radio signals-Marconi’s S-S-S code broadcast of fifty-six years ago. Since that was the form taken by the first arrivals, we assume they started toward us when they encountered those signals. Marconi’s signals, traveling at the speed of light, would have reached a point twenty-eight light-years away twenty-eight years ago; the invaders, also traveling at light speed would require an equal of time to reach us.

“As might be expected only the first arrivals took Morse code form. Later arrivals were in the form of other waves that they met and passed on-or perhaps absorbed-on their way to Earth. There are now wandering around the Earth, as it were, fragments of programs broadcast as recently as a few days ago. Undoubtedly there are fragments of the very last programs to be broadcast, but they have not yet been identified.”

“Professor, can you describe one of these invaders?”

“As well as and no better than I can describe a radio wave. In effect, they are radio waves, although they emanate from no broadcasting station. They are a form of life dependent on wave motion, as our

form of life is dependent on the vibration of matter.”

“They are different sizes?”

“Yes, in two senses of the word size. Radio waves are measured from crest to crest, which measurement is known as wave length. Since the invaders cover the entire dials of our radio sets and television sets it is obvious that either one of two things is true: Either they come in all crest-to-crest sizes or each one can change his crest-to-crest measurement to adapt himself to the tuning of any receiver.

‘But that is only the crest-to-crest length. In a sense it may be said that a radio wave has an over-all length determined by its duration. If a broadcasting station sends out a program that has a second’s duration, a wave carrying that program is one light-second long, roughly 187,000 miles. A continuous half-hour program is, as it were, on a continuous wave one-half light-hour long, and so on.

“Taking that form of length, the individual invaders vary in length from a few thousand miles—a duration of only a small fraction of a second—to well over half a million miles long—a duration of several seconds. The longest continuous excerpt from any one program that has been observed has been about seven seconds.”

“But, Professor Helmetz, why do you assume that these waves are living things, a life form. Why not just waves?”

“Because ‘just waves’ as you call them would follow certain laws, just as inanimate matter follows certain laws. An animal can climb uphill, for instance; a stone cannot unless impelled by some outside force. These invaders are life-forms because they show volition, because they can change their direction of travel, and most especially because they retain their identity; two signals never conflict on the same radio receiver. They follow one another but do not come simultaneously. They do not mix as signals on the same wave length would ordinarily do. They are not ‘just waves.’ “

“Would you say they are intelligent?”

Professor Helmetz took off his glasses and polished them thoughtfully. He said, “I doubt if we shall ever know. The intelligence of such beings, if any, would be on such a completely different plane from ours that there would be no common point from which we could start intercourse. We are material; they are immaterial. There is no common mound between us.”

“But if they are intelligent at all—“

“Ants are intelligent, after a fashion. Call it instinct if you will, but instinct is a form of intelligence; at least it enables them to accomplish some of the same things intelligence would enable them to accomplish. Yet we cannot establish communication with ants and it is far less likely that we shall be able to establish communication with these invaders. The difference in type between ant-intelligence and our own would be nothing to the difference in type between the intelligence, if any, of the invaders and our own. No, I doubt if we shall ever communicate.”

The professor had something there. Communication with the invaders—a clipped form, of course, of invaders—was never established.

Radio stocks stabilized on the exchange the next day. But the day following that someone asked Dr. Helmetz a sixty-four dollar question and the newspapers published his answer:

“Resume broadcasting? I don’t know if we ever shall. Certainly we cannot until the invaders go away, and why should they? Unless radio communication is perfected on some other planet far away and they’re attracted there.

“But at least some of them would be right back the moment we started to broadcast again.”

Radio and TV stocks dropped to practically zero in an hour. There weren’t, however, any frenzied scenes on the stock exchanges; there was no frenzied selling because there was no buying, frenzied or otherwise. No radio stocks changed hands.

Radio and television employees and entertainers began to look for other jobs. The entertainers had no trouble finding them. Every other form of entertainment suddenly boomed like mad.

“Two down,” said George Bailey. The bartender asked what he meant.

“I dunno, Hank. It’s just a hunch I’ve got.”

“What kind of hunch?”

“I don’t even know that. Shake me up one more of those and then I’ll go home.”

The electric shaker wouldn’t work and Hank had to shake the drink by hand.

“Good exercise; that’s just what you need,” George said. “It’ll take some of that fat off you.”

Hank grunted, and the ice tinkled merrily as he tilted the shaker to pour out the drink.

George Bailey took his time drinking it and then strolled out into an April thundershower. He stood under the awning and watched for a taxi. An old man was standing there too.

“Some weather,” George said.

The old man grinned at him. “You noticed it, eh?”

“Huh? Noticed what?”

“Just watch a while, mister. Just watch a while.”

The old man moved on. No empty cab came by and George stood there quite a while before he got it. His jaw dropped a little and then he closed his mouth and went back into the tavern. He went into a phone booth and called Pete Mulvaney.

He got three wrong numbers before he got Pete. Pete’s voice said, “Yeah?”

“George Bailey, Pete. Listen, have you noticed the weather?”

“Damn right. No lightning, and there should be with a thunderstorm like this.”

“What’s it mean, Pete? The vaders?”

“Sure. And that’s just going to be the start if-“ A crackling sound on the wire blurred his voice out.

“Hey, Pete, you still there?”

The sound of a violin. Pete Mulvaney didn't play violin. “Hey, Pete, what the hell-?”

Pete's voice again. “Come on over, George. Phone won't last long. Bring-“ There was a buzzing noise and then a voice said, “-come to Carnegie Hall. The best tunes of all come-“

George slammed down the receiver.

He walked through the rain to Pete's place. On the way he bought a bottle of Scotch. Pete had started to tell him to bring something and maybe that's what he'd started to say.

It was.

They made a drink apiece and lifted them. The lights flickered briefly, went out, and then came on again but dimly.

“No lightning,” said George. “No lightning and pretty soon no lighting. They're taking over the telephone. What do they do with the lightning?”

“Eat it, I guess. They must eat electricity.”

“No lightning,” said George. “Damn. I can get by without a telephone, and candles and oil lamps aren't bad for lights-but I'm going to miss lightning. I like lightning. Damn.”

The lights went out completely.

Pete Mulvaney sipped his drink in the dark. He said, “Electric lights, refrigerators, electric toasters, vacuum cleaners-“

“Juke boxes,” George said. “Think of it, no more God damn juke boxes. No public address systems, no-hey, how about movies?”

“No movies, not even silent ones. You can't work a projector with an oil lamp. But listen, George, no automobiles-no gasoline engine can work without electricity.”

“Why not, if you crank it by hand instead of using a starter?”

“The spark, George. What do you think makes the spark.”

“Right. No airplanes either, then. Or how about jet planes?”

“Well-I guess some types of jets could be rigged not to need electricity, but you couldn't do much with them. Jet plane's got more instruments than motor, and all those instruments are electrical. And you can't fly or land a jet by the seat of your pants.”

“No radar. But what would we need it for? There won't be any more wars, not for a long time.”

“A damned long time.”

George sat up straight suddenly. “Hey, Pete, what about atomic fission? Atomic energy? Will it still

work?"

"I doubt it. Subatomic phenomena are basically electrical. Bet you a dime they eat loose neutrons too." (He'd have won his bet; the government had not announced that an A-bomb tested that day in Nevada had fizzled like a wet firecracker and that atomic piles were ceasing to function.)

George shook his head slowly, in wonder. He said, "Streetcars and buses, ocean liners-Pete, this means we're going back to the original source of horsepower. Horses. If you want to invest, buy horses. Particularly mares. A brood mare is going to be worth a thousand times her weight in platinum."

"Right. But don't forget steam. We'll still have steam engines, stationary and locomotive."

"Sure, that's right. The iron horse again, for the long hauls. But Dobbin for the short ones. Can you ride, Peter?"

"Used to, but I think I'm getting too old. I'll settle for a bicycle. Say, better buy a bike first thing tomorrow before the run on them starts. I know I'm going to."

"Good tip. And I used to be a good bike rider. It'll be swell with no autos around to louse you up. And say--"

"What?"

"I'm going to get a cornet too. Used to play one when I was a kid and I can pick it up again. And then maybe I'll hole in somewhere and write that nov- Say, what about printing?"

"They printed books long before electricity, George. It'll take a while to readjust the printing industry, but there'll be books all right. Thank God for that."

George Bailey grinned and got up. He walked over to the window and looked out into the night. The rain had stopped and the sky was clear.

A streetcar was stalled, without lights, in the middle of the block outside. An automobile stopped, then started more slowly, stopped again; its headlights were dimming rapidly.

George looked up at the sky and took a sip of his drink. "No lightning," he said sadly. "I'm going to miss the lightning."

The changeover went more smoothly than anyone would have thought possible.

The government, in emergency session, made the wise decision of creating one board with absolutely unlimited authority and under it only three subsidiary boards. The main board, called the Economic Readjustment Bureau, had only seven members and its job was to co-ordinate the efforts of the three subsidiary boards and to decide, quickly and without appeal, any jurisdictional disputes among them.

First of the three subsidiary boards was the Transportation Bureau. It immediately took over, temporarily, the railroads. It ordered Diesel engines run on sidings and left there, organized use of the steam locomotives and solved the problems of railroading sans telegraphy and electric signals. It dictated, then, what should be transported; food coming first, coal and fuel oil second, and essential manufactured articles in the order of their relative importance. Carload after carload of new radios, electric stoves, refrigerators and such useless articles were dumped unceremoniously alongside the tracks, to be salvaged

for scrap metal later.

All horses were declared wards of the government, graded according to capabilities, and put to work or to stud. Draft horses were used for only the most essential kinds of hauling. The breeding program was given the fullest possible emphasis; the bureau estimated that the equine population would double in two years, quadruple in three, and that within six or seven years there would be a horse in every garage in the country.

Farmers, deprived temporarily of their horses, and with their tractors rusting in the fields, were instructed how to use cattle for plowing and other work about the farm, including light hauling.

The second board, the Manpower Relocation Bureau, functioned just as one would deduce from its title. It handled unemployment benefits for the millions thrown temporarily out of work and helped relocate them-not too difficult a task considering the tremendously increased demand for hand labor in many fields.

In May of 1977 thirty-five million employables were out of work; in October, fifteen million; by May of 1978, five million. By 1979 the situation was completely in hand and competitive demand was already beginning to raise wages.

The third board had the most difficult job of the three. It was called the Factory Readjustment Bureau. It coped with the stupendous task of converting factories filled with electrically operated machinery and, for the most part, tooled for the production of other electrically operated machinery, over for the production, without electricity, of essential nonelectrical articles.

The few available stationary steam engines worked twenty-four hour shifts in those early days, and the first thing they were given to do was the running of lathes and stompers and planers and millers working on turning out more stationary steam engines, of all sizes. These, in turn, were first put to work making still more steam engines. The number of steam engines grew by squares and cubes, as did the number of horses put to stud. The principle was the same. One might, and many did, refer to those early steam engines as stud horses. At any rate, there was no lack of metal for them. The factories were filled with nonconvertible machinery waiting to be melted down.

Only when steam engines-the basis of the new factory economy-were in full production, were they assigned to running machinery for the manufacture of other articles. Oil lamps, clothing, coal stoves, oil stoves, bathtubs and bedsteads.

Not quite all of the big factories were converted. For while the conversion period went on, individual handicrafts sprang up in thousands of places. Little one- and two-man shops making and repairing furniture, shoes, candles, all sorts of things that could be made without complex machinery. At first these small shops made small fortunes because they had no competition from heavy industry. Later, they bought small steam engines to run small machines and held their own, growing with the boom that came with a return to normal employment and buying power, increasing gradually in size until many of them rivaled the bigger factories in output and beat them in quality.

There was suffering, during the period of economic readjustment, but less than there had been during the great depression of the early thirties. And the recovery was quicker.

The reason was obvious: In combating the depression, the legislators were working in the dark. They didn't know its cause-rather, they knew a thousand conflicting theories of its cause-and they didn't know the cure. They were hampered by the idea that the thing was temporary and would cure itself if left alone.

Briefly and frankly, they didn't know what it was all about and while they experimented, it snowballed.

But the situation that faced the country-and all other countries-in 1977 was clear-cut and obvious. No more electricity. Readjust for steam and horsepower.

As simple and clear as that, and no ifs or ands or buts. And the whole people-except for the usual scattering of cranks-back of them.

By 1981--

It was a rainy day in April and George Bailey was waiting under the sheltering roof of the little railroad station at Blakestown, Connecticut, to see who might come in on the 3:14.

It chugged in at 3:25 and came to a panting stop, three coaches and a baggage car. The baggage car door opened and a sack of mail was handed out and the door closed again. No luggage, so probably no passengers would

Then at the sight of a tall dark man swinging down from the platform of the rear coach, George Bailey let out a yip of delight. "Pete! Pete Mulvaney! What the devil--"

"Bailey, by all that's holy! What are you doing here?"

George wrung Pete's hand. "Me? I live here. Two years now. I bought the Blakestown Weekly in '79, for a song, and I run it-editor, reporter, and janitor. Got one printer to help me out with that end, and Maisie does the social items. She's--"

"Maisie? Maisie Hetterman?"

"Maisie Bailey now. We got married same time I bought the paper and moved here. What are you doing here, Pete?"

"Business. Just here overnight. See a man named Wilcox."

"Oh, Wilcox. Our local screwball-but don't get me wrong; he's a smart guy all right. Well, you can see him tomorrow. You're coming home with me now, for dinner and to stay overnight. Maisie'll be glad to see you. Come on, my buggy's over here."

"Sure. Finished whatever you were here for?"

"Yep, just to pick up the news on who came in on the train. And you came in, so here we go."

They got in the buggy, and George picked up the reins and said, "Giddup, Bessie," to the mare. Then, "What are you doing now, Pete?"

"Research. For a gas supply company. Been working on a more efficient mantle, one that'll give more light and be less destructible. This fellow Wilcox wrote us he had something along that line; the company sent me up to look it over. If it's what he claims, I'll take him back to New York with me, and let the company lawyers dicker with him."

"How's business, otherwise?"

“Great, George. Gas; that’s the coming thing. Every new home’s being piped for it, and plenty of the old ones. How about you?”

“We got it. Luckily we had one of the old Linotypes that ran the metal pot off a gas burner, so it was already piped in. And our home is right over the office and print shop, so all we had to do was pipe it up a flight. Great stuff, gas. How’s New York?”

“Fine, George. Down to its last million people, and stabilizing there. No crowding and plenty of room for everybody. The air—why, it’s better than Atlantic City, without gasoline fumes.”

“Enough horses to go around yet?”

“Almost. But bicycling’s the craze; the factories can’t turn out enough to meet the demand. There’s a cycling club in almost every block and all the able-bodied cycle to and from work. Doing ‘em good, too; a few more years and the doctors will go on short rations.”

“You got a bike?”

“Sure, a pre-vader one. Average five miles a day on it, and I eat like a horse.”

George Bailey chuckled. “I’ll have Maisie include some hay in the dinner. Well, here we are. Whoa, Bessie.”

An upstairs window went up, and Maisie looked out and down. She called out, “Hi, Pete!”

“Extra plate, Maisie,” George called. “We’ll be up soon as I put the horse away and show Pete around downstairs.”

He led Pete from the barn into the back door of the newspaper shop. “Our Linotype!” he announced proudly, pointing.

“How’s it work? Where’s your steam engine?”

George grinned. “Doesn’t work yet; we still hand set the type. I could get only one steamer and had to use that on the press. But I’ve got one on order for the Lino, and coming up in a month or so. When we get it, Pop Jenkins, my printer, is going to put himself out of a job teaching me to run it. With the Linotype going, I can handle the whole thing myself.”

“Kind of rough on Pop?”

George shook his head. “Pop eagerly awaits the day. He’s sixty-nine and wants to retire. He’s just staying on until I can do without him. Here’s the press—a honey of a little Miehle; we do some job work on it, too. And this is the office, in front. Messy, but efficient.”

Mulvaney looked around him and grinned. “George, I believe you’ve found your niche. You were cut out for a small-town editor.”

“Cut out for it? I’m crazy about it. I have more fun than everybody. Believe it or not, I work like a dog, and like it. Come on upstairs.”

On the stairs, Pete asked, “And the novel you were going to write?”

“Half done, and it isn’t bad. But it isn’t the novel I was going to write; I was a cynic then. Now-“

“George, I think the waveries were your best friends.”

“Waveries?”

“Lord, how long does it take slang to get from New York out to the sticks? The vaders. of course. Some professor who specializes in studying them described one as a wavery place in the ether, and ‘wavery’ stuck-Hello there, Maisie, my girl. You look like a million.”

They ate leisurely. Almost apologetically, George brought out beer, in cold bottles. “Sorry, Pete, haven’t anything stronger to offer you. But I haven’t been drinking lately. Guess-“

“You on the wagon, George?”

“Not on the wagon, exactly. Didn’t swear off or anything, but haven’t had a drink of strong liquor in almost a year. I don’t know why, but-“

“I do,” said Pete Mulvaney. “I know exactly why you don’t-because I don’t drink much either, for the same reason. We don’t drink because we don’t have to-say, isn’t that a radio over there?”

George chuckled. “A souvenir. Wouldn’t sell it for a fortune. Once in a while I like to look at it and think of the awful guff I used to sweat out for it. And then I go over and click the switch and nothing happens. Just silence. Silence is the most wonderful thing in the world, sometimes, Pete. Of course I couldn’t do that if there was any juice, because I’d get vaders then. I suppose they’re still doing business at the same old stand?”

“Yep, the Research Bureau checks daily. Try to get up current with a little generator run by a steam turbine. But no dice; the vaders suck it up as fast as it’s generated.”

“Suppose they’ll ever go away?”

Mulvaney shrugged. “Helmetz thinks not. He thinks they propagate in proportion to the available electricity. Even if the development of radio broadcasting somewhere else in the Universe would attract them there, some would stay here-and multiply like flies the minute we tried to use electricity again. And meanwhile, they’ll live on the static electricity in the air. What do you do evenings up here?”

“Do? Read, write, visit with one another, go to the amateur groups-Maisie’s chairman of the Blakestown Players, and I play bit parts in it. With the movies out everybody goes in for theatricals and we’ve found some real talent. And there’s the chess-and-checker club, and cycle trips and picnics-there isn’t time enough. Not to mention music. Everybody plays an instrument, or is trying to.”

“You?”

“Sure, cornet. First cornet in the Silver Concert Band, with solo parts. And-Good Heavens! Tonight’s rehearsal, and we’re giving a concert Sunday afternoon. I hate to desert you, but-“

“Can’t I come around and sit in? I’ve got my flute in the brief case here, and-“

“Flute? We’re short on flutes. Bring that around and Si Perkins, our director, will practically shanghai

you into staying over for the concert Sunday and it's only three days, so why not? And get it out now; we'll play a few old timers to warm up. Hey, Maisie, skip those dishes and come on in to the piano!"

While Pete Mulvaney went to the guest room to get his flute from the brief case, George Bailey picked up his cornet from the top of the piano and blew a soft, plaintive little minor run on it. Clear as a bell; his lip was in good shape tonight.

And with the shining silver thing in his hand he wandered over to the window and stood looking out into the night. It was dusk out and the rain had stopped.

A high-stepping horse clop-clopped by and the bell of a bicycle jangled. Somebody across the street was strumming a guitar and singing. He took a deep breath and let it out slowly.

The scent of spring was soft and wet in the moist air. Peace and dusk.

Distant rolling thunder.

God damn it, he thought, if only there was a bit of lightning.

He missed the lightning.