

ASTOUNDING

SCIENCE

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COVER BY TIMMING

Illustrations by Kramer, Orban and Williams

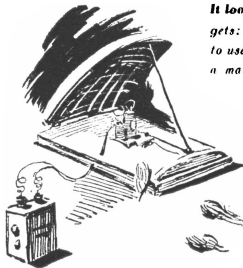
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\$2.50 per Year in U. S. A. Printed in  the U. S. A. 23¢ per Copy

NEXT ISSUE ON SALE SEPTEMBER 18, 1945





It looked like the ultimate in gadgets: it was whatever you wanted to use at the moment. But it was, as a matter of fact, a deadly sort of semi-living thing!

Deadly Host

by
RAYMOND F. JONES

Illustrated by Kramer

To Nancy Tyme the white-faced young man didn't look as if he should be selling dime-store gadgets on the street corner. He looked capable and healthy—except for his pallor and a strange tension in his eyes and in his face.

Dan Courtland pushed Nancy, his laboratory technician, towards the rickety little stand where the gadgets were being powdered with snow. He stopped a hundred feet away.

"Recognize that fellow?" Dan whispered.

"No. Wait . . . his face does look familiar."

"It's Bud James."

"Not the fellow that was mixed up in the scandal on the *Queen of Siam*?"

"I'm sure it's he. What a come-

down for a man who was the officer and technician that Bud James was. Let's see what he's selling. I want one if it winds up."

They moved to the little table and looked at the gadgets.

"Buy a Dingbat," the pale young man suggested. "Handiest things ever invented."

"Hello, James. You make these yourself?"

The man looked dully at Dan. "Charlie's the name," he said. "Buy a Little Dingbat . . . electropen, wrist watch, pocketphone, pocket radio, billfold . . . all in one."

"Doesn't sound practical," said Dan. "I've built a few gadgets myself, but I wouldn't try to stick a radio in a pen and then try to use it for a watch to boot."

"There's space for a pack of cigarettes," said the salesman. "Buy

one for the lady? Plenty of compact room."

Dan Courtland picked up one. They were shapeless little blobs about four inches long and weighing about a half pound.

The snow filtered down onto Dan's neck and fell lightly on the Little Dingbats. "O.K. I'll be a sucker. Give me a couple. My little nephews can play with them when they go bust."

"They won't break," the pale young man promised.

The snow was coming down harder as they turned away and Nancy fanned it away from her eyes. "Is he really Bud James?"

Dan nodded. "Yes. You can't blame him for trying to hide his identity. I guess no one will ever know if he was at fault or not."

"What happened to him? I never paid any attention to the details."

"Nobody really knows. He was accused of trying to destroy the *Queen of Sian*. As second officer of the ship he gave instructions to dump the fuel and then disabled the communications and tried to turn the ship into space. Those were the charges. Bud James made no defense except to deny them. The evidence was weak against him, and so he got off with a discharge from Transspace, but without any criminal conviction."

"But he's blackballed with every space operator?"

Dan nodded. "That must be what's hard for the poor devil. He can never go back to space. And selling toys on the street corner—" Dan shook his head in sympathy.

"Well, it's time we were getting back," said Nancy. "You have a class to teach yet this afternoon, professor."

"Slave driver," said Dan. "I wasn't born to tend that brooderful of dimwits. I'm an inventor—but I wish I was as good as the guy who invented this combination washing machine, street car, and fire truck, providing it works. Wonder if it actually gives the time."

He took one of the Dingbats out of his pocket. A large, delicately figured watch face showed him the time.

"That's funny," he muttered. "I'd swear that didn't have a watch face on it before. It must have a snap cover that slid back as I took it out. But you're right about the time. I can't monkey with this now. Let's go."

During class, Nancy quietly and efficiently managed the vast amount of demonstration equipment that Dan used. Apart from his teaching, Dan Courtland was a spare-time inventor. He devised dime-store gadgets and thingamajigs and thereby made more than his meager professorial salary. . . . Actually, his gadget-inventing was his profession and his professorship was his hobby.

That didn't keep him from being the most valuable research physicist in mechanics that North State College had.

As soon as class was over, Dan took the Little Dingbat into the lab behind the classroom and put it on a bench. He sat down and looked at it. From one angle it seemed

to be cubical and gray. From another it seemed round and slightly green. Dan turned it around. It looked more like a flat disk from this side.

He got a screwdriver and tapped the case. There was no seam anywhere. And now he couldn't find the catch that would release the panel over the watch dial.

As for writing with the thing—

He laughed to himself. Combination pen and watch and portable radio! Then he sobered and wondered again momentarily at the queer circumstances that set Bud James down from a berth on the *Queen of Sian* to a street-corner stand selling gadgets.

He picked up the Dingbat as if it were an electropen, and then he saw that the corner that had been turned away from him actually did contain a point. But why hadn't he seen it when that side had been facing him? He turned the Dingbat over and it fitted comfortably into his hand. It wrote smoothly and more rapidly than any other he had ever used.

"Works, huh?" Nancy was kibitzing over his shoulder.

"Yes—" Dan nodded slowly. "This thing is a little wonder. I don't see how he sells them for a dollar and a half. Now where the devil is that pen point?"

He had laid the Dingbat on the table and the pen end seemed to have disappeared. "That's about the neatest bit of collapsing mechanism I ever saw. Hand me that knife, Nancy. I want to see if this stuff can be cut."

It couldn't. Dan whittled and hacked. The knife slid off the shiny smooth surface that seemed to shift even as he brought the blade to bear on it.

He put the knife down and carried the Dingbat over to the band-saw. The blade squealed as he brought the Dingbat against it. Not even a mark was made upon the surface, but the saw teeth were soon dulled.

"If it's that hard, it ought to be easy to crack with the right stress."

Nancy followed him over to an eight-ton hydraulic press. "You can't have mine when that one is pressed out like a fried egg," said Nancy. "I warn you."

Dan grinned. "You might let me borrow it for a little while, though, huh?" He put the pressure on.

The needle on the indicator mounted. One ton, two, three—

"It's bending a little," said Nancy. "You'd better ease up on it."

"Please," said a voice. "Here's your dollar and a half."

Dan whirled about. "Bud James! How did you get here?"

"The name's Charlie. They're patented. You can't monkey with them."

"All right, the name's Charlie," said Dan. "But there's no patent notice on the Dingbat."

"It's stamped on the outside. Please look." There was a sudden urgency in his voice.

With an irritated gesture, Dan released the pressure and took out the Dingbat. He knew there had been no patent notice before, but

there was one now. Pat. AY5-345,-902.

"How did you know that I would open it up? I'm not going to steal the thing. Since it's patented I can get a copy of the patent and read it."

"That would be best. Please get a copy of the patent. I recognized you after you left today. I knew your reputation and that you would open the Dingbat if you could. I must ask you not to because I don't wish to bring suit for infringement."

"There's no infringement if I merely take the thing apart."

"If you do that, you'll put it back together. Please give it to me now. I'll refund your money."

Dan suddenly capitulated. "O.K. But I'll be around to buy another one after I read over the patent."

Without answer, Bud James took up the Dingbat and disappeared through the doorway.

"How do you like that?" said Dan slowly. "Now, how did he know I was taking the thing apart?"

"Just the same you aren't going to take mine apart. I like it," said Nancy.

"Why do you suppose I let him have mine? Where'd you put the other one?"

"You can't have it!" Nancy ran back into the lab and Dan raced after her.

She squealed as he caught up with her. She was looking at the lab demonstration bench in dismay. "It's gone. He must have picked that one up too."

"And he only gave me back the buck and a half!"

"All right, now go down and try to talk him into selling you some others because I want one."

"What's burning in here?"

Nancy sniffed. "You, I'd say, if it didn't smell like transformer oil. It is! This transformer is about to burn up!"

She put her hand on a 10 kva power supply unit that powered some of the demonstration apparatus. She jerked her hand away in pain. "I forgot and left the primary switch on, but there's no load. The secondary must be grounded somewhere."

"And there's your Dingbat on top of it. The janitor must have come in and put it up there when he cleaned."

Dan took it down. "Feels like it's cooked."

By the time they had reached the ground floor of the building, Nancy had surrendered to the extent of allowing Dan to borrow the Dingbat over night. She never expected to see it in working order again.

They got into Dan's second-hand Motorless and he flipped the starting switch. The converter coils rattled in their mountings.

"Perhaps I'll make it quicker walking," said Nancy.

"I think I'll go back to the old gas burners. These babies grind and groan forever before they get up to running voltage."

Indeed, the little car was grunting and groaning. The starting coils whined at their natural frequency. Finally, the cutout switch flipped over and signaled that the car was in a running mood.

"At last," said Nancy.

"In your old age you can recall with nostalgia how you used to ride with the great Dan Courtland whom you knew when."

"Yes, when. Is this thing going or not?"

Dan slowed and switched back to start. The little Motorless grunted.

"She's never acted this bad before. Maybe I ought to work on her tonight instead of the Dingbat. I mean—"

"I know what you mean."

Dan finally got Nancy home and talked her out of going to a show. He persuaded her that it was a good night to put her ham rig on the air. Nancy had long ago resigned herself to the life she would lead as a gadgeteer's wife, and she told herself that these experiences were good practice.

As soon as Dan got in the house he took the Dingbat down to his basement laboratory. He gave up the thoughts of opening the case with any of the tools at hand. But there was one thing yet that he had not tried.

He turned away to an adjoining bench and prepared some boiling aqua regia then turned back to the bench where he had left the Dingbat. He stared in disbelief.

The Dingbat wasn't there.

Dan set the flask down and looked on the floor. He moved the heavy bench out from the wall. He swore not too softly.

"You won't find it. It's gone," said a voice behind him.

Dan whirled. There was Bud

James. Deep lines were in his face and his eyes were haggard-looking.

"Let's have it. From the beginning," said Dan. "I want to know what this is all about."

The man sat down slowly as if in great weariness of body and mind. "You guessed my name all right. I was hoping that you would go farther than that, but I guess I can't blame you."

"For what?"

"For not opening up one of the Dingbats. I tried to show you in every way I could. I even put the one on top of the transformer in your laboratory, and turned the power on. But I suppose you didn't see the significance of it."

"You're being very mysterious," said Dan. "I don't see the significance of anything. Especially why you wouldn't admit your name before, and now you say you were hoping I'd do more than identify you correctly. And I don't understand about the Dingbats."

"You know about Sian?"

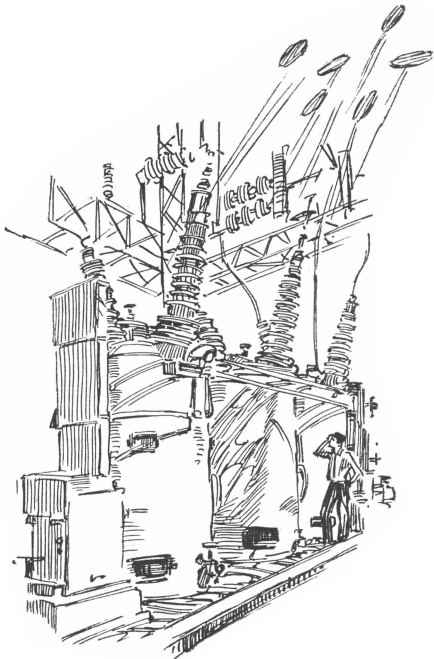
"The mechanical world? Practically nothing. Except that it's a gadgeteer's heaven. Poor college profs don't make enough to take such trips, you know."

"The Dingbats came from there."

Dan nodded slowly. "I should have guessed it . . . but what are they?"

Bud James didn't answer the question immediately. "Sian is a dream world," he said. "It is hard even now to find anyone who hasn't been there who will believe that Sian can exist."

"Historians have tried to prove



that the Sianese are the results of a civilization conquered by the robots it built to serve it. No one knows any facts that are really certain except that Sianese history goes back about sixty thousand years and stops abruptly. No petering out. Just stops.

"The Sianese themselves are completely mechanical. Brains, appendages, and all. No one has ever seen anything of the insides of one. We know only that they exist. They wear out or die. And they reproduce by a method of group construction. I am the only man who has ever observed the process. I was able to see once how eight of them gathered around a workbench and took enough parts out of themselves to assemble a ninth creature that joined them apparently as intelligent and able as themselves. I believe that certain specialized mechanisms within the Sianese are constantly producing these parts used in assembling others."

"And so?" said Dan.

"On Sian there are life forms of metal that are as different from each other as are the life forms of Earth. There are animals there, and insects, and even a peculiar sort of thing that is almost plantlike."

Bud stopped and Dan kept looking at him. "Keep going."

"The Dingbats," said Bud, "are insects of Sian."

"Insects!"

"Right. Mechanical insects, a particularly deadly breed. The Sianese try to exterminate them with little radiation guns just like we spray flies."

"But what harm can they do—even there? And how can they bother us?"

"These particular insects are parasites. They require a host as do all parasites. It is impossible for them to exist very long away from a suitable host."

"But surely they can't find sustenance from any host that is available on Earth!" exclaimed Dan.

"Reflect a moment. What kind of a host do you think these mechanical insects would require, having come from such a planet as Sian?"

"Obviously it couldn't be any form of life as we know it."

"Obviously."

"And there is no other form of life on Earth."

"Nothing that the Little Dingbats might interpret as familiar life?" said Bud.

"No. Of course not—" Then Dan sat very still and said, "I see. Yeah. I get it now. No wonder you made no defense at your trial. They'd have declared you insane."

He saw it again in his mind. The Little Dingbat on top of the overheated transformer—sucking electronic energy out of the coils like a leech sucking at a blood vessel. And in the little Motorless. No wonder it had moved with reluctance. The Dingbat on the seat had no doubt been sucking out the energy of the converters as fast as they made it available.

"I saw what the Little Dingbat did to one of my transformers and to my car," Dan continued.

"Get the picture, then," said Bud grimly. "Hundreds of millions of them hiding all over the planet sucking the energy out of our power generators, draining the lifeblood of a mechanized planet."

"But there aren't that many, surely."

"Not yet. But their rate of reproduction makes a guinea pig look sterile."

"How—?"

"They convert energy directly into matter. By a process of group assembly they create new individuals as the Sianese do."

"But surely they can't be much of a menace," said Dan. "If they're strictly mechanical, it ought to be easy enough to destroy them."

"Good. Exactly how are you going to proceed?"

Dan didn't miss the sarcasm and bitterness in Bud's voice. He said, "First I'd like to know why you took to selling the things on the street. Why didn't you destroy them instead of peddling them?"

"I have spent a good deal of time on Sian. I have made a study of the planet—as a hobby. But in some ways I have been more fortunate than the scientists who have studied professionally. I am sure that I am the only one who has ever identified the Dingbats as parasites. Such a theory would be laughed at right now by the eminent doctors of ethnology who have published tomes on Sian.

"When the *Queen of Sian* had mechanical trouble soon after taking off it wasn't too difficult to find the source of the difficulty. But I

knew it was hopeless to try to track down all the Dingbats that had gotten aboard. And I knew what would happen if even one got to Earth. So I did the obvious thing."

"And they clapped you in the brig before you finished?"

"Yes. It was a wild, fool thing to do, but I could see no other course. I still can't. The only reason I believe I escaped conviction is that perhaps Captain Knowles also knows about them. He didn't believe at the time that they were as dangerous as they seemed. Afterwards, he became scared and assisted my defense. He's both a coward and a fool, but he saved my neck as far as I can guess."

"But selling them?"

"They have a degree of intelligence. Because I was familiar with some features of Sianese culture I managed communication with them. I told them I'd lead them to choice sources of power on Earth if they'd stick together and do as I said. My problem then was to get them into the hands of someone capable of analyzing them. If I had made one false move, they would have bolted. I said that by distributing them as I was doing they would become familiar with Earth ways and it would help them. They swallowed it—for a while. When you started working on the one he yelled for help and I had to come to keep the rest from rebelling. But I turned your trans-former on and put the other Dingbat on top of it. You might have caught on, but your dipping this one tonight in acid was too much. They

bolted. Now they're gone. In the city they are beginning to breed like flies. In a week they'll have the place paralyzed for want of power. They can double their numbers every week."

"Why can't we find out what the Sianese do and use the same?"

"The Sianese won't co-operate that much. More than that, their own dope is not very effective. They've been trying to eradicate the Dingbats for centuries. They barely hold them in check."

"I wonder how long it will take before the town notices the effects of their presence."

"They should make themselves felt about tomorrow morning," Bud prophesied. "You'll see."

Bud was extremely conservative in his time estimate for at that moment Jackson J. Calvert, Mayor of Clarendon, was climbing into his Motorless. It was a slick, new hundred and eighty horsepower job. But what the mayor didn't know was that four of the Little Dingbats were settled nicely under the hood over the converter coils, waiting for him to start up.

The mayor switched on the starting coils. Instantly, the Little Dingbats opened their circuits and seized upon the field until the coils of the Motorless groaned and vibrated in their mounts. Their overloaded windings smoked with the acrid fumes of burned insulation.

Mayor Calvert swore and fumbled with the switch. The coils rattled and smoked again and finally gave up. The four Little Dingbats

silently dropped out and rolled away. The mayor took up fuming where the Motorless had left off.

At Power Dispenser Station No. 7 Frank Waterson came on the graveyard shift and looked over the log of the previous shift.

"Been having trouble?" he asked.

"Yeah. Number ten transmitter is wobbling all over the place tonight. Can't figure it out. Acts as if something had happened to the load end, but I can't see anything wrong. I shut down at seven and changed bottles. No change resulted. And I forgot to log it. Will you? I'm ready for the hay."

"Yeah, sure," said Frank. "If it keeps up, I'm going cut it out of the circuit. No need of it this time of night."

"You'll need it by morning. See if you can do something."

By morning Frank Waterson was exhausted and frantic. Eight of the units were out of commission with overloaded and burned out circuits.

In Clarendon that morning, Motorless cars could not be made to function. Hundreds of workers walked to jobs, and hundreds more didn't get there. Lighting and heating converters either failed completely or overloaded the dispenser stations so badly that they were ineffective.

Mayor Calvert called Superintendent Rockwood of the power company and raised the devil. The super raised more of the devil with his chief operators. The chiefs passed the buck on down.

But it was not until late that afternoon that they realized it was not

a little matter that could be fixed by firing a few operators and tinkering with the equipment. It was not until then that they discovered that the condition was not merely local.

Since the power output of Clarendon was insufficient for all of them, many of the parasites were forced to go elsewhere. They moved eight miles away to Glidden and attacked power sources there. Clarendon heard about it in the evening and the news unnerved the citizens of both towns. It was a chilling prospect to know that they would have to retire that night with the communities virtually powerless.

It was an even more chilling phenomenon in the pale gray daylight of the following morning. Fall weather was coming along and hot water and heated apartments were necessities of life. There was talk about bringing in some outside technicians and finally the outsiders were called. They didn't improve the situation any.

Mayor Calvert called Dan Courtland on his own initiative.

"Dan—this is Calvert. Yeah, I'm fine. Say, I'm worried. It's about this power shortage. I'm afraid of it. There's something funny about the whole business. I want you to do something about it."

Dan hesitated a moment, then he said, "We can tell you something about it. I'd like you to come up right away."

When the mayor came into the laboratory later in the morning he recognized Bud instantly. He glowered and stiffened his back. "What's

he doing here?" he demanded of Dan.

"Bud is the one man who could have prevented this whole thing."

"I seem to remember he was charged with very serious crimes and was acquitted under circumstances not too favorable to his reputation."

"It was the liner, *Queen of Sian*, that brought the source of these power difficulties to Earth," said Dan quietly. "It was an attempt to prevent this that got Bud into difficulty."

"What's it all about?" said Mayor Calvert.

Briefly, then, Dan told him. Calvert had great faith in Dan's knowledge, but this sort of thing was almost beyond the limits of his credibility.

"Mechanical parasites! Sucking on engines like worms on a tree trunk—how do you think you'll ever make anyone believe that? I'm willing to take your word for it, but I know you. What's to be done about it?"

"We don't expect to convince anyone else of it," said Dan. "We know what kind of panic reaction that would result in. And there's not time to try to argue other scientists into accepting the facts. We've made our initial plans. Others are going to have to find out about the parasites the hard way. We want their discovery to be accidental and spontaneous, but, in the meantime, we want to catch one for examination. And that's not going to be easy. That's why I called you up here. Will you help?"

"How? What are they like?"

"They're about four inches long, mostly gray, generally oval in shape. You can get the police, firemen, power operators, and anyone else you can think of to begin searching for them. Better call it a rat hunt. One of them in motion will look enough like a rat. Let them think you're crazy, but get traps of all kinds laid out. Spring traps, water traps, anything that will catch a good-sized rat ought to catch one of these things. Bait them with a small battery. You *will* be called crazy for that, but we've got to have one."

Calvert agreed dubiously. He knew the reaction to such a rat extermination program in the midst of the power crisis—and in a campaign year at that. He could write off his political career as finished. But he trusted Dan.

There was literally nothing to be done towards a solution by those who understood the real cause of the trouble. It was an unnerving, waiting game that Dan and Bud had decided on, and one not entirely favorable to Bud. But he realized the correctness in Dan's estimate of the reaction of both the public and scientists to the truth unless a parasite were actually produced as evidence.

Nancy Tyme did not underestimate the seriousness of the problem, but she couldn't stand the mere waiting. An inveterate radio ham, she made it appear as if she were more disturbed about the interruption to her ham activities than anything else. She finally succeeded

in rigging up an auxiliary power supply from a gas engine and a small generator that she found kicking around the college attic.

The day following, she reported happily to Bud and Dan that she had QSO'd Rangoon on the make-shift power supply.

"How about doing the same to a Dingbat?" Dan said sourly.

"If you'll be civil, I'll tell you how to do just that."

"Sorry. Got any ideas?"

"Yes. Why not poison them?"

Bud looked blank. Dan scowled. "How can you poison them when they don't eat?"

"Sure they eat—power. That's what's causing all the trouble."

"Say," Dan's eyes lighted, "you've got something there. How about it, Bud?"

"I can see that certain types of

power might act as a sort of poison, perhaps, but I can't see what good it's going to do us at the moment."

"Isn't it true that in the organic world at least there is generally only one specific host for a given parasite?"

Bud nodded.

"Then assume the same is true here. So far these things have attacked chiefly power dispenser stations and receivers. I think they have shown that this is not their accustomed type of host because they are putting the stations out of commission. In the ideal parasite-host relationship the parasite does not destroy the host because that would mean the eventual destruction of the parasite. I think it's evidence that the Dingbats are in highly unfamiliar territory. Whether they become adapted or not is another question.

"But now suppose that some form of power supply is a host that will not support them. It may even kill them. In any event, we should expect to find such power sources avoided by the Dingbats. I suggest that we make a very careful survey to see if any types of power generators are being avoided by the parasites, as well as looking for dead ones who might have attacked pathogenic hosts."

Bud nodded approvingly. "That sounds like a good lead."

Since it had been determined that the parasites thrived on electromagnetic radiation at power frequencies, it was planned to set up oscillators that would cover the known bands

from one kilocycle up to a hundred angstroms. Superintendent Rockwood of the power company was grateful for Dan's assistance. He readily agreed to the installation of the high-powered oscillators.

"It sounds like you may know something about this," he said, "but you'll have to move a dozen rat traps to get your stuff in the plant. I suppose you know about Calvert's crazy rat extermination program."

"Yes, I'd heard of it," said Dan. "Caught anything yet?"

"Of course not! There aren't any rats around here."

"I'm setting up individual engine-driven generators for these oscillators and I want your operators to watch them carefully to see that the same thing doesn't happen to them as has happened to the other equipment."

"I'll do anything," promised Rockwood. "I only hope you've got some lead on this thing. It's driving the whole town crazy."

It seemed incredible that some of the parasites were not seen eventually when there were dozens around each power station. Over a thousand had come to Earth on the *Queen of Siam*. Bud estimated that there were at least a hundred thousand in existence now. He explained their ease of escaping.

"They're adaptable," he said. "That's the main reason I'm dubious about our having any luck in finding them unable to use any power supply as a host. But anyway, you saw their adaptability that I exploited in getting them to become the Little Dingbats. They can do

other things equally as well. They can hide in the walls of the power stations and scurry from detection like rats. They can become highly efficient boring machines at will and go through the Earth at a dozen yards a minute. They'll never let themselves be found. We could blast away an entire power station, but the Dingbats would be gone before the sound of the blast died away. We'll never see a live one."

Dan was beginning to agree. The trapping plan had produced no results. After a week he told Calvert to abandon it. The Dingbats were too wary to be caught that way. And there was evidence that they could easily bore their way out of any trap that could be devised.

It went back exclusively to a waiting game. Waiting for a dead parasite to be found, waiting to discover a pattern of avoided power sources, waiting to see if the oscillators happened on a frequency of radiation inimical to the parasites.

Constantly, the parasites spread. They hid in the walls and floors of buildings and in the very ground beneath the power stations. Hiding, they silently drained away the power of the cities. Not only Clarendon and Glidden. They were spreading swiftly now. Reports showed them twenty, fifty, and then a hundred miles away.

Five hundred miles radius from Clarendon encompassed a huge industrial area of steel mills and mines and great manufacturing plants. When these began to fail, panic broke out.

Technicians from foreign coun-

tries and even from foreign planets were called in. Always it was the same. No defects were apparent in the power supply equipment. Merely that draining away as if some unseen load were shorting out the supply. Transformers heating up, burning out. Motors dying, their windings scorched.

And then came the first air tragedy. A liner with two hundred aboard fell from a height of three hundred feet just after take-off. It was apparent that a parasite had been aboard and had drained the energy as it began to appear in the motors. With insufficient flying speed to prevent the stall, the great ship crashed, killing three fourths of those aboard.

When they heard about it, Dan said, "This is what I've been afraid of. I'm afraid we're working ourselves into a hole. When the facts do become known, it won't be healthy for us to admit that we knew all along what the trouble was. Our charts don't show any specific type of power source that's being avoided. We haven't been able to find a Dingbat either dead or alive. I think we'll have to admit we're licked and get some help somewhere."

Bud agreed. "I was hoping that you wouldn't come to that conclusion, too. Do you have any ideas who to call in, or how to proceed?"

"No. That's why I mentioned it to you."

"Let's go to Captain Knowles then and force him to tell what he knows of this. I'm sure he knows something by the way he acted at

my trial. His statement that the parasites were brought from Sian on his ship would go far to break the ice."

"It might ruin Transspace."

"I wouldn't feel too badly about that."

"O.K. Go ahead. But Knowles may be on a run. Check him up, anyway."

When Bud was gone, Dan stared morosely out of the laboratory window. The greatest problem he would ever have to work on, he reflected, and not a single bit of experimental data to make a beginning.

His introspection was interrupted by the flurry of heel tappings coming through the classroom into the laboratory. It was Nancy.

"I've got one! I've got one!" she squealed in excitement.

"Got one what—?" Then Dan's jaw hung slack. He stared at the Little Dingbat that Nancy held in her hand.

"It's dead," she said.

"How did you kill it?"

"I didn't. I just found it curled up in the tank coil of my rig. I wondered why I wasn't getting out last night, but I didn't see this thing there then."

Dan took it from her. Instinctively, he knew it was dead. It felt different in his hand—as if some quality had gone out of it. Some strange life quality.

He felt as if some great smothering blanket had been lifted from him. "This is the thing we've needed. Now, we can go ahead and find out something to work on.

We've got to find what killed it. What frequency were you working on last night?"

"Seven megacycles."

"Way down in the mud, huh? I wonder—" He scanned the reports from Rockwood. "All of the oscillators have gone through that frequency and nothing has happened that we know of. We will bring them all back to seven megacycles and let them run overnight."

He sent a request to Rockwood to have his men set the frequency of the oscillators, then he and Nancy turned their attention to the dead parasite.

"Figured out how to open it?" Nancy asked.

"I was ready to try boiling aqua regia when the specimen ran out on me before. I think I'll try that, first."

He prepared the acid solution, then slowly dipped the Dingbat into it. He repeated the dipping and held it longer. Not a sign of chemical reaction showed. He let it stay then for a half hour.

"It looks like the hydraulic press," said Dan. "I hate to do that. It might smash up the insides."

"Why not heat it and cool it quickly?"

"Sounds like a good idea. Only heating it might damage it, too. But we can keep it at normal room temperature initially and dump some liquid hydrogen on it. There's some in the next laboratory."

They placed the parasite inside the cold lock with its tremendously thick walls that were built to withstand the pressure of the boiling

hydrogen. Dan tripped the valve and the space-cold liquid engulfed the shell of the parasite. Gigantic strains were instantly set up in the layers of molecules forming the stuff.

And it failed under the strain. A thousand minute cracks appeared, then a single large one laid the shell open from end to end.

When they could open the lock at last, Dan and Nancy peered eagerly at the parasite.

"It's broken!" Nancy exclaimed.

Dan's reaction was beyond the stage of exclamation. He simply stared as he bent over the crucible of the lock.

The innards of the parasite were like lace, fairy lace that could be blown away with a breath of air. But Dan sensed, rather than saw, that the lace was composed of hundreds of thousands of infinitesimal electrodes, lenses, converting tubes and gear trains.

"We can't touch that," he said slowly. And even as he spoke a shard of the shattered case fell down onto the lacy maze and oscillated on that delicate bed. Dan let it remain. Only tweezers under a microscope could be used to re-

move the splinters of the case from amidst the internal organs or machinery of the parasite.

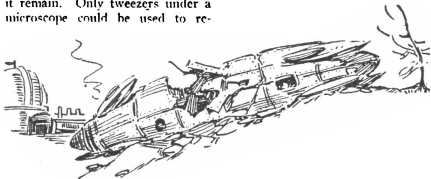
"We'll have to examine it right where it is," he said.

He brought over a powerful spotlight on a stand and then rigged up a support for a 5000X microscope so that it could be swung close to the shattered parasite.

At last the set-up was ready and he slowly lowered the microscope barrel and brought a portion of the lacework into focus. It exploded suddenly into a vast power plant whose intricacy was beyond comprehension. There were giant generators that were apparently fed from massive collector units. These were the only things Dan could even vaguely identify. Everywhere, neat ropes of cable strung between the massive components. Giant, transparent tubes with a complex maze of elements dotted the structure like nerve ganglia.

Dan abandoned his original plan to sketch the details. He spoke to Nancy. "Feel like working all night?"

"Why?"



"We'll have to photograph this thing and dissect it as we go along. I don't dare leave it. Some parts are smashed beyond hope of recognition now. Perhaps we may be able to dissect out units and reconstruct them under the microscope."

Nancy agreed. By morning they had three hundred photomicrographs and the parasite was a dismembered mass. Small units were mounted on slides for further study and Dan had attempted to catalogue and index the delicate assemblies as they were removed so that their original relationship might be recalled.

As the sunlight broke into the laboratory, Dan brushed back the hair from his forehead and sank down in a chair. "We know everything now except how these things go and what killed this one. I wish Bud hadn't left. He might have been helpful."

After Dan and Nancy had knocked off for a little sleep and had returned to the laboratory for the reports from Rockwood, Bud put in a call. His voice sounded full of excitement over the line.

"I've got results," he said. "How about you?"

"We've got plenty, too," Dan replied. He quickly related what had been learned from their dissection of the parasite.

"Good," said Bud. "I've arranged to get some live ones for study in case that seven megacycle business doesn't do it."

"How?"

"I told the whole story and some

of the directors got scared. They called Knowles and made him come through. He knows, all right, and he got scared too. The whole thing fell apart then, and they decided to corral some more parasites for test. They chartered the whole boat just for that purpose. Apparently the Sianese don't have to co-operate. The bugs jump aboard whenever they get a chance. Knowles said it happened once before and they managed to get the parasite off before leaving. What do we do now?"

"Come back and help me analyze this thing," said Dan. "You've done a good job. We'll wait for the live parasites and see if this seven megacycle radiation does any good."

Dan persisted in his belief that the public shouldn't be told yet about the parasites. He knew the kind of panic that would result, the fantastic horror stories of "foreign invaders."

Throughout the day he waited anxiously for some sign that the seven megacycle oscillators were having effect. In the afternoon he and Nancy visited some of the power plants. They checked the frequency and power output of the oscillators. Everything was working correctly. They searched the grounds and buildings, but there was not a sign of a parasite alive or dead, and still the meager power being generated was held down by the sucking of the creatures.

"It looks like a false trail again," Dan admitted as they left the last station. "I pinned great hopes on this working out."

"I wonder if the parasite died

from natural causes?" said Nancy.

"I suppose it's possible. Bud said the Sianese themselves wear out or die. Well, as soon as the live parasites arrive for tests I'm going to call a conference of some of the scientists I think are stable enough to handle the problem. It's far more than Bud and I can handle."

He gave a cursory check of the latest reports when he got back to the laboratory. They showed no discrimination whatever against any type of power source by the parasites. All kinds of generators were being attacked with equal ferocity.

As to the news, it was serious enough, and Dan wished he could ignore that. It didn't help to realize the extent of the catastrophe.

New centers of disturbance were constantly springing up now. The parasites were obviously being transported by trains and aircraft which they somehow didn't destroy. Perhaps they were succeeding in adapting themselves to the new hosts so that they would not be destroyed themselves. But there were still plenty of wrecks and crashes.

And other tragedies had arisen, too. Riots, fires, and mob violence centered in those communities where man-made electrical and mechanical energy was reduced to a minimum. Dan knew the breaking point was close at hand. He prepared the list of scientists he would contact.

Bud came in late. He brought a letter up from the office for Nancy.

"They asked me to bring this up to you," he said. He turned to Dan. "And now what's on the program?"

Nancy gave a short exclamation

of disgust. "This is a QSL card from that gal in Rangoon. Listen to this: 'Were you lousing up the ether! You came in about R2. What kind of baling wire rig have you got?' The nerve of her!"

"Maybe you need a good mechanic to go over your rig," said Dan.

"Oh!" Nancy's face flamed. "It was just my buffer. I had rewired it that day and I got some feedback into the oscillator. But it was that Dingbat that was giving me the R2. I should have come in at least R4."

Dan was not listening to her burst, but the very words seemed to hang in the air after she stopped speaking and they clamored for his attention.

"Feedback, did you say!" He straightened and stared at her "Why didn't you tell me?"

Bud suddenly caught it, too. He whirled and looked at her.

"What's the matter with you two?" Nancy said. "Is a little feedback so poisonous?"

"It may be," said Dan, "— to the parasites. Come on, we're going over and look at that rig of yours and Heaven help you if you can't connect it *exactly* the way you had it that night."

"But I don't understand!"

"You will. Come on."

For an hour Nancy sweated over the buffer stage of her amateur transmitter trying to reconstruct it exactly as it had been before. At last she had it. "There it is. Now tell me what you want with it."

Dan didn't answer. He had been busy rigging up connections to a scope, and now he started the transmitter and looked at the picture of the carrier wave.

"Boy, oh boy, is that pretty! You wouldn't think it was possible accidentally."

The wave shifted and wobbled back and forth along the time axis of the scope.

"That may be our answer," said Dan, "frequency modulation. We assumed it was simply a pure sine wave of constant frequency at seven megacycles that was deadly to the parasite. And that wasn't even what you were putting out when that one died in your set."

Nancy looked at the scope in fascination. "That would probably sound pretty good on an FM receiver."

Dan checked the swing and found it was about nine kilocycles at a modulation frequency of one kilocycle. "Now, we can make our oscillators *exactly* like this," he said. "If it turns out that frequency modulation of a seven megacycle carrier with a nine kilocycle swing is the only thing poisonous to the parasites, I think we'll never really know how much the laws of probability have been working on our side. It might have taken years to find that combination and use it against them."

Bud nodded. "Years ago there used to be some narrow band FM in those low frequencies, but it was practically useless, and it wouldn't happen except by accident."

They hurried to the nearest power

station. Rockwood was there pacing the floor in despair. "Something new?" he asked.

"We think so," said Dan. "We're going to revamp this oscillator. I wonder if you could give a little help here?"

It was actually the work of only a few minutes to change the oscillator so as to introduce a small amount of frequency modulation, but it seemed like hours.

When they were finished, Dan threw the switch and they waited tensely. There was nothing—at first.

Then they felt it rather than heard it. There was a rattle and tumbling as parasites died and lost their hold on the interior of the walls and fell to the floors. And above it all, there seemed a high scream of pain and despair as from a hundred metallic throats. It was so high that it was more like a forgotten memory than an actual sound, and none of them were ever sure afterwards if they heard it or not.

"That's it," said Bud. "Can you get the rest of those oscillators changed over tonight?"

Rockwood was too dazed almost to realize what had happened. The power output meters of the dispenser had shot up to normal and the tubes glowed brightly. "We'll have them all done by midnight," he promised.

On the way back to the laboratory, however, Dan was more morose than ever. Bud asked him what was wrong.

"Don't you realize," said Dan, "that the entire Earth has got to be

sprayed almost simultaneously with this radiation in order to wipe out the parasites? That's a gigantic job in itself. There's no commercial equipment designed for that kind of operation. There are only the hams below thirty megacycles, and only those above forty megacycles are equipped for FM transmission."

"But it looks like the only way," said Bud. "And it's far better than nothing at all."

"What are you worrying about?" said Nancy. "It will be taken care of within twenty-four hours."

"What are you talking about?" said Dan.

"The hams. There're over a million of them, and they are distributed in all parts of the world. It will be a simple matter for most of them to transmit on seven megacycles and put out with that small amount of FM."

Bud's eyes lighted. "They may be able to do it!"

Nancy contacted amateur headquarters. They were dubious until Dan verified the request. Then the word passed around the world.

"Can you imagine all the ham rigs in the world broadcasting on the same frequency at once? We'll fry the Little Dingbats right in their shells!"

"I wonder if you're right," said Dan fervently.

Around the Earth ham rigs were hastily and crudely modified, some at midnight and some at noonday.

But within a few hours hundreds of thousands of sets began pouring out lethal radiation, forming pathogenic hosts for the parasites.

The results were almost instantaneous. News reports verified the success of the attack. And then the world began to wonder. Dan knew that explanations would have to be made carefully and quickly, but for the moment he rested. Power was coming back and the cities of the Earth were alive again.

"Some day I'm going to find out exactly what we're doing to the parasites," he said. "I can't believe this acts as poison as Nancy suggests."

"It looks like pretty high-power poison to me," said Bud.

"How can minute electrical circuits such as those in the parasites respond to seven megacycles?"

"They do it. That's enough."

"I'm going to find out before this is over. But right now I'm still worried. I wish we could get all the dead Little Dingbats and bury them a mile deep."

Nancy looked startled. "Why? What good would that do?"

Dan returned her gaze. "I know you hams," he said, "and the breed you come from. Some hams are going to get hold of dead parasites and won't let them alone without tinkering into the innards. And I'm just afraid that some ham will try to get one back in working order—with a shield against FM."

THE END.