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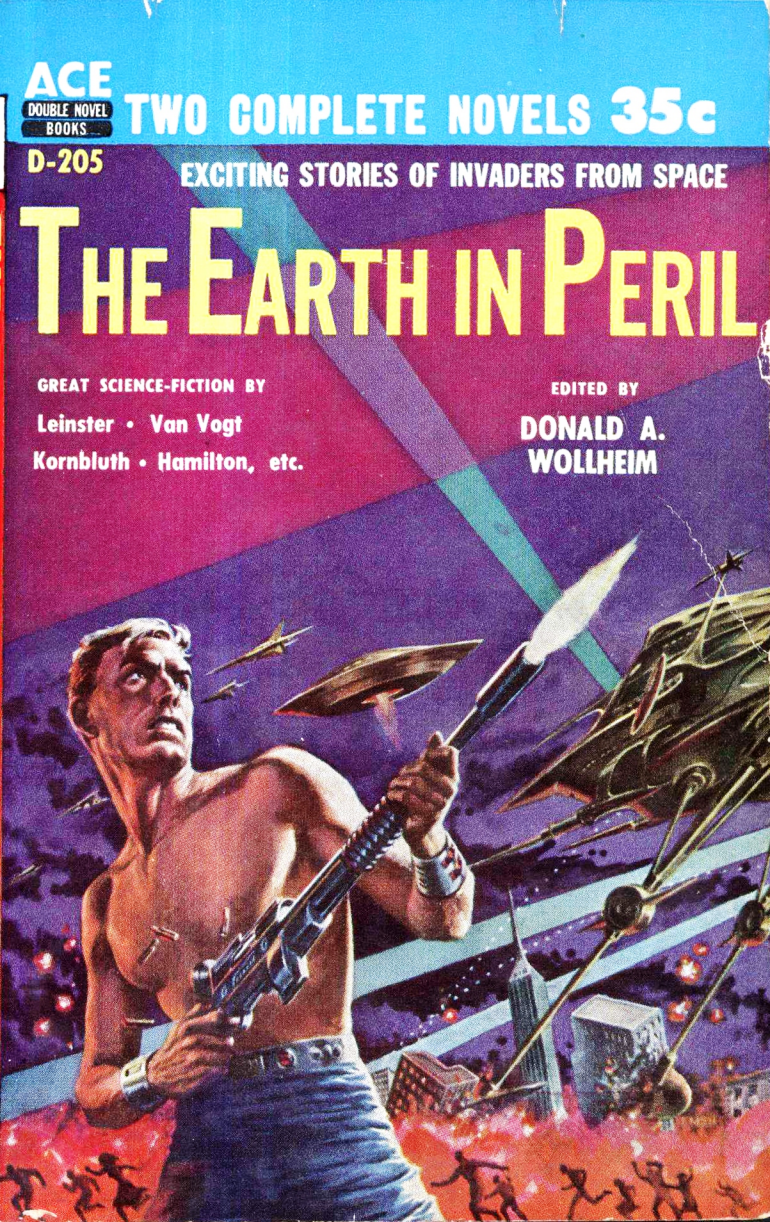

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THE EARTH IN PERIL

Edited by

DONALD A. WOLLHEIM

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THE EARTH IN PERIL

THINGS PASS BY

By Murray Leinster

I

Invasion Trail

Far, *far away, multiple billions of miles off in empty space, Things moved toward our sun. They were arranged as a warlike space-fleet. There were scouts and advance-guards fanned out ahead. One of the scouts had already passed beyond Sol. The main body of the Things was an enormous distance behind, but there were thousands of them.*

They moved at a rate almost inconceivable to human beings. Their engines were powered by forces yet undreamed of by men. They did not decelerate as Sol drew relatively near. Our sun was a convenience in space-navigation,—no more.

The occupants of the Things had no interest in it. That it had planets was a matter of no concern to them. That two billion human beings lived upon one of the planets affected them no more than knowledge of an ant city in its path would affect an army.

The peoples of Earth might be obliterated, as an ant-city would be destroyed by the passage of an army, but the occupants of the Things could not know and would not have been interested. To them, it would not have seemed important.

However, it happened that on the anthill called Earth there was a man named Dirk Braddick. Because of him, Earth is not now an uninhabited, crumpled ball, with its continents mere salt-mud marshes and its seas swept by five-mile-high tidal waves as the Things go by.

The Things have not the faintest idea what happened. They probably do not care. But we do. This is the story of Dirk Braddick.

THE FIRST of the cosmoquakes was relatively mild. The earth's seismographs went crazy, and the sun's photosphere burst into frenzied eruption. There were casualties here and there, and earthquakes of varying intensity followed it. Possibly a thousand people, altogether, died as a result of the first cosmoquake. But it was really very mild indeed.

Two weeks after it happened, but not at all as a result of it, something came down out of black, swiftly-moving clouds above Dirk Braddick's laboratory. It was night, and the clouds moved swiftly toward the north.

The inverted, cup-shaped thing swayed crazily as it descended. The dangling object below it oscillated wildly. When it was a thousand feet high, it was two miles south of the laboratory.

When it was five hundred feet up, it was still a mile away, and the agglomeration of buildings which enclosed a square courtyard was utterly invisible. There was not a light to be seen.

The parachute came on down, swaying and spinning, flung through the darkness by the wind. The inert, pendulum-like object under it made no effort to guide it by tugging at the shrouds. There was nothing in sight to seek to avoid or to try for. There was only a noise underneath, which was tree-branches clashing in the wind.

They were very near. Something whipped at the descending figure. Then there was clear space below. The oscillating object swung high and cleared the ridge-pole of the big shed—latest addition to the laboratory. The figure under the parachute missed the ridge-pole—dropped crazily just beyond—the parachute spilled air crazily in the eddies of air above the buildings,—and the figure hit the ground.

The parachute, at the same instant, hit the projecting corner of a building and ripped noisily, flapped wildly for a moment, and then lay caught and torn against a building wall.

The figure struggled up, staggered, and collapsed again. It lay still. The dark clouds overhead hurried on to the northward. A broadcast-powered plane above the ceiling emitted a bleating, panic-stricken call on a secret wave-group.

Dirk Braddick slept the peaceful sleep of a man who has worked contentedly at something he wants to work at, and will resume the process in the morning.

In the corner of one of the laboratory buildings, an electronic watchman hummed softly to itself. Its circuits circled the laboratory, shifting current-values in unpredictable patterns so that no neutralizer could possibly analyze the fields and allow an intruder to approach the buildings unnoticed. But it had not scanned the sky overhead. It made no report.

A long time later the sky cleared. Later still, the sun rose and morning came. Dew dried, the bird-songs became commonplace. The sun floated high over the horizon. The still figure on the earth among the laboratory buildings stirred again. It got weakly to its feet.

It was a girl, who stared about her with a haunted, hunted look in her eyes.

Then Dirk Braddick came out of a door and saw her and stopped short. The girl seemed to shrink at sight of him. She turned as if to flee, but only walls and closed doors surrounded her.

She turned and faced him defiantly, white to the very lips.

"Hello!" said Braddick evenly. "So Atomic Power is using girl spies now, eh? And dropping them by parachute! I'll have to put some detector-fields overhead."

He saw by the girl's clothing that she had hit hard. When she moved, he saw her wince a little.

"Hurt yourself?" he asked. "I'll get a doctor if you like, and have him take you in to town. I'm not especially harsh to spies. In fact, one might be useful right now."

The girl's pallor increased, if anything. She gasped:

"Please—no doctor—don't tell anyone where I am! Not anyone—Who are you?"

Braddick raised his eyebrows.

"You don't know? All right. I'll play! I'm Dirk Braddick. This is my laboratory. And you're a lady spy for Atomic Power, I think. Aren't you?"

"No! No! I—I'm—" Then she caught her breath and wrung her hands. "I don't know! I—don't—know—who—I—am! Oh—help me, please!"

Her distress and terror, at any rate, were real. But Braddick looked even more suspicious, for an instant.

"You'd better sit down and have a cup of coffee or something. Do you hurt any place particularly?"

"All over," she said unsteadily. "But I don't think there are any bones broken. I—know your name. I can't remember anything about myself, but realize that I know your name. You're an inventor. You invented the broadcast-power tube, and the D.C. transformer and—something to do with metal casting, I think."

She looked at him with a hunted hopefulness. He nodded.

"I don't like the term inventor," he said drily. "Those things were by-products of definite scientific research. But there's nothing very wrong with your brain."

He led the way into the house. Robot servants produced coffee, and then a complete breakfast. The girl sat down, trying hard to keep calm and cool. But her hands trembled. She drank the coffee while Braddick took an extra cup. The hunted look in her eyes increased as she contemplated her own thoughts.

"Look here," said Braddick presently. "Even if you're telling the truth, you've had a bad scare. After you've had something to eat, you go and lie down. Sleep a bit. You'll wake up feeling like yourself. Then you can set about spying or

whatever you came for. If you don't feel all right then, I'll call a doctor."

"No! Please!" She went instantly into something like a panic. "Please don't call a doctor! I've got to hide!"

"Why?" asked Braddick casually.

"Because I—because—" the helpless terror in her expression was pathetic. "I don't know! I don't know who I am or anything! But I know I've got to hide."

"The police?"

"I'm not any more afraid of them than anybody else," said the girl helplessly, after an instant. She made a hopeless gesture. "I feel queer. I don't know who I am, but that doesn't frighten me so much, now. I have a feeling that if—if I can only stay hidden for a time, it will all come out right."

"It sounds," said Braddick drily, "like a very bad excuse for a spy to hang around my laboratory. I'm really a sort of psychologist, you know. My specialty is the mechanics of research. But I test my theories about how to make discoveries by using them to make discoveries.

"As you mentioned, I've made a few. Atomic Power wants to know what I'm up to now. I've been trying to get something from them, and they think I've something up my sleeve. If you're a spy, a good report from you might help me to make a deal. Hence my cordiality."

The girl licked her lips. She seemed tense. She saw his eyes upon her.

"Atomic Power—that means something to me," she said shakily. "It frightens me—I mean, the name of the company. I—do you really think I'm a spy for them?"

Braddick shrugged.

"Maybe. Maybe not. But they certainly want to get into my laboratory. I've had to fire the few men who did work for me, because every one had been gotten to with threats or money."

"You're working on something secret?"

Braddick shrugged again.

"I wouldn't say secret. Just impossible. There was a rather queer phenomenon a couple of weeks ago. They called it a cosmoquake. Remember?"

The girl's expression changed. Braddick's lips quirked wrily. She remembered that. But it would be hard to imagine any shock obliterating the sensations of a cosmoquake. It was called that because there had never been such a thing before, and "earthquake" certainly did not describe it. The earth seemed to have been shaken, not in one place but all over, as a terrier shakes a rat.

Speaking roughly, for one and a half seconds at 14:06 Greenwich mean time of May 1, 1992, everybody on nearly all the northern hemisphere felt the ground seem to drop away underfoot in a slanting direction. That was the first phase.

Then, without a pause, the sensation reversed and the ground seemed to rise horribly for another second and a half. In the southern hemisphere, the effects were exactly reversed—the feeling of rising came first, and that of falling afterward. But it was not exactly the same at any two spots on the globe.

Slanting across the equator over a wide belt of territory, it seemed that the earth was being jerked from underfoot so that people and things were tumbled generally to the northward, and later that it was being jerked in the opposite direction so that they tumbled generally to the southward again.

The force of the cosmoquake was nowhere overwhelming. Water in small shallow ponds tended to overflow. Mostly, however, the two impulses were so nearly equal in duration, and so nearly opposite in sign that there was no great damage.

Some chimneys fell. There were a great many traffic

accidents. But the damage done by the cosmoquake itself was much less than that caused by violent local earthquakes which followed wherever geologic faults existed.

The thing was inexplicable. It really appeared that not only the Earth but the whole cosmos had experienced some hitherto-unknown phenomenon. There was a monstrous increase in solar disturbances to lend color to the theory.

But Braddick had used a new discovery in his own specialty—which was the study of research methods—and within three days had submitted a paper to the *Philosophical Journal* on the cosmoquake.

In it, he pointed out that the observed effects on the Earth and sun could have been produced by a body of twelve sols mass passing through the solar system at a speed approaching that of light, along a line from Polaris toward the Southern Cross and at a distance of some six hundred million miles from Earth.

The paper was rejected, but its contents leaked out. Someone who had read it quoted it at length as an example of how wrong a man like Braddick might be. His explanation, of course, was as impossible as the event had been.

It reached the daily papers and was a source of much hilarious publicity as divers eminent scientists condescended to point out how completely ridiculous it was.

But Braddick had continued to work on the problem.

In his dining room, now, he spoke detachedly:

"I have a very queer and much-laughed-at idea of what may have caused that cosmoquake. There is a possibility that the same thing may happen again and be much worse. So I want to get ready for it. To get ready I need mass-time fields.

"I've been trying to get them from Atomic Power. They won't listen, because they suspect I have something up my sleeve to break their monopoly over power.

"I haven't, but meanwhile they've been annoying me with

spies, trying to break into my laboratory, steal my stuff and —I suspect—if necessary, kill me in defense of the corporation's business."

The girl had gone very pale again.

"Yes. They would kill. They're terribly ambitious. They're ruthless. . . ."

"Your memory's improving," said Braddick politely.

The girl flushed. A tide of crimson swept upward from her throat. It covered all her face. Then it receded, and she was very pale again.

"You think I'm lying?" she asked unsteadily. "About not remembering?"

Braddick made a noncommittal gesture with his hands.

Far away in space, one of the scout-patrols of the Things drew nearer to the solar system. It had been a thousand million miles away. It hurtled onward at a speed which was literally inconceivable.

While Braddick first questioned the girl from the parachute out of doors, the thousand million miles had halved. While the girl sipped her coffee and seemed to search desperately for memory, the distance of the hurtling object lessened still more.

When she spoke brokenly, denying that she lied or that she was consciously a spy, monstrous gaseous prominences burst from the sun at greater speeds than had ever before been observed. Because as the Thing flung onward through empty space. . . .

In the laboratory, an alarm bell rang sharply. Braddick's face grew dark. He put his hand to the table to push back his chair. And the earth groaned. Literally. There are millions of people who will always swear that they experienced the shocking vibration of the cry of a tortured earth. And then horrible things happened. . . .

It is not possible to describe them all. There were areas where human beings found themselves completely weightless, and were made mad by the feeling that they fell upward into an empty, cloudflecked sky.

There were other areas in which people felt themselves pressed to the earth as if by an intolerable weight. Those sensations reversed themselves within the term of three seconds to which cosmoquakes seemed to be limited by the nature of things. But the areas in which such uncomplicated phenomena showed were the lucky ones.

There were not many casualties in Australia nor in the northeastern United States. But elsewhere. . . .

In Rio de Janeiro, the streets were crowded. It was a normal, brisk autumn morning. Then, suddenly, for just one and a half seconds, everything in the city strained savagely toward the northeast. The crowds surged that way, screaming suddenly.

They piled up in kicking masses against brick walls, or through plate-glass windows, or they ran in irresistibly racing, shrieking panic where there was no solid obstacle to check them. And they were pursued.

Buildings leaned to the northeast, and collapsed, and bounding masses of masonry rolled and leaped after the fleeing humans. Everything, animate and inanimate, acted as if the city had been turned on edge. Everything fell toward the abyss which was the horizon.

In the forests outside the city, the jungle trees leaned and crashed. The waters of the great estuary which is the River of January began a mighty surge. For one and a half seconds.

Then the impulse ceased and reversed. Those who still remained upright, found themselves hurtling in almost the opposite direction. It was not quite opposite. The impulse this time was almost due south. They ran or were flung into the rubble and the still-tumbling walls of buildings.

Those who had fallen or were crushed still lay beneath

walls which had not yielded to the northeastward impulse. And most of those walls now yielded to the second, reverse impulse, and crashed upon and buried the dazed injured who had been intent upon commonplace things only a scant few seconds before.

The giant *Mundo* building, the pride of Rio, resisted the first phase of the cosmoquake. It bent dangerously northeastward, and dropped down most of its wall-panels of brick and glass, but the steel frame stayed intact during the first phase.

When the second came, however, it swung in a giant arc and crashed in ruins to southward, its thousand-foot bulk covering three blocks of what had been the heart of the city. The casualties in Rio alone from this cosmoquake were comparable only to those from a saturation bombing of an undefended place.

And Rio was only a sample. Quito and Guayaquil ceased to exist. All around the globe, destruction reigned. Naples was a rubbish heap, with Cairo. Calcutta no longer was. Teheran was a dust-pile.

And—somehow more pathetically—in that wide band of death all around the earth, it was not only the large cities that were struck. Isolated villages and hamlets, and even individual houses, crashed in ruins, all too often upon their occupants.

In three successive seconds the peoples of Earth suffered destruction and death to a degree they had not been able to inflict upon themselves in two world wars. Then it ended. The earth was still again.

In Dirk Braddick's laboratory he went white—desperately white. His eyes burned.

"That," he said in a forced calm, "was a second cosmoquake. It was worse than the first. There will be others still, and they will be worse yet! I don't think I'm exaggerating when I say that I think the end of the world is at hand if

something isn't done about it. Now—are you a spy for Atomic Power?"

The girl licked her lips. Her eyes were strange and troubled, but they met his desperately.

"I'm not," she said unsteadily. "Honestly! I'll swear it by any oath you can contrive!"

"That's too bad," said Braddick grimly. "I've got to make that deal somehow, and if you were a spy you could help. I suspect it's going to be a tough one, but I've got to go ahead."

Then he smiled sardonically.

"The worst of it is, I'm afraid they'll take it as a business matter and a swell opportunity to murder me. The men who run Atomic Power are that sort!"

He rose from the table and headed for the communicator. On the way, with a scornful gesture, he flung on the switch of the boardcast visiphone.

II

The Deal Is Made

THE Atomic Power Company, you may remember, was founded by a young man named Brent, who made a mass-nullifier on purpose and discovered that he had made a time-field by accident. In consequence he had found the secret of atomic power.

He made a field-generator which lessened the mass of any object within the circuit of the cable through which the field-generating impulses surged. As a necessary corollary, it increased the time rate of the object affected.

A watch, for example, put into the mass-nullifying field with its mass reduced to one one-hundredth of normal, ran one hundred times as fast. But the field could reduce the

mass of an object contained in it almost to actual zero, with a time-rate only to be expressed in astronomical figures.

And when Brent, after divers adventures put mildly radioactive elements in the mass time field, he speeded up their rate of disintegration under strict control so that they were highly useful sources of power.

In fact, before his death, Atomic Power produced more than half the horsepower used in Earth's industries, and in twenty years more it produced ninety-seven-point-three per cent of all the fixed generator power used on the planet.

And the power tubes lately invented by Dirk Braddick promised to give the corporation a monopoly of all the power used on earth in any form. But it was not an amiable corporation by that time.

It was too big to be human. Its higher executive positions were places of power and of riches practically equal to the headship of nations. They were the subject of such feverish ambition as no other "private" employment ever fostered.

By the very nature of the masstime field, too, it was too dangerous a device for its principles to be publicly known. Power was generated by its means in giant power stations turning out millions of kilowatts.

The few technicians who understood the process were sworn to secrecy, enormously rewarded, and guarded by national as well as company secret police against threats or attempts at bribery. But the business policies of Atomic Power were under no such guard to prevent the undesirable.

In 1992, Atomic Power was nearly a tyranny. Its monopoly of cheap power gave it almost life and death power over industries. And obviously, the little men in its organization, hoping feverishly for promotions, developed a cold-blooded ruthlessness for the purpose of impressing their bosses.

An explosion apparently wiped out all of Brent's heirs, in 1991. The ownership of the majority of the company's

shares was thrown into trusteeship for the courts to settle, while the men who managed the company no longer had to account to anyone but purely hypothetical future owners of the majority stock.

They then set to work to secure themselves in their jobs and their power, which was great enough to begin with. For a time, it looked as if Atomic Power would end up trying to run the Earth.

But to Dirk Braddick, that morning, it looked as if there soon might not be any earth left to run. He put in a call for the head of the giant corporation, and while he waited for the call to go through, the broadcast visiphone verified his worst fears.

A commercial visiplay was still being broadcast when the screen lighted up. Before he put in his call, the commercial was abruptly cut. A well-known N.A.B. newscaster announced curtly that a second cosmoquake had shaken the whole earth. An impromptu sequence of newscasts would follow until the damage had been assessed.

Instantly a dark-featured man with a cut on his temple read hoarsely from flimsy sheets in his hands. His hands shook. The entire Amazon River basin was wiped out. Belim was a shambles, made so by fires which sprang up in the debris caused by the cosmoquake itself.

He turned his head to receive a fresh batch of flimsies, and blood trickled down the side of his face and into his collar. He read on, his face twitching and his voice hoarse. Rio . . . Pernambuco. . . .

He was cut off. The first newscaster cut in again.

"Damage in the United States is great, especially in the southern parts and in California. Transport planes are being made ready to carry doctors, nurses, and medical supplies to areas of greatest destruction.

"Note to all doctors and nurses—if casualties in your com-

munity are less than one per cent of the total population, report to the Red Cross for orders."

His face flashed off. A sun-browned man spoke harshly:

"Mauna Loa, here in the Hawaiian Islands, is beginning its greatest eruption in history. Evacuations are proceeding at top speed. Honolulu is partly destroyed. Earth shocks of mounting intensity are practically continuous. We do not know what is coming. . . ."

Braddick's private visiphone call came through. The face of the head of Atomic Power looked out. Rogers, chairman of the board, was obviously shaken by the event just past, but his features would never really thaw. He spoke crisply:

"My secretary said you called me about this thing that has just happened. What is it?"

"They call it a cosmoquake," said Braddick. "I know what it is. There are more coming and worse—much worse! I have a chance of doing something about them. I need mass time field power units and a technician—an engineer who can design and build the units I want in the sizes and for the purposes I'll specify. I can work out the field if I have to, but I'm in a hurry. How much?"

"It's impossible!" said Rogers sharply. "We don't allow outside experimental work with our fields!"

"Your own men will handle this one," said Braddick, "and I'm in no mood to bargain. I need those field units, and I need them fast! Your life as well as mine is in the balance, and the life of everybody else on earth. Your company won't be worth much if the earth is depopulated!"

Behind him, newscasters flashed successively on the screen, each with a curtly told tale of tragedy. In the Baltic, the cosmoquake impulse had not been overhead and then underfoot, but almost half the way around the horizon. In consequence, a tidal wall of water a hundred feet high had overwhelmed lower Sweden.

"You're an alarmist," said Rogers—though still pale from

his own experience in the cosmoquake—"You're an inventor, not a scientist. I'll wait and see what the physicists say."

"Meaning," said Braddick coldly, "you want to know what I'll offer. All right. I'll waive all royalties Atomic Power owes me, while I have a technician at my disposal."

Rogers' expression was frankly that of a shrewd bargainer now. A dyed-in-the-wool business man will be a business man until the heavens fall.

"Not good enough."

The visiphone muttered behind Braddick. All along the western edge of Europe cities lay in wreckage from the twisting effects of the cosmoquake there. Eastern Asia was hard hit. Southern Africa was smashed. The loss of life was terrific. In—

"Then I'll give you the things outright!" snapped Braddick. "That's presenting you with a monopoly of broadcast power! If you don't know how worthless money is right now, I do! I've got a job to do!"

Rogers looked smug.

"You'll transfer those two patents," he said shrewdly, "and take a salary while our technician is working with you. Then we'll own any discoveries you make while using a mass time field. It's a deal on that basis, but no other."

"All right! I accept it!" Braddick said savagely. "One technician. No spies."

"He has to have a guard," said Rogers.

"No!" snapped Braddick. "I've no intention of being killed by an 'accident' when you think you've got everything you can. Send your man here fast!"

He cut off the visiphone. Almost at the same instant the girl shut off the broadcast instrument. She was white as marble.

"There've been more people killed in the last five minutes," she said shakenly, "than—than in centuries of wars!"

"Quite so," said Braddick, seething, "and the rest of us

are slated to follow them. Look here! I've just made a deal with Atomic Power."

He repeated the terms of the bargain, his voice sardonic.

"That's the price I have to pay for trying to save Rogers' neck, among others. I'm telling you this because I still think you're a spy. If you are, you'll have had a decent technical education, most likely, and I need technical help badly. Will you work for me for awhile? You'll still be working for Atomic Power!"

The girl went white.

"I told you I was afraid of the name of Atomic Power. If its men come here—"

"They're coming," said Braddick grimly, "even if you're telling the truth. You don't count. I don't count. Nothing counts but getting this job done, and I can't spare the time to try to work out the mass time field for myself.

"But if by any chance you're really trying to hide from somebody—do you want to leave? Are you broke? By the way, have you looked in your pockets for identification?"

She licked her lips and nodded.

"I looked. There's nothing. But if you really beggared yourself to get something you need to work with—if it's that important—I'll stay here and try to help."

"Then what can you do?" he demanded. "I've got to build a spaceship. I've got to design a space drive. I've got to—Heaven only knows what I've got to do or how long I've got to do it in!"

"I'm a fair draftsman," she said unsteadily, "and I do know some physics. But you can't make a space drive! There's never been a spaceship except rockets, and they—"

"There's going to be one now!" said Braddick. "It's going to be made right here! I've got some gadgets that will help. Come on over to the drafting board. Since you don't know your name, I'm going to call you Jane."

Far, far away, the Things hurtled on. Two of the far-flung scouts—light weeks ahead of even the advanced-guard—had already passed Sol. They went on toward their unguessable destination. Their velocity was an infinitesimal fraction less than the speed of light.

Because of their speed, the mass of the Things was monstrous. Einstein first established the law by which objects near the speed of light gain mass. At their speed, the Things had an effective mass of twelve sols each—twelve times the mass of the sun which is the center of the solar system.

Yet they were not large. They would not have showed even as pin-points in the largest telescopes on earth.

But in their light fast progress through Sol's family of planets, each of the first two had shaken the sun to fury, and the first had made a turmoil on the earth, and the second had wrought havoc. With thousands of others to follow.

For the next twenty-four hours, Braddick worked in a frenzy of sustained effort. He was perhaps a queer sort of person to save the earth and probably a queerer one still to have made three fortunes by really practical inventions.

His real line was psychology, and his passion was the technique of research. It was his life work to study the methods by which discoveries are made, and to devise new techniques by which research could become more effective.

He discovered a neglected principle of discovery and set to work to write a paper explaining it. To show how it worked, he undertook research to make a direct current transformer.

He carefully noted down every single step in the effort.

When his paper was published, he absently noted that he had a valuable property in the discovery he'd made to prove a psychological point.

A second paper on another point of research technique

yielded as a by-product a vacuum power-tube, which handled unprecedented amounts of power without even a heated filament.

A third paper required to be illustrated by an actual bit of research, so Braddick made a step-by-step log of the process of discovering a new method of casting metals, by which castings could be made with such accuracy that they needed no machining.

It had not occurred to him at first that he would make machine tools almost obsolete except for the making of first models—but he did. And he did not have to worry about money after that.

His laboratory had been built on an isolated sixty-acre tract he'd bought with the proceeds of the D.C. transformer and made nearer to his heart's desire with the profits of the others. Now, in the heterogenous mass of machinery and apparatus in the various silent buildings, he could work on any type of problem he chose, in order to test out his theories of research methods.

While he worked frantically, setting up the foundation for his present self-assigned task, Jane labored earnestly to translate his sketches into a highly specialized type of working-drawing. A good deal of Braddick's labor was the conversion of perfectly normal bits of apparatus to uses merely allied to their original purposes.

Then the Atomic Power helicopter arrived with the technician. His name was Thorn, and he was gray-haired and bulky, with an air of enormous repose and complacency. But there was another man with him—Hamlin.

Hamlin was definitely not a technician. He had the hair-trigger manner of a minor Atomic Power executive, all driving urge and dynamic air, who would perform any antic or cut any throat to impress his superiors of his company loyalty and fitness for a better job than he had.

Braddick took them straight to the big shed.

"I've got an impossible job on my hands," he told them, "and if I succeed at it, there's an inconceivable one to follow. To show you the start of it, here's a construction machine I've built.

"Ordinarily, you make a specialized machine-tool to turn out one particular part, and it will produce that part cheaper than any other method can do. But if you try to change the product, the machine is useless. You get efficiency at the cost of flexibility.

"For that reason, there aren't any mass-production machines for big objects like ships and so on. It's cheaper to be inefficient and flexible. But this constructor is both efficient *and* flexible. I feed magnetronic plastics—the stuff they make houses and ships of nowadays—into this moving arm.

"It makes drawings in the air following drawings it scans with photo-cells. But plastic comes out of the end of the drawing arm and hardens as it comes. This thing will start at one end of a ship or a house and build it complete to the other end, following drawings only.

"It's ready to make a spaceship hull now. I need one. To power that ship I'm going to need three and possibly four mass time field units. One is to include the whole ship in its influence when it's turned on.

"Two others are to be set up along a tube fore and aft. They needn't be big. Come along and I'll show you the rough sketches, and you can plan them out, Thorn."

The big, white-haired man shook his head condescendingly.

"A mass time field isn't a space drive, Mr. Braddick," he said tolerantly. "I can do anything you say if Mr. Hamlin authorizes it, but—"

"He authorizes it," said Braddick. He looked at Hamlin.

"Oh, surely! Surely!" said Hamlin, beaming.

Braddick spoke gently:

"You're the trigger-man, aren't you, Hamlin?"

"Eh? What?"

"It's an obsolete term," said Braddick. "You're to see that I have an accident if I seem likely to do Atomic Power any harm, aren't you?"

Hamlin's mouth dropped open. He looked scared for a moment.

"Oh, don't worry!" Braddick told him. "I'm a sucker, this time—another obsolete term. I'm not a business man. There's some dangerous stuff coming this way, and I want to go out and meet it.

"My purpose is not to make profits, but to keep people from being killed. Quaint, eh? But I'm one of the people I don't want killed. Here's the drafting room."

He opened the door. The girl he called Jane was bent over the drafting board, making a working-drawing in three-colored inks with extraordinary pains to be accurate. She looked up, her eyes fearful. They flickered swiftly from one to the other of the men who represented Atomic Power. A vast relief seemed to fill her.

Then she turned back to her work. But Braddick saw Hamlin's face as he caught the first glimpse of Jane. Hamlin started and stared and an enormous inner excitement filled him. He fairly quivered, and his hand made an obscure movement, instantly checked.

"My assistant, Jane—er—Smith," said Braddick. "Thorn, look over those sketches. I've marked where I need the smaller time mass fields. As I said, a field has also to enclose the whole ship.

"Give Miss Smith the outside dimensions of the apparatus you'll make to generate the fields and tell her where they'll have to be placed. She'll provide for them. Hamlin, come here a moment."

He led Hamlin through two doors.

"I'll take that flash-pistol, Hamlin," he said quietly. "In this pocket." He pointed to the pocket toward which Hamlin

had made an arrested gesture on sight of Jane. "I wouldn't try to use it. Definitely not!"

Hamlin had had a shock. He had been terrifically excited. This was a new shock. Braddick took the flash-pistol.

"Who is she that you want to kill her the instant you see her? What's Atomic Power got against her?"

Hamlin protested vehemently. Braddick listened. Then he spoke.

"She's my assistant now, Hamlin. If you touch so much as her little finger, I'll kill you. You've run into somebody at work meeting an emergency. Don't make me use emergency methods on you!"

The first line of scouts—of which two had passed through the solar system—drove through space toward the Southern Cross. There was an infinitesimal resistance to their movement, caused by the one atom per cubic centimetre to be found in even the remotest part of interstellar emptiness, so the drive of the Things stayed on.

They needed to maintain their velocity. Their speed gave them mass. Their mass gave them invulnerability. An object with the mass of twelve suns will not be injured by collision with a meteorite or even an asteroid.

A plunge through a planet the size of Earth itself would hardly be noticed—but the planet would explode after the Thing had gone on.

There were thousands more Things on the way. After the scouts came the advance guard. The main body was behind even that.

III

Treason!

JUST three men and a girl were at work to save the Earth. One of the men was quite useless, and one was condes-

cendingly unbelieving, but he did make mass time units of the size and power Braddick dictated. The third man was Braddick, who got things done.

In the center of the big shed, the plastic constructor worked tirelessly. It was an ungainly contrivance with an awkward-seeming arm mounted on a truck with motors and pumps and a long hose trailing from it. A cable led to a table at the side of the shed, where vivid lights showed upon drawings pinned in the vision-range of scanners.

The arm made clumsy but precise gestures, following the drawings off to one side. It had begun by putting a blob of magnetronic plastic on a stout upright at the end of its steel track. Then, for a while, it made gradually enlarging circles about that spot.

The result was rather remarkable, because plastic flowed through the hose to the end of that moving arm, and as it came out of the end it was shaped and hardened. It formed a cone. The forming-arm, in fact, simply poured out plastic as it described a circle, and the plastic was hardened as it emerged.

A cone resulted when the circles widened, and the arm drew back. The process was exactly that of an insect spinning a cocoon, save that the result was no mass of gummed-together threads, but a solid wall of glass-hard plastic, strong as steel, but vastly lighter. It was, moreover, practically a non-conductor of heat and electricity.

Presently the shape became more complex. The growing object ceased to be merely a cone. Guided by drawings under the harsh light of scanning-lamps, the constructor built on. The cone swelled and curved.

The movements of the moving arm became more complicated. It sealed off the cone with a solid wall. Interior walls started from that. There were openings in some of them. In three hours, fifteen feet of the length of a rounded hull had been made.

Braddick stopped the constructor and fitted items of machinery into place. The constructor took up its task again and sealed the machines in as it built on further. The hull swelled still more. Its interior design became more complicated and more detailed.

The forming object grew more slowly. It took six hours to make the second fifteen feet. But the interior fittings and supplies were in place for all the completed section. From then on, the hull grew more slowly still.

Braddick's handling-machines brought heavy objects and put them in place. Thorn argued tolerantly and then condescendingly installed first one and then the second of the small mass time fields Braddick demanded.

They consisted simply of tiny generators and a circular cable in which the field was formed. When fifty feet of the hull was completed—nearly thirty-six hours after the start—Braddick was red-eyed and gaunt from weariness, but he went on doggedly.

It was then that Hamlin broke out with angry complaints. Braddick stopped work to listen to him.

"Yes," he said tiredly. "I did put on the locks so you can't go out of the laboratory. I did cut off the visiphone so you can't call anybody. I did shut off the broadcast phone so you can't even receive. I don't want to be interrupted on this job."

Hamlin sputtered. He began to threaten.

"You act," said Braddick, "as if you were aching to tell somebody about Jane, and you deny that you know anything about her. She doesn't want to be bothered. I don't know why, or care. She's a good assistant.

"But she means something to you, and I suspect she wouldn't like you to tell anybody she's here. So I'm going to keep her from being bothered as long as possible. Especially since she's helping in an emergency.

"If you want something to think about, you might watch

that contrivance over there. And if it starts to register, it would be a good idea to pray."

He waved his hand at an improvised gravitometer. It was a bulky iron sphere in a cup of diamagnalloy—that artificial diamagnet which repels all magnetic substances as powerfully as even alnico magnets attract them.

The iron sphere remained at rest, free of physical contact with any other object except for infinitely thin threads which led to amplifiers. It would register any variation of gravity of even the fraction of a dyne.

The moon's pull when overhead—which makes a difference of a twentieth of an ounce in barometric pressure—turned the appropriate dial needle one hundred points on the scale.

The sun's gravitational pull was clearly evident.

But they would not ring the alarm, because that was adjusted to show a trace of gravitational pull only from another direction—the direction of the North Star. Braddick hoped to get as much as four hours' notice of the approach of an interstellar object with a mass of twelve sols, even though its velocity was near to that of light.

He went doggedly back to his work. He was installing oxygen tanks—clumsy and absurdly heavy, but available. Racked in place by a handling machine, they became surrounded by plastic and were then a part of the hull.

He adapted a small gas-liquefying unit to work intermittantly, freezing carbon dioxide out of part of the ship's air, ejecting it and restoring the heat and moisture to the purified air, with an addition of oxygen equal to the ejected carbon dioxide. It would keep the air breathable.

It was an enormous task that he had set himself. There was food and a robot kitchen to be installed. There were power units to be put in place—not atomic ones. There were instruments and mathematical tables and calculating ma-

chines and volumes of astronomical data and vision-communicators.

There was a control-board to be wired to handle a space drive as yet untried, and which had been installed by a technician who tolerantly explained that it could not possibly work.

Thorn informed Braddick kindly, that the drive mechanism was simply an assembly of machinery which would run without having any result whatever. And besides all this, there were doors which had to be airtight, scanners to be mounted outside the ship and high-altitude suits to be modified.

It could not possibly be done. Braddick had a deadline which was simply any attainable time less than the minimum time possible. He worked without rest for three days. His cheeks were hollow. He moved stiffly. His eyes were dull. Then Jane caught him by the arm.

"Wake up!" she cried fiercely. "Wake up!"

He looked apathetically down at her.

"I'm awake," he said heavily. "I'm working."

"You're working in your sleep!" she cried. "And Mr. Hamlin is out in the courtyard signaling to some helicopters overhead!"

Braddick pulled himself together. He had closed the circuit of his laboratory buildings—of which the dwelling was a part—so that Hamlin could not possibly get out. It had been his thought that the space drive mechanism would be so clear to the Atomic Power technician that he would try to report it immediately to the corporation.

And then, almost certainly, Atomic Power would try to keep it as secret as the mass time fields, and by the same methods. They would involve an immediate "accident" which would be fatal to Dirk Braddick.

His thought had been wrong, as it turned out. Thorn knew one thing by rote and was filled with a vast complacency which made it seem unnecessary for him to learn

or understand anything else. He did not understand the space drive. But there was also Hamlin's desperate excitement at the sight of Jane, his furious protests over his inability to communicate some discovery to his superiors. The discovery of Jane was the only thing of importance so far. It was probably that, and Braddick was determined to protect Jane until he had time to find out about her for himself.

But now Hamlin had helicopters overhead to signal to. Braddick went stiffly to a doorway to the courtyard. Hamlin waved his handkerchief wildly in an ordered but varying pattern—evidently some company code.

Braddick glanced upward. He was so tired that he had trouble focusing his eyes. Then he looked down, and Hamlin had finished. He seemed to preen himself. He looked enormously triumphant, as if he had achieved something which would send him far in the service of the company.

Then he saw Braddick, and Braddick looked at him with dull eyes, having to drive his brain by sheer will power to the contemplation of something other than the completion of the spaceship.

Hamlin went white. He shivered in terror. Braddick did look formidable.

But then the gravitometer alarm rang stridently within the shed. It was, of course, much more important than treason or anything else. Braddick went heavily and looked at the dials. The three needles moved perceptibly.

There was a new source of gravitational pull acting upon the iron ball. So far, the effect was so minute that only an instrument so delicate would have recorded it. The pull was less than a hundred thousandth of the gravitational pull of the earth.

But it increased detectably as he watched. And it came from an unprecedented direction. This new, infinitesimal drag was in the direction of the north star—Polaris. It might be

a mass of twelve sols or more at a distance of multiple astronomical units, upon a course bound for the Southern Cross. By the rate of increase of the field, it must be traveling nearly at the speed of light.

"This," said Braddick, "is it. Thorn, can we test the main time field now?"

"Oh, surely," said Thorn, with tolerant condescension. He was fresh. He had worked the hours prescribed for technicians of the Atomic Power Company. He had rested and read and blandly ignored the fact that there was no broadcast reception in the laboratory.

And he had very conscientiously installed the mass time field units where Braddick wanted them and with the properties Braddick had desired. But he was aloof, with an air of bland superiority to a mere independent experimenter who was not employed by a giant corporation like Atomic Power. The ringing of the alarm-bell meant nothing to him.

IV
Into the Void

BRADDICK dismissed Hamlin's treachery from his mind. He surveyed the long, eighty-foot hull of plastic. He was unbearably tired, and he wondered dully if anything had been forgotten. In preparation for just such a premature warning, he had loaded materials for the completion of the spaceship inside the hull as it was built.

Less than an hour since, the constructor had sealed off the bow. The hatches were tight. There was as yet no working-drive, but the whole ship could be put into a mass time field by the main field-cable wrapped around its middle. That, though, was all.

"What do you want done?" asked Jane, tugging at his arm. "Tell me, and I'll do it!"

"We'll test the time field," said Braddick heavily, "and I think I'll take a nap. We've all the time in the world, now."

It sounded like delirium. Braddick motioned Jane to the ladder. Thorn mounted after them. Braddick closed the outer airlock door. The inner one opened. They were in the spaceship.

It was extraordinarily unfinished. Every cubicle was piled with materials loaded in while construction went on. Braddick went to the control-room and switched on the scanners outside the hull. The interior of the shed became visible on the screens.

"All set, Thorn?" demanded Braddick wearily.

"Of course," said Thorn smugly.

Braddick set the calibrated switch at thirty-six hundred and threw it. There was an odd sensation as of a sudden chill. Then everything was normal again within the spaceship—everything but the image on the vision screens. Those images swirled violently as the fixed-brightness amplfiers reacted.

The mass time field was on. The ship and everything within it had acquired a time-rate thirty-six hundred times normal. Time was telescoped within the mass time field, so that thirty-six hundred seconds inside the field exactly equaled one second outside.

While a clock ticked once in the shed or the rest of the laboratory, the clocks in the spaceship showed an hour to have passed. And of course, the frequency of the light by which the shed was visible in normal time was much too low to affect the speeded-up vision-scanners on the hull.

Only the hardest of X-rays—bordering upon cosmics—had a frequency which would give the effect of visible light. The interior of the shed was shadowless. There were no variations in color. Everything seemed a single, sullen shade of red. And the metal wall-panels seemed mistily transparent.

Braddick nodded exhaustedly. He had worked three days on the spaceship hull without rest.

"We've got to test our air-supply," he said heavily, "and a few other things. There's a third cosmoquake on the way, so we'll have to do everything on time field from now on. Eight hours of this time will take eight seconds of normal time. We'll know how the air works by then, anyhow."

He leaned against a wall, trying to summon energy to go on. But Jane spoke fiercely:

"You need to rest! I can test the air! You sleep, and you'll be fresher to work! We have to wait for the air-test anyhow and you can do your work after sleeping just as well or better!"

Braddick considered slowly. He was worn out.

"Maybe you're right. But I don't know what Hamlin signaled to Rogers. Maybe it was about you, Jane. They can't do much in eight or ten seconds, though. Wake me if anything goes wrong."

He stumbled to one to the cubicles that had been intended as a cabin. He unrolled a bundle of bedding which had been tumbled in there as the ship was built. He dropped on the bundle and slept instantly.

After a little, Jane looked in on him. He had not laid down, he had dropped. She went in to put a pillow under his head. As she moved him, a flash pistol fell out of his pocket. She looked at it oddly and put it back.

Time passed. At intervals the air machine worked, freezing carbon dioxide out of the air and returning it to circulation rewarmed and with its oxygen replenished. The air was intermittantly diluted, thus, with a batch of purified air, which was vastly more practical than a continuous air-purification process.

The girl glanced at the air-purity indicators from time to time. Thorn, the Atomic Power technician, strolled condescendingly through the ship, yawned and blandly investi-

gated the few books on board. There was nothing in his line. He sat down and complacently went to sleep.

More time passed, and more. The girl lunched in the robot kitchen. There was no sound anywhere but the gentle, self-satisfied snores of Thorn. Braddick slept like a dead man. The girl had designed the ship, in a sense.

At any rate, she had translated Braddick's sketches into working drawings the constructing machines could use. When she finished lunch she restlessly went over the whole interior. It occurred to her to put a pump on the airlock. A vacuum in the airlock chamber would check the seals on the two doors. They were tight.

Presently she regarded the cryptic mechanism Braddick had said would be a space drive. It was utterly simple and apparently utterly useless. There was a powerful turbo-pump designed to produce pressures up in the thousands of atmospheres. It was installed to pump a slightly compressible liquid to the bow end of a straight, strong tube running lengthwise of the ship.

There were two mass time field-generators alongside the tube. The field-cables were inside the tube. When the liquid had passed through both of them, it would go back to the pump to be forced back to the bow again.

The power of the pump seemed futile. The thing was not a space drive. It was just an elaborate system of pumping water through a pipe.

Jane sat down and thought it over. Nothing could result from pumping a liquid through a pipe, however often and at however high a pressure. But Braddick had seemed sure. Jane had worked from his sketches in designing the ship, and she knew how accurately his brain worked. There must be something. The oddities about the set-up were the two mass time field-generators.

Suddenly her eyes opened wide. An expression almost

of shock came to her face. She got up and went to the cubicle in which Braddick slept. She regarded him respectfully. Then she went back to the useless drive, hesitated an instant and carefully and deliberately opened the case containing the field generating unit at the bow end of the tube.

She looked at the inside of the generator without surprise or curiosity. She deftly and deliberately reversed two leads. Then she took two sections of cable and as deliberately—and very proficiently—cross-connected one part of the stern field generator to a similar part of the bow unit.

These, of course, were the small field units. They were inside the ship and they were not in operation. They were in the field generated by the master time field unit, which held the whole ship in accelerated time.

She went back to the control-room, moistened her lips and started the giant pump at slow speed. For a bare instant she touched the switch which now handled both of the small mass time fields.

The whole spaceship stirred and was still again.

She sat at the control-board and looked at nothing, with shining eyes.

A long time later she rose to check the air-supply again. She glanced almost automatically at the dull-red images on the vision-screens. She blinked. There was a change in the look of things outside.

A great hole gaped in the shed outside the spaceship. Steel girders were bent and broken. Some floated in midair. She stared at them, but their apparent motion was slowed thirty-six hundred times by the time field which enclosed the spaceship.

The picture was like that of an instantaneous photograph of an explosion. But the explosion was still taking place! With seemingly infinite slowness, to be sure, but with irresistable force, she saw more of the side-wall of the shed bending in to be shattered in the slowest of slow motion.

She ran to Braddick and shook him anxiously.

"Wake up! Quick! *Please!*"

He opened his eyes and was instantly awake.

"What's the matter? The air?"

"No! Come to the vision screens!"

It had taken her perhaps a ship minute to realize what she saw, to run to him, and to have him back in the control-room with her. In the interval, events had progressed on the vision screen as they advanced in the sixtieth of a second in normal time.

Half the wall of the construction-shed was down. A girder floated with seeming leisureliness toward the spaceship. But its mass relative to the spaceship in its time field was enormous. Its impact would be slow, but irresistible.

"They're bombing!" said Bradick sharply. "Hamlin signaled them something—probably about you—and they've just had time to get orders and drop bombs, or maybe they had orders anyhow! And the drive isn't working yet! I've got to threaten Thorn into fixing it for me."

"It *is* working," said Jane, very pale "Try it. I did. I looked at the arrangement and saw what you meant to do. So I adjusted the bow field to increase mass instead of discreasing it, and—try it!"

He thumbed the pump switch in. He touched the field switch. The ship stirred. It dragged forward. Braddick reached to other switches. A tiny vane in the drive tube thrust out.

The ship lifted a little. It swept lightly to the end of the shed. The rear view scanners showed the monstrous steel girder float slowly and deliberately through the space the ship had just left.

"The whole thing will be coming down," said Braddick through set teeth. "I didn't build this ship to stand bombing, and I can't smash out through normal time stuff while we're

in a time field! I've got to get out through that blast-hole!"

His hands touched controls here and there. They fitted into his hands as if by long practice. He had more than long practice. He had made every particle of the ship. Gyros hummed somewhere. The ship backed, swung lightly and maneuvered delicately through a slow-motion catastrophe.

It was a nightmare. The vision screen glowed sullen, tawny red. Only the outlines of objects appeared. But even in those outlines it was obvious that Braddick's laboratory was ruins.

There were three centers of motion visible even at this time-rate, which meant three simultaneous explosions. The dwelling was a slowly swirling mass of debris. The tool shop was already flattened to earth. Above the warehouse in which were stores for any conceivable type of experimentation, a slender, deadly thing seemed to hang poised. But it was descending, though with a startling slowness. It was another bomb.

"There's Mr. Hamlin!" said Jane shakily.

They saw the frozen, rust-colored image which was Hamlin. He cringed from the destruction from above. He had signaled to the planes overhead, telling them something upon which Atomic Power should act. The action was destruction —including destruction of himself.

"I'm a fool," said Braddick angrily, "I'm risking too much! But—"

The spaceship settled quickly. He turned to the girl.

"When you hear me yell, turn off the main time field. When I yell again, turn it on again—and fast!"

Shaking, Jane seated herself in the control-chair. She heard Bradick fumbling at the airlock door. There was the rush of air into the vacuum she had made in the lock for testing. He went in.

"Turn it off!"

She could see everything in the vision screens. As she flicked off the main time field, the spaceship reverted to a normal time rate. Colors leaped into view, with a dazzling effect. Instantly the slow motion of retarded action became infinitely swift and deadly destruction.

The spaceship rocked with the savage crash of explosives. But Jane watched the middle right screen. She saw Braddick leap into view out of the airlock, seize the petrified, horror-struck Hamlin and leap back into the airlock with him.

"Turn it on!"

Instantly the screens were tawny red again. The girl thrust in the lift control and the forward drive, and the spaceship was again silent save for the hum of gyros. It rose swiftly and sped forward. The airlock closed. Braddick came forward, breathing heavily.

"Good girl!" he said. "I don't know why I wanted to save him. I risked too much to do it. I was a fool!"

There was an astounded babbling behind them. Thorn had waked with the cataclysmic roar of the explosions. It had taken him seconds to become thoroughly awake, and then he saw Hamlin—who had not been in the ship at all—in a state of gibbering panic before him.

"Thorn," said Braddick drily, "has just realized that things are happening. Here, now, sit down in this chair. The control-room swings, you remember. I'm going to put on the power."

The feeling of weight, even in the time field, had been normal. Now the sensation of heaviness increased slightly. The images in the vision screens revolved, and there was a slight shock as the drive went on to full power.

Almost instantly thereafter there were tiny, unwinking specks of light in most of the vision screens and the background behind them went dark. But there was a tawny-red mass astern and an angry-seeming dark-red disk with projecting streamers off to the right.

The tawny mass behind was Earth. The specks were stars, the disk the sun. The spaceship was out in open space, already beyond the atmosphere.

V
"It Can't Be!"

THERE was the curious sensation of a mass time field collapsing, and the vision screens adjusted to give the effect of normal brightness. The normal sky appeared again, all around the ship. The stars were infinitely tiny specks, unwinking and of surprisingly diverse colorings.

The spaceship headed toward Polaris, the north star, at right angles to the plane on which all the planets lie. The northern polar cap of Earth lay below, with the northern hemisphere curiously foreshortened at the edges of the globe. It looked singularly unfamiliar.

"I'm going to get oriented and a good fix on our course," said Bradick, "before we go back into the time field. We can't make speed in a normal time rate. We couldn't make contact with what we've got to hit, either—not to mention that we couldn't live half a second if we did."

There was a feeling of unusual weight. The drive of the spaceship adjusted somewhat to its mass. There was an acceleration of about two gravities, which in normal time rate meant discomfort—bearable, but unpleasant.

As Braddick worked delicately at the control-board, there were frantic shouts from below. Hamlin was half-crazed by shock and terror. After three days of restless impatience in the laboratory, unable to communicate with his superiors, he'd seen helicopters hovering overhead.

Their appearance meant that Atomic Power officials wanted to know what was going on. He'd signaled the single im-

portant bit of news he knew. He had felt triumphant, because it was very important indeed.

The helicopters hovered just long enough for his news to be relayed to high officials of the corporation and for orders to come back. Then bombs fell. It was the one thing Hamlin had not anticipated, but it was the most natural thing in the world.

There had been an extraordinary series of accidents to everybody who had tried to make unauthorized experiments with mass time fields. It appeared that when a man set to work to duplicate Atomic Power fields, they invariably caused terrific explosions which killed the experimenter and destroyed his apparatus.

The reason was now clear. And there had been a curious, unexplained explosion which had apparently wiped out all the direct heirs of the founder of the Atomic Power company. As a result of the disaster, ownership of the majority stock was now tied up in court proceedings which would go on for years—and the officials of the company had a free hand.

But to Hamlin, cringing and screaming as tiny black dots dropped toward him, there came despairing knowledge that the secret police of Atomic Power had become a sort of Gestapo or Okhrana, destroying all those who opposed the company or who knew too much. And Hamlin knew too much.

But he couldn't adjust to his new understanding. He had been with the company all his life. He couldn't believe that it had meant to kill him.

And despite the fact that he was alive only because Braddick had risked his own life—and very much more—to drag him into the spaceship and away, Hamlin was hysterically resolute to prove to the company that his loyalty was unquestionable and his services of infinite value.

He began to climb to the control-room, and the ship went

back into normal time. The sudden extra weight tore loose his grip on the hand holds along the wall of what had been a corridor. He fell back on Thorn and bore him to the bottom of the central well. Both men yelled as they tumbled.

Thorn shook himself and climbed purposefully again. He had no great native intelligence, but Hamlin's half-gibbered explanations had filled him with apprehension. He meant to find out what was actually toward.

But neither had the faintest idea that the spaceship actually worked, or had left the earth's atmosphere behind.

When Hamlin climbed after the technician, he had only one real thought in his mind, which was that somehow he must prove himself afresh to the company officials who would have let him be murdered with Braddick and Jane.

They reached the control-room. Its fittings had swung about to the seeming of the vertical. Braddick was making finicky adjustments of the controls so that Polaris would center on two cross hairs on the forward vision screen. As the two others climbed into the control-room Braddick was talking.

"Of course we haven't good calibration, Jane. We couldn't have. But we've nothing very close to aim at anyhow. We only know the approximate course."

Thorn was struck speechless by the stars and sun and earth—all visible together—that he saw in the vision screens. Hamlin took one look, and the breath—and all immediately desperate resolution—went out of him. He moaned softly. But Thorn presently managed to take his eyes off the incredible sight outside.

"Look here, Mr. Braddick," he said uneasily—his air of condescension gone for once—"Mr. Hamlin has been telling me—"

His eyes strayed back to the screens and he was unable to speak, again. The sun was off to the right. The earth was

below—so far below that it had long since ceased to have the look of a flat plain. It was a ball. The spaceship was at least four thousand miles up and still rising fast, now with an acceleration of two gravities.

"Oh, yes," said Braddick. "The helicopters bombed the lab. They blew it to bits. But we got out—on time field—and we're headed for where we've got to go."

"But—" Thorn made a little choking sound and jerked his eyes away from the screens, "This—this can't be right, Mr. Braddick! Something's happened to the scanners!"

"Of course," said Braddick drily. "They've been moved out into space. So have we. We're moving away from Earth."

"But we can't be!" protested Thorn. He grew almost hysterical in his effort to hold to sanity by clinging to the teachings of the technical department of Atomic Power. "I assure you, as a technician who understands the mass time field thoroughly, that it cannot possibly serve as a space drive!"

"All right," said Braddick. "Hold the thought. Meanwhile, I'm using it for one. I'm going back on time field now."

He threw over the master time field switch and the feeling of excess weight vanished. It is one of the oddities of the field that acceleration within it is entirely different from gravitation. A person in a time field, on earth, feels that he weighs exactly as much as before.

The amount of substance in his body is exactly the same as before—despite his loss of mass—and therefore it is attracted as before. But its inertia—its resistance to gravitational acceleration—is decreased so that its response to gravitational pull is faster.

Since in normal time a man will fall at a certain speed, in accelerated time, he will fall the time rate times faster, and his feeling is the same as that of normal impact of his feet upon the ground.

Under mechanical drive in free space, the resistance to acceleration is due only to any remaining mass. The mathe-

matics may be found in any book on space navigation, but in a time field of thirty-six hundred it will be found that an acceleration in feet per second equal to sixty gravities is needed to maintain the sensation of normal weight.

Earth, turned a tawny red again by the operation of the time field, drifted visibly behind. Braddick punched a locking key and turned to the others.

"I'm going to shut off power presently and float free," he said composedly. "Better come down to the kitchen and have your lunch. Will you come, Jane?"

Jane stood there a moment, waiting to see if the discussion were finished. As she turned to go, she knew there was plenty more to be said, judging by the unsatisfied expression on Thorn's face. These technical arguments never did seem to come to any conclusive end.

Thorn spoke in a curiously nerve-racked fashion:

"But it's impossible, Mr. Braddick! The mass time field is not a space drive! In all the years it has been in use, with all our research, nothing of the sort has been found! It can't be!"

"Only it is. Still," said Braddick comfortingly, "by the terms of my deal with Atomic Power, its use as a space drive belongs to them even if they did try to blow me up. You can content yourself with that!"

He followed Jane down the ladder-like handholes on the side of the main corridor. She stepped off into a doorway and nodded at the robot kitchen. It had swung sidewise and now hung in a serviceable position, though what had been a side-wall as the ship was built was now the floor. She smiled faintly at Braddick.

"You thought of everything!" she said.

"Not quite." He pressed the buttons which would cause two ready-prepared meals to be heated and served. "I had the fills for the kitchen on hand, of course. What I didn't think of was that—well—anybody but Thorn would be able

to fix that bow time field for me. I begin to think he would have considered it sacrilege."

She took the tray the service robot handed her.

"It's a beautiful solution!" she said warmly. "How did you ever think of it?"

He looked at her for an instant before he took his own tray. Then he shrugged.

"Oh, I imagined how nice it would be to have something of the sort. The trouble with rockets is that they throw away the stuff that drives them. This way, we pump a liquid into the pipe. It goes into the first time field, which makes it much heavier. We push it astern, and get a forward reaction. Then when it gets to the stern mass-field, all the extra weight is taken out again, and the sternward reaction takes place, of course, but with much less mass. Consequently it isn't equal and we go ahead. It uses up a lot of power, but—"

"No," said the girl. She looked at her plate. "I—cross-connected the two units. Putting mass into the water to push astern consumes power. But taking it out again yields it. I put the two circuits together. The second field furnishes the power to run the first one."

VI

Contact!

DIRK BRADDICK put down his knife and fork.

"This hurts," he said wrily. "Look! You know all about those fields, and nobody but technicians for the company are supposed to know, and they're all men. You say you don't know who you are—but it doesn't bother you. And Hamlin was enormously excited when he saw you.

"I think it at least possible that his signaling was to tell the helicopters who you were, and the bombs were meant

to kill you instead of me. Certainly he couldn't have told them anything about me that would have made them want to smash my laboratory before they'd looked it over! Would you mind telling me—"

"I ought to know about them," said Jane quietly. "I'm Jane Brent. Didn't you know? You guessed my first name right."

"It fitted you," said Braddick. Then he stared, realizing. "You're supposed to be dead! You and your cousins were killed in an explosion, and the ownership of Atomic Power is tied up in the courts."

"We found out how the company was being run," she said as quietly as before. "We decided to clean house. But a good many of the higher officials didn't want to lose their jobs and power. So—"

She spread out her hands.

"I wasn't killed," she added bitterly. "I woke up in what was supposed to be a small private insane asylum. Actually, it was a prison for people Atomic Power found dangerous and didn't want or dare to kill.

"By the death of my cousins I actually have come to own control of the company. I imagine it was intended to let the court action drag out as long as possible and then produce me—by which time I'd have become—amenable.

"But something happened, and one of the prisoners escaped. They were afraid the place would be investigated. I was packed into a plane to be taken to some other place, and I managed to jump over with a parachute. You know the rest."

Braddick considered, and slowly resumed his meal.

"Mmm—Yes," he said, reflectively. "They'd be hunting for you. But you were supposed to be dead, so if you told me who you were I'd have thought you crazy and at least insisted on getting a doctor.

"You could have been kidnaped. Anyhow—I see why

you were willing to stay in my lab. Even to work for me. It was the safest place—you thought!"

"Wasn't it?" she demanded challengingly. "The instant you talked to me I knew"—she stopped, went on—"that I'd be all right with you."

He made a gesture around him.

"I've brought you out between the stars," he said drily. "But if I'm right nobody's particularly safe unless we can do something about those cosmoquakes. I guess it's all right. I shan't turn around and take you home anyhow."

She watched his face a moment, and then spoke pleadingly.

"It won't make any difference, will it? I mean—that I'm rich?"

He grinned at her.

"My dear! You're not rich if your employees' secret police get hold of you. They're a tough gang! And besides, just how much will Atomic Power be worth if the whole solar system is smashed?"

She suddenly matched his grin.

"I went through the first cosmoquake like everybody else," she told him, "but where I was kept, there wasn't much information on scientific matters. I've come along blind. I know what you've done, but not why. What are we aiming for? What are we to make contact with? And what causes cosmoquakes, anyhow? You never bothered to explain!"

He blinked at her and then spoke gruffly.

"Thanks! I'll tell you. After the first cosmoquake, I got what data was to be had and figured that an object with a mass of twelve sols and a speed near that of light had passed about six hundred million miles from Earth.

"I figured its course. I thought there might be another one, but the first one could have been alone. There was a second one, and I was pretty sure there'd be a third. There is a third.

"The gravitometer in the lab said so. And the first was two weeks ahead of the second, but the third is only four days behind that. It looks like scouts and an advance guard. Considering their speed, they're close together.

"They're practically tripping over each other. Yet a small party wouldn't send one of its number even as far ahead as the first. They'd stay as close as they could, to help each other."

Jane stared at him.

"But—you talk as if they were—people!"

Braddick shrugged.

"I don't know what they are. But think! The Things have almost the speed of light. They come from the direction of Polaris—forty light years away. Empty space isn't altogether empty. There's at least one atom per cubic centimeter even between the stars.

"That means resistance to speeds close to light. Nothing can attain such speeds naturally. Whatever the Things are, they had to be driven to get going that fast, and the drive has to stay on to keep them going that fast.

"Their speed gives them the mass that raises hob, but they're spaceships. They're artificial. They're going somewhere, and our solar system is in the way. And we're going out to try to persuade them to change course."

"If there are—more of them," said Jane, slowly, "there'll be more cosmoquakes, and worse ones."

"So much worse," Braddick said measuredly, "that if we don't persuade them to change course, there's hardly any use in our going back to Earth. If there are dozens or hundreds of them to come, cosmoquakes will crack open geologic faults and let loose chains of giant volcanoes.

"The Things that pass close will raise tidal waves five miles high. Maybe the sun itself will be stirred into explosion as a nova. It isn't impossible! In any case, the human race will be exterminated. So—well—if we don't persuade

them to change course we might as well open the airlock door and step out."

Jane sat still an instant, imagining the tiny spaceship hanging in mid-space, alone surviving a solar system gone mad, on whch no planet would provide a foothold, and the nearest other star light years away.

Then there was a noise in the well which ran along the vertical axis of the ship. Hamlin and Thorn appeared. Somehow, Hamlin had pulled himself together. But he looked like a man on the verge of the horrors. Thorn looked grave, with now a trace of reassured complacency.

"Look here, Braddick," said Hamlin, his voice pitched high. "This has gone far enough!"

"Yes?" said Braddick.

"You made an agreement with Atomic Power," said Hamlin. He gave an impression of breathlessness. "It was verbal, but it was recorded as it was made. You're an employee of the company for as long as Thorn is with you. I have written authority to take over any experiment you may be conducting while you are an employee of the company.

"I take over now! I insist that you stop this experiment at once! If we're really in space, I order you to return to Earth at once!" He swallowed. "You're violating a contract. You've kidnapped Thorn and me. You—"

"Oh, blast!" said Braddick savagely. He pulled Hamlin's own flash pistol from his pocket. "Get in that room across the corridor! You're a fool, and I'll take no chances! *Move!* Both of you!"

"It's piracy" protested Hamlin, his teeth chattering.

Thorn spoke condescendingly.

"Mr. Braddick, you do not realize that Atomic Power is a very important corporation! To be on the wrong side of the law, and opposed to Atomic Power—"

"*Move!*" repeated Braddick furiously.

They moved. Braddick jammed the door so it would not

open from within. He nodded to Jane and climbed back to the control-room. She followed.

"I could have said you're Atomic Power by rights," he grumbled, "but it's no use. I'm going to hook up a relay. I don't want to get too far out. I wish the ship had been finished."

The ship was actually incomplete, but the parts for its completion had been loaded in while the hull was building. Now he brought out an odd little inertia switch and adjusted it with minute care.

Then he cross-connected it to half a dozen of the switches on the control-board. When it was finished, he set the drive control to a new point and threw off the main time field. The cosmos went back to a scene of twinkling lights and a now very far distant sun. But this time the sensation of weight was normal.

He leaned back in the control chair and seemed to relax. With the vision screens all about, the control-room looked like a cage, with windows showing the sky all around. The sun was now merely a bright star, and the earth was probably visible, but not easy to distinguish from vastly more distant stars which shone of their own light.

At sixty gravities, one attains a speed of twenty-three miles per second the first minute, and the speed increases by twenty-three miles per second more for every added minute. The spaceship was a long way from home.

"This switch won't be anywhere near as easy to trip as the gravitometer back in the lab," said Braddick. "But twelve sols is a lot of mass. If we trip it, our time field goes on to maximum, reducing our mass to as near zero as possible.

"Everything else goes off. I think—and I hope—we'll contact the Thing that's going on to make another cosmoquake. Meanwhile we can only wait. Maybe we'd better pray."

Jane spoke quietly.

"Do you really expect to do anything to an object weighing twelve times as much as the sun?"

"It only weighs that because of its speed," said Braddick. He added with a shrug, "Things work out queerly. The odds against the time field being known when the first of those things came by—against my having the hunch that made me do my calculations—against my having a machine that could make a spaceship.

"Against your coming and being able to do what I wanted with the fields—against our escaping those bombs Atomic Power dropped on us. Add those up, and they're pretty big odds. It's practically a miracle that we're here. And it would be pretty stupid of fate or chance or whatever to waste a good miracle like this by having us helpless at the end of it."

Jane looked at him, hard. Then she took a quick breath.

"I like that," she said softly. "I like this whole business. I like—everything!" She smiled at him gravely. "I say no more, or I might be unmaidenly."

The little spaceship went on through sheer emptiness with an attained speed of four-thousand-odd miles per second and no feeling of motion at all. It was accelerating slowly, now, at one gravity, for comfort.

It was alone as no man-made object was ever alone before. It was far beyond escape velocity. If the drive failed, it would drift on forever through space. It was a thing orphaned, abandoned by sun and earth and planets. It went on and on and on. . . .

The the switch clicked over. There was an instant's sensation of bitter cold. Then the stars were gone, and there was a dark-gray background to all of space. The ship's drive was off, and there was no feeling of weight at all. The sensation was of a giddy, terrible, endless fall.

"This," said Braddick, "is definitely it."

Jane was pale. "You mean—"

"We ran into a gravitational field," said Braddick. "There's only one thing with a gravitational field out here, and that's the Thing we came out to meet."

He watched the screens, holding himself in the control seat. The time field was on to its limit. Absolutely all the mass which could be taken out of any object had been removed. The time rate, correspondingly, had gone up. The spaceship might have weighed eighty tons or so on earth.

In this time rate, its mass would have been measurable only in milligrams—and there are three hundred-odd milligrams in an aspirin tablet. In this field, too, time was telescoped to an incredible degree. Not only was visible light too low in frequency to affect the scanners, but X-rays and even cosmics were too far in the red to register.

Gravity itself had the effect of light, and the tenuous gravitational fields which interlace all space made a faint grayish glow. The stars were lost against this background. The sun, to be sure, was a visible speck of lighter gray.

But far away, yet growing nearer with a perceptible speed even at this time rate, there was another and vastly brighter object. Beyond it were others. Small pin-points of brightness, remote, in ordered and patently artificial arrangement.

They looked like a new constellation, precisely geometric in design. But they were, of course, the space fleet of Things, moving toward some unguessable destination, with Earth and Sol and the solar system merely a course marker, like an ant heap in the desert between the stars.

The little spaceship was practically without inertia, practically without resistance to gravitational pull. It fell headlong toward the Thing from beyond Polaris, the fellow to the Things which had shaken the earth and roused the sun to fury. It glowed more and more brightly as the spaceship approached. The scanners adjusted to cut down its glare.

The little spaceship swung past and fell into an orbit about it. The Thing was perhaps a thousand feet long, no

more. It glowed with the fierce energy of its mass. There were rows of openings along its hull. They might have been ports, or they might have been weapons. And it had the mass of twelve suns.

VII
Another Miracle

For five hours, as time passed in the master field, the little spaceship from earth swung about the giant, glowing Thing. On earth, in the same interval, only the infinitesimal fraction of a second passed.

Those in the spaceship lived at such a rate that had they stayed in their orbit until they died of old age, a child's punctured bubble on earth would not have vanished. But they spent five seeming hours in telescoped time, and despite the lack of weight they were able to work and to know futility.

The two in the control-room looked at each other, at last, with defeat in their eyes. They had tied themselves in their seats. In its established orbit, everything in the spaceship seemed weightless.

Despite the Thing's mass, their revolution about it neutralized all attraction. But their speed in that orbit was actually so enormous that the Thing itself seemed to revolve slowly even in their time rate.

"The situation seems to call for another miracle, Jane," said Braddick, trying to smile. "We can't attract attention, even unfavorably. And the Thing itself is invulnerable. At a speed so close to that of light, its every molecule has a mass of tons.

"No earthly explosive could dent it. If it rammed a planet the size of Earth, it wouldn't be stopped. It would go right

on through. But the planet would explode after it had passed."

Jane watched his face, her hands folded together demurely.

"There are creatures of some sort inside it," said Braddick. "They may be fiends, or they may be quite decent. We're like ants to them, but maybe they wouldn't deliberately kill us. Yet they'll never know we were here, because—now that I realized—they're in a time field too.

"Einstein figured it out more than seventy years ago. When an object approaches the speed of light and its mass increases, its time rate slows in proportion. With every molecule weighing tons, the creatures who built this thing—whatever they are—must move with infinite slowness and feel quite normal regardless. It's a penalty they pay for their invulnerability. But we'll never be able to make them know we're here."

Jane's eyes remained fixed on his face. Braddick looked suddenly old and worn. The tiny spaceship now circled the Thing from outer space as a moth circles a flame. It could do nothing—literally nothing.

Its weight was infinitesimal, but the power of its drive was proportional to its mass. It simply could not pull away from a gravitational field equal to twelve suns. And it looked now as if the tiny ship would simply remain as a satellite of the Thing until—

"One more item," said Braddick. "Revolving around the Thing as we are, we have a terrific velocity ourselves. We'd go into the Thing's own time rate if we cut off our main field. But I pointed out before, that there's matter even in supposedly empty space. An atom to the cubic centimeter.

"At our speed, we're batting into trillions of them every second. Even the Things need to keep their drives on to keep from being slowed by that normally immeasurable re-

sistance. But our mass is so slight that we're slowing down fast.

"The more slowly we move, the closer we come to the Thing. We're closer now than we were. Before many hours we're going to touch it—and die."

Jane glanced at the vision screens and back at him.

"But the—creatures must know about the slowing of time at their velocity," she said hesitantly.

"I'd think so," said Braddick.

"And this is one of the scouts," said Jane. "We saw"—she pointed to the geometric pattern of glowing points on the vision screen—"we can see the rest of the fleet. This one is on ahead, like the ones that made cosmoquakes."

Braddick nodded.

"Yes."

"Why would they have scouts," asked Jane, "if their scouts live so slowly that they couldn't signal a danger until it was long past? The odds against any solar system having a weapon that will destroy them must be enormous, but they thought it possible or they wouldn't have sent scouts on ahead."

Braddick's forehead creased.

"Yes, I see." Then his expression of defeat lightened. "Of course! They'd have to have automatic signals! Signals that would be sent back from a scout that was attacked, whether the creatures in it realized the attack or not! Of course!"

He straightened, within the cord that held him in his seat.

"The kick-back, though," he said drily, "is that if they have a device that will signal the fleet that this ship is attacked, it will almost certainly turn on some defenses for this ship.

"And they ought to be deadly. They should blow us out of space in a hurry. If we can start them, we'll be spending

our lives simply to send a signal that may not have any effect at all."

Jane smiled at him.

"But aren't we dead already, Dirk?"

He nodded.

"We are. All right! We try to attack the Thing. But we've no projectiles that would stir the top layer of molecules. Hm. . . . What would be long radio waves to us would be visible light to them. Now, if we could start some sort of trigger wave, to start radioactivity. . . .

"I'm stabbing in the dark," he added, "but there might be something there."

He began to scribble on a pad beside him. He seemed to forget the girl at his elbow. But Jane watched him with a curiously maternal expression. She regarded him like someone watching a little boy of whom she is vastly proud, but whom she knows needs someone to look after him.

Far off in space, the mighty armada of the Things bored on. There were thousands of them. It was, perhaps, the mass migration of an entire race, leaving the planets of a burned-out sun for younger worlds discovered by its explorers in the course of a search-requiring millenia.

In the Things would be stored all the equipment for defense and attack that hundreds of thousands of years of civilization had developed. There would be mighty machines and equipment for the reconstruction of a world. The space armada may have been a gallant defiance of fate by an ancient people whose sun had burned low and who had to start anew or die.

But in its path lay Earth. And on Earth was a young civilization, Atomic Power had been known for less than half a century. Broadcast power was not yet in universal use. Clumsy, laboring rockets had barely circled its moon. Only

twice had explorers returned from a satellite hardly a quarter million miles away.

Its science was childish by comparison with that which had built the Things. And Earth was doomed. The human race was destined for annihilation, when the navy of Things merely drove past.

The second cosmoquake had killed millions. But also it had shaken terrestrial scientists out of their complacency. The second cosmoquake rescued Dirk Braddick's explanation from the daily paper feature pages and caused it to be given really serious consideration.

Physics laboratories—those that survived—hastily prepared devices to test its accuracy. Gravitometers even more delicate than Braddick's had been made, and they verified his explanation to the full.

A full hour before the bombing of his laboratory, other scientists knew of the third nearing Thing. More, they had detected the more distant main fleet. But then they could not reach Dirk Braddick. For three days his laboratory had been isolated.

But on the fourth day Air-Navy helicopters descended and found it in still-smoking ruins. But some of them followed and shot down private fliers who tried to flee—and learned that Atomic Power had bombed and killed—apparently—the man who alone had understood the cosmoquakes from the beginning and was surely the only man who might have devised a defense.

In the spaceship Braddick looked up in renewed, dull defeat.

"No use," he said heavily. "I figured out a frequency that would do the work. A radio wave, a disintegration-frequency that would start radioactivity at work like a lightning fast cancer.

"It would eat up that Thing in seconds. It could only be

generated in a ship in our time field, and only work on matter in the time rate yonder. But there's one flaw in it. It's useless."

"You'll make it work!" said Jane confidently.

"No," said Braddick. "I could make a generator. But it has to shift electrons in the Thing to start its destruction. I began to figure on the power I'd need. And it worked out beautifully until I remembered that at the speed that thing has attained, its electrons weigh pounds.

"Pounds my dear Jane! And it would take more energy than Atomic Power makes in all its generating stations to pack power enough into a beam to move those outsize electrons. And we simply haven't got it."

There was silence. Then Jane put out her hand and touched his shoulder comfortingly.

"Well, then," she said in a sort of blind confidence, "you'll think of something else!"

He automatically covered her hand with his own. But he spoke querulously.

"Darn it, Jane, I don't like it! I know there's some way to beat the thing! I know it—"

VIII

No More Cosmoquakes

ALL OF the lights in the control-room went out. The vision screens went dead. The control-room became inky black. The air purifier had been running. Its noise was a faint murmur. It cut off as the lights did. The stillness was enough to crack one's eardrums. The blackness was absolute.

Jane spoke in a shaking voice.

"Dirk!—what—"

"I don't know," said Braddick evenly. "Maybe the Thing has defenses that turn on after all. Or perhaps—" He said

vexedly, "It might be merely a line failure and I haven't a flashlight on the ship! I simply didn't think to bring one!"

Of the two possibilities, the one seemed as likely as the other.

"I'll check the wiring in the dark," said Braddick. He got up fumblingly because of his lack of weight. "Better take my place at the control-board. Not that it'll do any good if—"

He touched her in the inky blackness. And they were weightless, in a tiny bomb of blackness in the vast vacuum of intersellar space. Knowledge of the monstrous vacancy outside made for a feeling of aching loneliness.

The cryptic, monstrous Thing which held them captive was frightening in its impassive deadliness. And the nagging certainty of death ahead caused a sharp urgency in all their emotions.

They touched in the blackness. And Braddick as if moved by an irresistible force, reached out and drew her to him. Her hands reached about his neck.

Soft lips pressed his.

An instant later, he spoke unsteadily.

"The deuce! I didn't mean to do that! Not yet! But I'm glad I did! Now, darn it, I'm going to work out something."

Jane spoke softly, in the absolute obscurity.

"Even if you don't, it doesn't matter so much now! But I'd have hated to die without your kissing me."

"I'll be back in a minute," said Braddick. "I'll check the switches first and then try to trace the circuits." He made a sudden, inarticulate sound.

"I've got it!" he said fiercely. "By all that's holy, I know what to do!"

Then there was a scrambling noise. He was pulling himself down the ladder in what had been the corridor.

He went down, floating without weight and holding to the ladder as a guide. He tried to remember to count the

rungs, even while his mind raced in estimate of the possibilities in his new idea.

But they would be possbilities only if this was a failure in the spaceship, not a defensive field which prevented all power from functioning so near the Thing.

He grimaced to himself in the blackness. And then, suddenly, clutching fingers grabbed him, and two bodies assailed him. He fought savagely, weightless and almost helpless because of lack of weight. He struck out hard, and hit soft flesh, and the violence of his own blow threw him backward. His head hit something. . . .

He came back to consciousness floating eerily in midair. The lights were on again. Hamlin floated close beside him, holding lightly to a ladder rung with one hand, gripping his recovered flash pistol in the other. He looked righteously triumphant.

"You try to start something, Mr. Braddick," he said severely, "and I'm going to shoot! Thorn will testify in court for me, and he's going to fix the machinery so it will take us back. I've got a legal right to defend myself. Atomic Power—"

Thorn's head and shoulders came out of the drive room opening. He looked confused, like someone trying to feel complacent and worried at the same time. He decided upon worry.

"Mr. Hamlin," he said plaintively, "He's changed the leads of the power units! There's two new leads I don't understand! I don't know what'll happen if I do anything! It's the drive I'm talking about, and he's got 'em fixed some new way, so I don't know what'll happen if I fix them like they ought to be!"

Hamlin looked uneasily at Braddick, and back at Thorn. Then he spoke irritably.

"Go on and figure it out! Figure what he did and what it does! If you want a bigger job with the company—"

Thorn shook his head stubbornly.

"I know how those units ought to be connected. They aren't conected that way. They work some way I don't understand. I've been trained to do things the right way, not understand how wrong ways work. I'm not going to touch it, Mr. Hamlin. It's against company rules."

Hamlin protested furiously, but he was uneasy himself. Braddick remained silent. Floating as he was, he saw Jane's face peering down, from the control-room. She made a quick gesture. He gave no sign, except that his eyes followed her as he drifted.

"Come on down here, Thorn," said Hamlin at last, angrily. "We'll tie Braddick up. Then we'll tie that girl up. Then we'll talk it over."

Thorn obediently climbed out into the well which had been a corridor. He came clumsily down the shaft. Braddick floated aimlessly in midair. Now his feet were toward the bow of the ship, and now his head. He knew that Jane was watching.

There was a sudden, terrific jerk. The three of them, floating free, fell toward the stern of the ship. But Braddick fell feet first. The others hit, Thorn head first, Hamlin anyhow. Thorn was knocked cold, and Hamlin dissolved into quivering panic which made him helpless. Braddick staggered as he landed and then sprang upon Hamlin, snatched the flash-pistol and struck savagely with its barrel.

"All right, Jane!" he said shortly. "Turn off the drive, now."

He bundled the two limp forms into another compartment and jammed the door as before. Then he went up.

"They worked their door loose and cut off the power," he said dryly. "Luckily, not the time field. I'm glad they did. You cut in the drive, and it all leads to—this."

He kissed her soundly.

"Now listen!" he commanded. "I told you I'd thought of a trick we can try. You're not going to like it, but you've got to help. Here's the idea—"

He told her. She went very white, but she nodded soberly. Ten minutes later—ship time—he was clad in a pressure suit designed for use in planes at high altitudes. It was made of a plastic fabric, with a helmet and a tank of oxygen. It was not designed for use in space, but the pressure difference would hardly matter.

He went into the airlock with a huge coil of fine wire, pushing it before him in midair. He closed the inner door. He did not wait to pump the lock empty. He opened the outer door after a first heave at it had cracked it enough to let most of the air in the lock escape to space.

Then he looked out into the strange, improbable gray emptiness which was the cosmos at maximum time rate. The glowing Thing seemed only a little below him. Actually, it was probably no more than two hundred feet away—it had been much farther at the beginning of their circling. He fed the thin bare wire steadily out into space.

It went beyond the time field, but it did not lose its flexibility. Its mass had been removed. It would remain in its acquired time rate forever unless another time field restored it to normal for its surroundings. It flowed out and out and out, astern. It had the orbital speed of the spaceship itself, and now Jane put on an infinitesimal trace of drive.

The wire trailed behind as a thin and shining thread. As the spaceship circled the Thing, the wire formed a ring. Presently—so closely had Jane guided the ship—the circle was complete.

The trailing end came back into view beyond the airlock door. Braddick reached out with a hooked length of wire and hauled it in again. He closed the airlock door and let air into the narrow space. He reentered the ship and stripped off the pressure suit.

The little spaceship had ringed the monster Thing with a thin thread of wire forming a perfect circle in empty space. It revolved about the giant object like one of the rings of Saturn. Braddick took the controls.

"Now it's up to you, Jane."

As she left the seat, Jane's face worked a little. She kissed him and fled to the drive room. She came out with two flexible wires. She connected them to the two ends of the bare wire which now circled the Thing. She came back.

"I—put it on the switch you told me to," she said shakily. "I want to be with you if—anything happens."

"Right," said Braddick.

He put his arm about her firmly. They watched the vision screens. Braddick waited a breathtaking length of time. Then, his hand quite steady, he threw the switch. There was an odd, harsh sensation as if someone had plucked the very heartstrings of the universe. As if something under tension had given way, and there was ease after it. And then—

The small spaceship floated alone in space with a suddenly collapsed ring of bare copper wire behind it. The Thing had vanished. It simply wasn't there any more.

They went into normal time to orient themselves. Braddick had chosen the moment for closing the switch when the spaceship's position in its orbit was just right. The little plastic vessel had been in the part of its orbit when it moved away from the sun.

When the Thing vanished, the little ship was thrown backward. Much of its sunward velocity, then, was canceled. But Sol was a very bright star, and it was necessary to decellerate violently to keep from being carried on past by the speed the Thing had imparted with its monstrous mass.

For hours on end in time field time, the drive worked valorously to neutralize the little ship's imposed speed. Braddick took time out to descend and seal the door of Thorn

and Hamlin's cubbyhole prison. Then he cut a hole in the door for ventilation.

Hamlin grew frantic to the point of incoherence, threatening all the penalties of the law and of Atomic Power's secret police. Thorn became haughty, and at last tolerantly condescending, shaking his head deprecatingly at Braddick for the predicament he was in, having defied Atomic Power.

But when Braddick landed in Washington, it did not quite work out that way. To begin with, he had an obvious spaceship. What he had to say was partly proved by that fact alone. And he was mildly astonished to learn that his explanation of the two cosmoquakes was now accepted scientific doctrine, and that the danger, as well as the existence of the Things had been proven.

In fact, a third cosmoquake had begun its first phase and was being watched with sickened apprehension by every physicist on earth, when it abruptly ceased. Instruments had showed that a body with a mass of twelve sols was moving toward the solar system.

Longer and more accurate observation had proved that it would pass within twenty million miles of Earth. The human race would be exterminated. But then, when the first physical symptoms were evident, the cause vanished.

Braddick could explain the disappearance of the Thing. He did.

"It was a spaceship from somewhere beyond Polaris," he said briefly. "It had to keep its drive on because at such speeds there's resistance even in space. So I managed to get a wire around it for the field-coil of a mass time field.

"When I turned on the field, apparently I didn't make all of it massless, but I evidently neutralized a good deal of mass and speeded up the time rate in its engine room—and consequently its drive, which began to operate at probably millions of times its normal rate.

"The Thing had lost part of its weight, but its drive went up astronomically. So my guess is that it went up beyond the speed of light and has turned up in some other set of dimensions."

Somebody spoke instinctively.

"But that's impossible!"

"So are cosmoquakes," said Braddick, "and spaceships, and —oh, fudge!"

"I mean," objected his listener, "energy itself has mass. There were thousands—millions of tons of energy stored in the spaceship in the form of the mass it had added by its speed. What did you do with all that energy?"

"My guess," said Braddick, "is that—" Then he shrugged. "I'll write a paper about it some time. Right now I've got to pass on the plans for more ships like the one I've got. Maybe some more can be made before the main fleet gets here.

"But anyhow I'm going to pass out what information I have, load up this ship again, and start to slash at the main fleet of the Things. And I want to get married."

Jane flushed. But she spoke composedly.

"Yes. And I am Jane Brent, and I want to do something about the officials of Atomic Power, because I think I own control of that company now."

Then there was confusion. But Atomic Power was not in good odor any more, as Hamlin and Thorn found out when they were released. Even its influence could not stand against the authority of government and the decisive insistence of its principal stockholder that something be done at once to stop its private police force and its private prisons and the murders that had been committed in its name.

But it was something over a day later that the really big news came. The delicate, sensitive gravitometric instruments which had already detected the existence of the

space fleet of Things and their approach, now gave good news.

The Thing fleet had split into two, and was widely separated. The breach was widening hour by hour. The Things had used Sol as a course marker. Anticipating no combat, nevertheless scouts and advance guards had been sent on ahead.

The first scouts had gone on through. But one of the advance guards had vanished in the fraction of a second, evidently as the result of an attack by inhabitants of the solar system.

The Things were not seeking conquest. They separated into two fleets, which now would straddle Sol's family, passing billions and trillions of miles out from the sun, where even their incredible combined mass could do no damage and would not further irritate the population of so belligerent a planetary group.

Dirk Braddick was definitely a hero, and Jane was hardly less admired for the way in which she cleaned up the corporation she had inherited. She turned Braddick's two bartered inventions over to him, though, and canceled the agreement which would have made the space drive Atomic Power property.

"It doesn't make any difference," he said impatiently. "People want me to develop it! They want to make a corporation for interplanetary exploration and trade! You handle it, Jane! I've got some research I want to do."

"What sort of research?" asked Jane, interestedly.

"That gravity business," said Braddick restlessly. "The fleet must have been a light week away from Earth, at least. But in two days it had found out its scout had vanished, and changed course, and we knew it! How the devil could that happen? Does gravity travel faster than light?"

"Darling," said Jane, "we're still on our honeymoon. Don't you think you'd better do a little more research on how nice

it is to be married to me, before you get back to that sort of thing?"

Braddick looked at her suspiciously. Then he grinned.

"Oh, all right! We'll go out right now and look at the moon and see what discoveries we make."

Their discoveries were neither new nor unprecedented, but they seemed to be satisfactory.

LETTER FROM THE STARS

By A. E. Van Vogt

Dear Pen Pal:

When I first received your letter from the interstellar correspondence club, my impulse was to ignore it. The mood of one who has spent the last seventy planetary periods—years I suppose you would call them—in an Aurigean prison, does not make for a pleasant exchange of letters. However, life is very boring, and so I finally settled myself to the task of writing you.

Your description of Earth sounds exciting. I should like to live there for a while, and I have a suggestion in this connection, but I won't describe it till I have developed it further.

You will have noticed the material on which this letter is written. It is a highly sensitive metal, very thin, very flexible, and I have inclosed several sheets of it for your use. Tungsten dipped in any strong acid makes an excellent mark on it. It is important to me that you do write on it, as my fingers are too hot—literally—to hold your paper without damaging it.

I'll say no more just now. It is possible you will not care to correspond with a convicted criminal, and therefore I shall leave the next move up to you. Thank you for your letter. Though you did not know its destination, it brought a moment of cheer into my drab life.

Skander, Planet Aurigae II

Dear Pen Pal: Your prompt reply to my letter made me happy. I am sorry your doctor thought it excited you too much, and sorry, also, if I have described my predicament

in such a way as to make you feel badly. I welcome your many questions, and I shall try to answer them all.

You say the international correspondence club has no record of having sent any letters to Aurigae. That, according to them, the temperature on the second planet of the Aurigae sun is more than 500 degrees Fahrenheit. And that life is not known to exist there. Your club is right about the temperature and the letters. We have what your people would call a hot climate, but then we are not a hydrocarbon form of life, and find 500 degrees very pleasant.

I must apologize for deceiving you about the way your first letter was sent to me. I didn't want to frighten you away by telling you too much at once. I could not know that you would want to hear from me.

The truth is that I am a scientist, and, along with the other members of my race, I have known for some centuries that there were other inhabited systems in the galaxy. Since I am allowed to experiment in my spare hours, I amused myself in attempts at communication. I developed several simple systems for breaking in on galactic communication operations, but it was not until I developed a sub-space wave control that I was able to draw your letter (along with several others, which I did not answer) into a cold chamber.

I use the cold chamber as both a sending and receiving center, and since you were kind enough to use the material which I sent you, it was easy for me to locate your second letter among the mass of mail that accumulated at the nearest headquarters of the interstellar correspondence club.

How did I learn your language? After all, it is a simple one, particularly the written language seems easy. I had no difficulty with it. If you are still interested in writing me, I shall be happy to continue the correspondence.

Skander, Aurigae II

Dear Pen Pal: Your enthusiasm is refreshing. You say that I

failed to answer your question about how I expected to visit Earth. I confess I deliberately ignored the question, as my experiment had not yet proceeded far enough. I want you to bear with me a short time longer, and then I will be able to give you the details. You are right in saying that it would be difficult for a being who lives at a temperature of 500 degrees Fahrenheit to mingle freely with the people of Earth. This was never my intention, so please relieve your mind. However, let us drop that subject for the time being.

I appreciate the delicate way in which you approach the subject of my imprisonment. But it is quite unnecessary. I performed forbidden experiments upon my body in a way that was deemed to be dangerous to the public welfare. For instance, among other things, I once lowered my surface temperature to 150 degrees Fahrenheit, and so shortened the radioactive cycle-time of my surroundings. This caused an unexpected break in the normal person-to-person energy flow in the city where I lived, and so charges were laid against me. I have thirty more years to serve. It would be pleasant to leave my body behind and tour the universe—but, as I said, I'll discuss that later.

I wouldn't say that we're a superior race. We have certain qualities which apparently your people do not have. We live longer, not because of any discoveries we've made about ourselves, but because our bodies are built of a more enduring element—I don't know your name for it, but the atomic weight is 52.9. [A radioactive isotope of chromium—Author's Note.] Our scientific discoveries are of the kind that would normally be made by a race with our kind of physical structure. The fact that we can work with temperatures of as high as—I don't know just how to put that—has been very helpful in the development of the sub-space energies which are extremely hot, and require delicate adjustments. In the later stages these adjustments can be made by machinery, but in the development the work must be done by

"hand"—I put that word in quotes, because we have no hands in the same way that you have.

I am enclosing a photographic plate, properly cooled and chemicalized for your climate. I wonder if you would set it up and take a picture of yourself. All you have to do is arrange it properly on the basis of the laws of light—that is, light travels in straight lines, so stand in front of it—and when you are ready *think* "Ready!" The picture will be automatically taken.

Would you do this for me? If you are interested, I will also send you a picture of myself, though I must warn you. My appearance will probably shock you.

Sincerely,
Skander, Aurigae II

Dear Pen Pal: Just a brief note in answer to your question. It is not necessary to put the plate into a camera. You describe this as a dark box. The plate will take the picture when you think, "Ready!" I assure you it will not be flooded with light.

Skander, Planet Aurigae

Dear Pen Pal: You say that while you were waiting for the answer to my last letter you showed the photographic plate to one of the doctors at the hospital—I cannot picture what you mean by doctor or hospital, but let that pass—and he took the problem up with government authorities. Problem? I don't understand. I thought we were having a pleasant correspondence, private and personal.

I shall certainly appreciate your sending that picture of yourself.

Skander, Aurigae II

Dear Pen Pal: I assure you I am not annoyed at your action. It merely puzzled me, and I am sorry the plate has not

yet been given back to you. Knowing what governments are, I can imagine that it will not be returned to you for some time, so I am taking the liberty of inclosing another plate.

I cannot imagine why you should have been warned against continuing this correspondence. What do they expect me to do?—eat you up at long distance. I'm sorry but I don't like hydrogen in my diet.

In any event, I would like your picture as a memento of our friendship, and I will send you mine as soon as I have received yours. You may keep it or throw it away, or give it to your governmental authorities—but at least I will have the knowledge that I've given a fair exchange.

With all best wishes,
Skander, Aurigae II

Dear Pen Pal: Your last letter was so long in coming that I thought you had decided to break off the correspondence. I was sorry to notice that you failed to inclose the photograph, puzzled by your reference to having had a relapse, and cheered by your statement that you would send it along as soon as you felt better—whatever that means. However, the important thing is that you did write, and I respect the philosophy of your club which asks its members not to write of pessimistic matters. We all have our own problems which we regard as overshadowing the problems of others. Here I am in prison, doomed to spend the next thirty years tucked away from the main stream of life. Even the thought is hard on my restless spirit, though I know I have a long life ahead of me after my release.

In spite of your friendly letter, I won't feel that you have completely re-established contact with me until you send me the photograph.

Skander, Aurigae II

Dear Pen Pal: The photograph arrived. As you suggest, your appearance startled me. From your description I thought I had mentally reconstructed your body. It just goes to show that words cannot really describe an object which one has never seen.

You'll notice that I've inclosed a photograph of myself, as I promised I would. Chunky, metallic-looking chap, am I not, very different, I'll wager, than you expected? The various races with whom we have communicated become wary of us when they discover we are highly radioactive, and that literally we are a radioactive form of life, the only such (that we know of) in the universe. It's been very trying to be so isolated and, as you know, I have occasionally mentioned that I had hopes of escaping not only the deadly imprisonment to which I am being subjected but also the body which cannot escape.

Perhaps you'll be interested in hearing how far this idea has developed. The problem involved is one of exchange of personalities with someone else. Actually, it is not really an exchange in the accepted meaning of the word. It is necessary to get an impress of both individuals, of their minds and of their thoughts as well as their bodies. Since this phase is purely mechanical, it is simply a matter of taking complete photographs and of exchanging them. By complete I mean, of course, every vibration must be registered. The next step is to make sure the two photographs are exchanged, that is, that each party has somewhere near him a complete photograph of the other. (It is already too late, Pen Pal. I have in motion the sub-space energy interflow between the two plates, so you might as well read on.) As I have said it is not exactly an exchange of personalities. The original personality in each individual is suppressed, literally pushed back out of the consciousness, and the image personality from the "photographic" plate replaces it.

You will take with you a complete memory of your life

on Earth, and I will take along memory of my life on Aurigae. Simultaneously, the memory of the receiving body will be blurrily at our disposal. A part of us will always be pushing up, striving to regain consciousness, but always lacking the strength to succeed.

As soon as I grow tired of Earth, I will exchange bodies in the same way with a member of some other race. Thirty years hence, I will be ready to reclaim my body, and you can then have whatever body I last happened to occupy.

This should be a very happy arrangement for us both. You with your short life expectancy will have outlived all your contemporaries and will have had an interesting experience. I admit I expect to have the better of the exchange —but now, enough of explanation. By the time you reach this part of the letter it will be me reading it, not you. But if any part of you is still aware, so long for now, Pen Pal. It's been nice having all those letters from you. I shall write you from time to time to let you know how things are going with my tour.

Ever yours,
Skander, Aurigae II

Dear Pen Pal: Thanks a lot for forcing the issue. For a long time I hesitated about letting you play such a trick on yourself. You see, the government scientists analyzed the nature of that first photographic plate you sent me, and so the final decision was really up to me. I decided that anyone as eager as you were to put one over should be allowed to succeed.

Now I know I didn't have to feel sorry for you. Your plan to conquer Earth wouldn't have gotten anywhere, but the fact that you had the idea ends the need for sympathy.

By this time you will have realized for yourself that a man who has been paralyzed since birth, and is subject to heart attacks, cannot expect a long life span. I am happy

to tell you that your once lonely pen pal is enjoying himself, and I am happy to sign myself with a name to which I expect to become accustomed.

Skander, Aurigae II

THE SILLY SEASON

By C. M. Kornbluth

It was a hot summer afternoon in the Omaha bureau of the World Wireless Press Service, and the control bureau in New York kept nagging me for copy. But, since it was a hot summer afternoon, there was no copy. A wrapup of local baseball had cleared about an hour ago, and that was that. Nothing but baseball happens in the summer. During the dog days, politicians are in the Maine woods fishing and boozing, burglars are too tired to burgle and wives think it over and decide not to decapitate their husbands.

I pawed through some press releases. One sloppy stencil-duplicated sheet began: "Did you know that the lemonade way to summer comfort and health has been endorsed by leading physiotherapists from Maine to California? The Federated Lemon-Growers Association revealed today that a survey of 2,500 physiotherapists in 57 cities of more than 25,000 population disclosed that 87 per cent of them drink lemonade at least once a day between June and September, and that another 72 per cent not only drink the cooling and healthful beverage but actually prescribe it—"

Another note tapped out on the news circuit printer from New York: "960M-HW KICKER? ND SNST-NY"

That was New York saying they needed a bright and sparkling little news item immediately—"soonest." I went to the eastbound printer and punched out: "96NY-UPCMNG FU MINS-OM"

The lemonade handout was hopeless; I dug into the stack again. The State University summer course was inviting the governor to attend its summer conference on aims and approaches in adult secondary education. The Agricultural College wanted me to warn farmers that white-skinned hogs

should be kept from the direct rays of the summer sun. The manager of a fifth-rate local pug sent a write-up of his boy and a couple of working press passes to his next bout in the Omaha Arena. The Schwartz and White Bandage Company contributed a glossy eight-by-ten of a blonde in a bathing suit improvised from two S. & W. Redi-Dressings.

Accompanying text: "Pert starlet Miff McCoy is ready for any seaside emergency. That's not only a darling swim suit she has on—it's two standard all-purpose Redi-Dressing bandages made by the Schwartz and White Bandage Company of Omaha. If a broken rib results from too-strenuous beach athletics, Miff's dress can supply the dressing." Yeah. The rest of the stack wasn't even that good. I dumped them all in the circular file, and began to wrack my brains in spite of the heat.

I'd have to fake one, I decided. Unfortunately, there had been no big running silly season story so far this summer—no flying saucers, or monsters in the Florida Everglades, or chloroform bandits terrifying the city. If there had, I could have hopped on and faked a "with." As it was, I'd have to fake a "lead," which is harder and riskier.

The flying saucers? I couldn't revive them; they'd been forgotten for years, except by newsmen. The giant turtle of Lake Huron had been quiet for years, too. If I started a chloroform bandit scare, every old maid in the state would back me up by swearing she heard the bandit trying to break in and smelled chloroform—but the cops wouldn't like it. Strange messages from space received at the State University's radar lab? That might do it. I put a sheet of copy paper in the typewriter and sat, glaring at it and hating the silly season.

There was a slight reprieve—the Western Union tie-line printer by the desk dinged at me and its sickly-yellow bulb lit up. I tapped out. "WW GA PLS," and the machine began to eject yellow, gummed tape which told me this:

"WU CO62-DPR Collect–Ft Hicks Ark Aug 22 105P–Worldwireless Omaha–Town Marshal Pinkney Crawles Died Mysterious Circumstances Fishtripping Ozark Hamlet Rush City Today. Rushers phoned Hicksers 'burned death shining domes appeared yesterweek. Jeeping body Hicksward. Queried Rush Constable P. C. Allenby learning 'seven glassy domes each housesize clearing mile south town. Rushers untouched, unapproached. Crawles warned but touched and died burns.' Note desk–rush fonecall 1.85. shall I upfollow?–Benson–fishtripping Rushers Hicksers yesterweek jeeping Hicksward housesize 1.85 428P CLR. . ."

It was just what the doctor ordered. I typed an acknowledgment for the message and pounded out a story, fast. I punched it and started the tape wiggling through the eastbound transmitter before New York could send any more irked notes. The new circuit printer from New York clucked and began relaying my story immediately:

"WW72 (*Kicker*)

Fort Hicks, Arkansas, Aug 22–(WW)–Mysterious death today struck down a law enforcement officer in a tiny Ozark mountain hamlet. Marshal Pinkney Crawles of Fort Hicks, Arkansas, died of burns while on a fishing trip to the little village of Rush City. Terrified natives of Rush City blamed the tragedy on what they called 'shining domes.' They said the so-called domes appeared in a clearing last week one miles south of town. There are seven of the mysterious objects–each one the size of a house. The inhabitants of Rush City did not approach them. They warned the visiting Marshal Crawles–but he did not heed their warning. Rush City's Constable P. C. Allenby was a witness to the tragedy. Said he: 'There isn't much to tell. Marshal Crawles just walked up to one of the domes and put his hand on it. There was a big flash,, and when I could see again, he was burned

to death.' Constable Allenby is returning the body of Marshal Crawles to Fort Hicks. 602P22OM"

That, I thought, should hold them for a while. I remembered Benson's "note desk" and put through a long distance call to Fort Hicks, person to person. The Omaha operator asked for Fort Hicks information, but there wasn't any. The Fort Hicks operator asked whom she wanted. Omaha finally admitted that we wanted to talk to Mr. Edwin C. Benson. Fort Hicks figured out loud and then decided that Ed was probably at the police station if he hadn't gone home for supper yet. She connected us with the police station, and I got Benson. He had a pleasant voice, not particularly backwoods Arkansas. I gave him some of the old oil about a fine dispatch, and a good, conscientious job, and so on. He took it with plenty of dry reserve, which was odd. Our rural stringers always ate that kind of stuff up. Where, I asked him, was he from?

"Fort Hicks," he told me, "but I've moved around. I did the courthouse beat in Little Rock—" I nearly laughed out loud at that, but the laugh died out as he went on—"rewrite for the A.P. in New Orleans, got to be bureau chief there but I didn't like wire service work. Got an opening on the Chicago Trib desk. That didn't last—they sent me to head up their Washington bureau. There I switched to the New York Times. They made me a war correspondent and I got hurt—back to Fort Hicks. I do some magazine writing now. Did you want a follow-up on the Rush City story?"

"Sure," I told him weakly. "Give it a real ride—use your own judgment. Do you think it's a fake?"

"I saw Pink's body a little while ago at the undertaker's parlor, and I had a talk with Allenby, from Rush City. Pink got burned, all right, and Allenby didn't make his story up. Maybe somebody else did—he's pretty dumb—but as far as I can tell, this is the real thing. I'll keep the copy coming.

Don't forget about that dollar eighty-five phone call, will you?"

I told him I wouldn't, and hung up. Mr. Edwin C. Benson had handed me quite a jolt. I wondered how badly he had been hurt, that he had been forced to abandon a brilliant news career and bury himself in the Ozarks.

Then there came a call from God, the board chairman of World Wireless. He was fishing in Canada, as all good board chairmen do during the silly season, but he had caught a news broadcast which used my Rush City story. He had a mobile phone in his trailer, and it was but the work of a moment to ring Omaha and louse up my carefully-planned vacation schedules and rotation of night shifts. He wanted me to go down to Rush City and cover the story personally. I said yes and began trying to round up the rest of the staff. My night editor was sobered up by his wife and delivered to the bureau in fair shape. A telegrapher on vacation was reached at his summer resort and talked into checking out. I got a taxi company on the phone and told them to have a cross-country cab on the roof in an hour. I specified their best driver, and told them to give him maps of Arkansas.

Meanwhile, two "with domes" dispatches arrived from Benson and got moved on the wire. I monitored a couple of newscasts; the second one carried a story by another wire service on the domes—a pickup of our stuff, but they'd have their own men on the scene fast enough. I filled in the night editor, and went up to the roof for the cab.

The driver took off in the teeth of a gathering thunderstorm. We had to rise above it, and by the time we could get down to sight-pilotage altitude, we were lost. We circled most of the night until the driver picked up a beacon he had on his charts at about 3:30 A.M. We landed at Fort Hicks as day was breaking, not on speaking terms.

Fort Hicks' field clerk told me where Benson lived, and I

walked there. It was a white, frame house. A quiet, middle-aged woman let me in. She was his widowed sister, Mrs. McHenry. She got me some coffee and told me she had been up all night waiting for Edwin to come back from Rush City. He had started out about 8:00 P.M, and it was only a two-hour trip by car. She was worried. I tried to pump her about her brother, but she'd only say that he was the bright one of the family. She didn't want to talk about his work as war correspondent. She did show me some of his magazine stuff—boy-and-girl stories in national weeklies. He seemed to sell one every couple of months.

We had arrived at a conversational statemate when her brother walked in, and I discovered why his news career had been interrupted. He was blind. Aside from a long, puckered brown scar that ran from his left temple back over his ear and onto the nape of his neck, he was a pleasant-looking fellow in his mid-forties.

"Who is it, Vera?" he asked.

"It's Mr. Williams, the gentleman who called you from Omaha today—I mean yesterday."

"How do you do, Williams. Don't get up," he added—hearing, I suppose, the chair squeak as I leaned forward to rise.

"You were so *long*, Edwin," his sister said with relief and reproach.

"That young jackass Howie—my chauffeur for the night—" he added an aside to me—"got lost going there and coming back. But I did spend more time than I'd planned at Rush City." He sat down, facing me. "Williams, there is some difference of opinion about the shining domes. The Rush City people say that they exist, and I say they don't."

His sister brought him a cup of coffee.

"What happened, exactly?" I asked.

"That Allenby took me and a few other hardy citizens to see them. They told me just what they looked like. Seven

hemispheres in a big clearing, glassy, looming up like houses, reflecting the gleam of the headlights. But they weren't there. Not to me, and not to any blind man. I know when I'm standing in front of a house or anything else that big. I can feel a little tension on the skin of my face. It works unconsciously, but the mechanism is thoroughly understood.

"The blind get—because they have to—an aural picture of the world. We hear a little hiss of air that means we're at the corner of a building, we hear and feel big, turbulent air currents that mean we're coming to a busy street. Some of the boys can thread their way through an obstacle course and never touch a single obstruction. I'm not that good, maybe because I haven't been blind as long as they have, but by hell, I know when there are seven objects the size of houses in front of me, and there just were no such things in the clearing at Rush City."

"Well," I shrugged, "there goes a fine piece of silly-season journalism. What kind of a gag are the Rush City people trying to pull, and why?"

"No kind of gag. My driver saw the domes, too—and don't forget the late marshal. Pink not only saw them but touched them. All I know is that people see them and I don't. If they exist, they have a kind of existence like nothing else I've ever met."

"I'll go up there myself," I decided.

"Best thing," said Benson. "I don't know what to make of it. You can take our car." He gave me directions and I gave him a schedule of deadlines. We wanted the coroner's verdict, due today, an eye-witness story—his driver would do for that—some background stuff on the area and a few statements from local officials.

I took his car and got to Rush City in two hours. It was an unpainted collection of dog-trot homes, set down in the big pine forest that covers all that rolling Ozark country.

There was a general store that had the place's only phone. I suspected it had been kept busy by the wire services and a few enterprising newspapers. A state trooper in a flashy uniform was lounging against a fly-specked tobacco counter when I got there.

"I'm Sam Williams, from World Wireless," I said. "You come to have a look at the domes?"

"World Wireless broke that story, didn't they?" he asked me, with a look I couldn't figure out.

"We did. Our Fort Hicks stringer wired it to us."

The phone rang, and the trooper answered it. It seemed to have been a call to the Governor's office he had placed.

"No, sir," he said over the phone. "No, sir. They're all sticking to the story, but I didn't see anything. I mean, they don't see them any more, but they say they *were* there, and now they aren't any more." A couple more. "No, sirs" and he hung up.

"When did that happen?" I asked.

"About a half-hour ago. I just came from there on my bike to report."

The phone rang again, and I grabbed it. It was Benson, asking for me. I told him to phone a flash and bulletin to Omaha on the disappearance and then took off to find Constable Allenby. He was a stage reuben with a nickel-plated badge and a six-shooter. He cheerfully climbed into the car and guided me to the clearing.

There was a definite little path worn between Rush City and the clearing by now, but there was a disappointment at the end of it. The clearing was empty. A few small boys sticking carefully to its fringes told wildly contradictory stories about the disappearance of the domes, and I jotted down some kind of dispatch out of the most spectacular versions. I remember it involved flashes of blue fire and a smell like sulphur candles. That was all there was to it.

I drove Allenby back. By then a mobile unit from a TV

network had arrived. I said hello, waited for an A.P. man to finish a dispatch on the phone and then dictated my lead direct to Omaha. The hamlet was beginning to fill up with newsmen from the wire services, the big papers, the radio and TV nets and the newsreels. Much good they'd get out of it. The story was over—I thought. I had some coffee at the general store's two-table restaurant corner and drove back to Fort Hicks.

Benson was tirelessly interviewing by phone and firing off copy to Omaha. I told him he could begin to ease off, thanked him for his fine work, paid him for his gas, said good-by and picked up my taxi at the field. Quite a bill for waiting had been run up.

I listened to the radio as we were flying back to Omaha, and wasn't at all surprised. After baseball, the shining domes were the top news. Shining domes had been seen in twelve states. Some vibrated with a strange sound. They came in all colors and sizes. One had strange writing on it. One was transparent, and there were big green men and women inside. I caught a women's mid-morning quiz show, and the M.C. kept gagging about the domes. One crack I remember was a switch on the "pointed head" joke. He made it "dome-shaped head," and the ladies in the audience laughed until they nearly burst.

We stopped in Little Rock for gas, and I picked up a couple of afternoon papers. The domes got banner heads on both of them. One carried the World Wireless lead, and had slapped in the bulletin on the disappearance of the domes. The other paper wasn't a World Wireless client, but between its other services and "special correspondents"—phone calls to the general store at Rush City—it had kept practically abreast of us. Both papers had shining dome cartoons on their editorial pages, hastily drawn and slapped in. One paper, anti-administration, showed the President cautiously reaching out a finger to touch the dome of the

Capitol, which was rendered as a shining dome and labeled: "SHINING DOME OF CONGRESSIONAL IMMUNITY TO EXECUTIVE DICTATORSHIP." A little man labeled "Mr. and Mrs. Plain, Self-Respecting Citizens of The United States of America" was in one corner of the cartoon saying: "CAREFUL, MR. PRESIDENT! REMEMBER WHAT HAPPENED TO PINKNEY CRAWLES!"

The other paper, pro-administration, showed a shining dome that had the president's face. A band of fat little men in Prince Albert coats, string ties and broad-brim hats labeled "CONGRESSIONAL SMEAR ARTISTS AND HATCHET-MEN" were creeping up on the dome with the President's face, their hands reached out as if to strangle. Above the cartoon a cutline said "WHO'S GOING TO GET HURT?"

We landed at Omaha, and I checked into the office. Things were clicking right along. The clients were happily gobbling up our dome copy and sending wires asking for more. I dug into the morgue for the "Flying Disc" folder, and the "Huron Turtle" and the "Bayou Vampire" and a few others even further back. I spread out the old clippings and tried to shuffle and arrange them into some kind of underlying sense. I picked up the latest dispatch to come out of the tie-line printer from Western Union. It was from our man in Owosso, Michigan, and told how Mrs. Lettie Overholtzer, age 61, saw a shining dome in her own kitchen at midnight. It grew like a soap bubble until it was as big as her refrigerator, and then disappeared.

I went over to the desk man and told him: "Let's have a downhold on stuff like Lettie Overholtzer. We can move a sprinkling of it, but I don't want to run this into the ground. Those things might turn up again, and then we wouldn't have any room left to play around with them. We'll have everybody's credulity used up."

He looked mildly surprised. "You mean," he asked, "there really *was* something there?"

"I don't know. Maybe. I didn't see anything myself, and the only man down there I trust can't make up his mind. Anyhow, hold it down as far as the clients let us."

I went home to get some sleep. When I went back to work, I found the clients hadn't let us work the downhold after all. Nobody at the other wire services seemed to believe seriously that there had been anything out of the ordinary at Rush City, so they merrily pumped out solemn stories like the Lettie Overholtzer item, and wirefoto maps of locations where domes were reported, and tabulations of number of domes reported.

We had to string along. Our Washington bureau badgered the Pentagon and the A.E.C. into issuing statements, and there was a race between a Navy and an Air Force investigating mission to see who could get to Rush City first. After they got there there was a race to see who could get the first report out. The Air Force won that contest. Before the week was out, "Domies" had appeared. They were hats for juveniles—shining-dome skull caps moulded from a transparent plastic. We had to ride with it. I'd started the mania, but it was out of hand and a long time dying down.

The World Series, the best in years, finally killed off the domes. By an unspoken agreement among the services, we simply stopped running stories every time a hysterical woman thought she saw a dome or wanted to get her name in the paper. And, of course, when there was no longer publicity to be had for the asking, people stopped seeing domes. There was no percentage in it. Brooklyn won the Series, international tension climbed as the thermometer dropped, burglars began burgling again, and a bulky folder labeled "DOMES, SHINING," went into our morgue. The shining domes were history, and earnest graduate students in psychology would shortly begin to bother us with requests to borrow that folder.

The only thing that had come of it, I thought, was that

we had somehow got through another summer without too much idle wire time, and that Ed Benson and I had struck up a casual correspondence.

A newsman's strange and weary year wore on. Baseball gave way to football. An off-year election kept us on the run. Christmas loomed ahead, with its feature stories and its kickers about Santa Claus, Indiana. Christmas passed, and we began to clear jolly stories about New Year hangovers, and tabulate the great news stories of the year. New Year's day, a ghastly rat-race of covering 103 bowl games. Record snowfalls in the Great Plains and Rockies. Spring floods in Ohio and the Columbia River Valley. Twenty-one tasty Lenten menus, and Holy Week around the world. Baseball again, Daylight Saving Time, Mother's Day, Derby Day, the Preakness and the Belmont Stakes.

It was about then that a dsturbing letter arrived from Benson. I was concerned not about its subject matter but because I thought no sane man would write such a thing. It seemed to me that Benson was slipping his trolley. All he said was that he expected a repeat performance of the domes, or of something like the domes. He said "they" probably found the try-out a smashing success and would continue according to plan. I replied cautiously, which amused him.

He wrote back "I wouldn't put myself out on a limb like this if I had anything to lose by it, but you know my station in life. It was just an intelligent guess, based on a study of power politics and Aesop's fables. And if it does happen, you'll find it a trifle harder to put over, won't you?"

I guessed he was kidding me, but I wasn't certain. When people begin to talk about "them" and what "they" are doing, it's a bad sign. But, guess or not, something pretty much like the domes did turn up in late July, during a crushing heat wave.

This time it was big black spheres rolling across the coun-

tryside. The spheres were seen by a Baptist congregation in central Kansas which had met in a prairie to pray for rain. About eighty Baptists took their Bible oaths that they saw large black spheres some ten feet high, rolling along the prairie. They had passed within five yards of one man. The rest had run from them as soon as they could take in the fact that they really were there.

World Wireless didn't break that story, but we got on it fast enough as soon as we were tipped. Being now the recognized silly season authority in the W. W. Central Division, I took off for Kansas.

It was much the way it had been in Arkansas. The Baptists really thought they had seen the things—with one exception. The exception was an old gentleman with a patriarchal beard. He had been the one man who hadn't run, the man the objects passed nearest to. He was blind. He told me with a great deal of heat that he would have known all about it, blind or not, if any large spheres had rolled within five yards of him, or twenty-five for that matter.

Old Mr. Emerson didn't go into the matter of air currents and turbulence, as Benson had. With him, it was all well below the surface. He took the position that the Lord had removed his sight, and in return had given him another sense which would do for emergency use.

"You just try me out, son!" he piped angrily. "You come stand over here, wait a while and put your hand up in front of my face. I'll tell you when you do it, no matter how quiet you are!" He did it, too, three times, and then took me out into the main street of his little prairie town. There were several wagons drawn up before the grain elevator, and he put on a show for me by threading his way around and between them without touching once.

That—and Benson—seemed to prove that whatever the things were, they had some connection with the domes. I filed a thoughtful dispatch on the blind-man angle, and got

back to Omaha to find that it had been cleared through our desk but killed in New York before relay.

We tried to give the black spheres the usual ride, but it didn't last as long. The political cartoonists tired of it sooner, and fewer old maids saw them. People got to jeering at them as newspaper hysteria, and a couple of highbrow magazines ran articles on "the irresponsible press." Only the radio comedians tried to milk the new mania as usual, but they were disconcerted to find their ratings fall. A network edict went out to kill all sphere gags. People were getting sick of them.

"It makes sense," Benson wrote to me. "An occasional exercise of the sense of wonder is refreshing, but it can't last forever. That plus the ingrained American cynicism toward all sources of public information has worked against the black spheres being greeted with the same naïve delight with which the domes were received. Nevertheless, I predict—and I'll thank you to remember that my predictions have been right so far 100 per cent of the time—that next summer will see another mystery comparable to the domes and the black things. And I also predict that the new phenomenon will be imperceptible to any blind person in the immediate vicinity, if there should be any."

If, of course, he was wrong this time, it would only cut his average down to fifty per cent. I managed to wait out the year—the same interminable round I felt I could do in my sleep. Staffers got ulcers and resigned, staffers got tired and were fired, libel suits were filed and settled, one of our desk men got a Nieman Fellowship and went to Harvard, one of our telegraphers got his working hand mashed in a car door and jumped from a bridge but lived with a broken back.

In Mid-August, when the weather bureau had been correctly predicting "fair and warmer" for 16 straight days, it turned up. It wasn't anything on whose nature a blind man

could provide a negative check, but it had what I had come to think of as "their" trade-mark.

A summer seminar was meeting outdoors, because of the frightful heat, at our own State University. Twelve trained school teachers testified that a series of perfectly circular pits opened up in the grass before them, one directly under the education professor teaching the seminar. They testified further that the professor, with an astonished look and a heart-rending cry, plummeted down into that perfectly circular pit. They testified further that the pits remained there for some 30 seconds and then suddenly were there no longer. The scorched summer grass was back where it had been, the pits were gone and so was the professor.

I interviewed every one of them. They weren't yokels, but grown men and women, all with Masters' degrees, working toward their doctorates during the summers. They agreed closely on their stories as I would expect trained and capable persons to do.

The police, however, did not expect agreement, being used to dealing with the lower-I.Q. brackets. They arrested the twelve on some technical charge—"obstructing peace officers in the performance of their duties," I believe—and were going to beat the living hell out of them when an attorney arrived with twelve writs of habeas corpus. The cops' unvoiced suspicion was that the teachers had conspired to murder their professor, but nobody ever tried to explain why they'd do a thing like that.

The cops' reaction was typical of the way the public took it. Newspapers—which had reveled wildly in the shining domes story and less so in the black spheres story—were cautious. Some went overboard and gave the black pits a ride, in the old style, but they didn't pick up any sales that way. People declared that the press was insulting their intelligence, and also they were bored with marvels.

The few papers who played up the pits were soundly

spanked in very dignified editorials printed by other sheets which played down the pits.

At World Wireless, we sent out a memo to all stringers: "File no more enterpriser dispatches on black pit story. Mail queries should be sent to regional desk if a new angle breaks in your territory." We got about ten mail queries, mostly from journalism students acting as string men, and we turned them all down. All the older hands got the pitch, and didn't bother to file it to us when the town drunk or the village old maid loudly reported that she saw a pit open up on High Street across from the drug store. They knew it was probably untrue, and that furthermore nobody cared.

I wrote Benson about all this, and humbly asked him what his prediction for next summer was. He replied, obviously having the time of his life, that there would be at least one more summer phenomenon like the last three, and possibly two more—but none after that.

It's so easy now to reconstruct, with our bitterly-earned knowledge!

Any youngster could whisper now of Benson: "Why, the damned fool! Couldn't anybody with the brains of a louse see that they wouldn't keep it up for two years?" One did whisper that to me the other day, when I told this story to him. And I whispered back that, far from being a damned fool, Benson was the one person on the face of the Earth, as far as I know, who had bridged with logic the widely-separated phenomena with which this reminiscence deals.

Another year passed. I gained three pounds, drank too much, rowed incessantly with my staff and got a tidy raise. A telegrapher took a swing at me midway through the office Christmas party, and I fired him. My wife and the kids didn't arrive in April when I expected them. I phoned Florida, and she gave me some excuse or other about missing the plane. After a few more missed planes and a few more phone

calls, she got around to telling me that she didn't *want* to come back. That was okay with me. In my own intuitive way, I knew that the upcoming silly season was more important than who stayed married to whom.

In July, a dispatch arrived by wire while a new man was working the night desk. It was from Hood River, Oregon. Our stringer there reported that more than one hundred "green capsules" about 50 yards long had appeared in and around an apple orchard. The new desk man was not so new that he did not recall the downhold policy on silly-season items. He killed it, but left it on the spike for my amused inspection in the morning. I suppose exactly the same thing happened in every wire service newsroom in the region. I rolled in at 10:30 and riffled through the stuff on the spike. When I saw the "green capsules" dispatch I tried to phone Portland, but couldn't get a connection. Then the phone buzzed and a correspondent of ours in Seattle began to yell at me, but the line went dead.

I shrugged and phone Benson, in Fort Hicks. He was at the police station, and asked me: "Is this it?"

"It is," I told him. I read him the telegram from Hood River and told him about the line trouble to Seattle.

"So," he said wonderingly, "I called the turn, didn't I?"

"Called what turn?"

"On the invaders. I don't know who they are—but it's the story of the boy who cried wolf. Only this time, the wolves realized—" Then the phone went dead.

But he was right.

The people of the world were the sheep.

We newsmen—radio, TV, press and wire services—were the boy, who should have been ready to sound the alarm.

But the cunning wolves had tricked us into sounding the alarm so many times that the villagers were weary, and would not come when there was real peril.

The wolves who then were burning their way through the

Ozarks, utterly without opposition, the wolves were the Martians under whose yoke and lash we now endure our miserable existences.

THE PLANT REVOLT

By Edmond Hamilton

It is when I begin this record of the terror that descended upon man and the world of man that I comprehend best the impossibility of ever completely recording that terror. It is when I begin this account of the doom that threatened all our race that I understand best how little our race, of itself, was able to oppose that doom. There is, in the whole story, none of that dramatic sequence of threat and attack and reply that might be expected in such an epic of struggling species. Rather it seems, now, hardly more than a blind welter of giant forces in which is emphasized nothing but the unimportance and helplessness of those who were the final victors.

It is only, therefore, because I, Edward Harley, saw as much of the action of that terror as was seen by any man, that I have taken it upon me to write this record. Two years ago, when there came the first reports of that which was to crumble our world, I was chief morphologist of the botany department of the University of Philadelphia. At the time, of course, there was no thought of the real meaning and importance of those reports. Even I, who by reason of my chosen science could comprehend their strangeness better than most men, had surely no thought of any danger connected with them.

Those first heralds of the approaching doom appeared for the most part as inconspicuous items, published in the Philadelphia and other newspapers early in May. They consisted of reports from a number of gardeners and farmers near the village of Hartville, in the central Pennsylvanian mountains, regarding the curious behavior of the early plantings there. Seeds planted a short time before, they reported, of numberless different varieties of plant, fruit and

vegetable, had grown during that time with a very surprising rapidity, sending up shoots that would ordinarily not have resulted from a month's growth. This, while extraordinary enough, was not the most astounding feature of the reports, however. That was the fact that these phenomenal shoots and seedlings were almost without roots whatever, and that although stems and shoots continued to develop prodigiously they showed no inclination whatever to develop roots.

It was, certainly, a phenomenon surprising enough, coming from an area of several square miles around Hartville, and it was made the more surprising by the fact that within the next few days similar reports began to come in from growers over half the eastern United States, describing a phenomenal growth of seedlings and a condition of rootlessness exactly similar. By the end of the week the thing had been reported also from England and from California, from Sweden and from Australia, and it began to be realized, by the great press agencies, that the condition was world-wide, whatever its cause. And though but small interest was taken in the matter by the world's city-dwellers, whose knowledge of and interest in all things rural was slight indeed, by those in farming and suburban regions and by botanists it was accorded great attention and discussion.

For by then the thing had become in all truth amazing enough. Not only was the astounding and unnatural growth of rootless shoots continuing, it was reported, but instead of developing leaves as they should their hot-house growth was resulting only in strange, flexible tendrils, while the plants, of all kinds, seemed to have a great tendency to spread out, to grow horizontally instead of vertically. And, more astonishing still, plants and shrubs and even small trees already growing seemed affected by the same phenomenon, their roots slowly withering away, slowly disappearing, their growth many times accelerated, and their leaves giv-

ing way to strange tendrils that pushed forth from axis and stems. Surely no such spring had ever been seen by men, and the climax was capped, some ten days after the first reports, when it was made known that observations showed the more rootless of the plants to have developed a very slow movement or power of movement, an infinitely slow crawling across the ground by means of stems and tendrils.

It is not wonderful that those later reports should have obtained but small credit save among eye-witnesses. Even my own reaction to them was that which I expressed to Dr. Herman Holm, my superior in the university's botany department, in response to his mention of them.

"Plants losing their roots and moving!" I scoffed, as we passed out of the building one morning, and he spoke of them. "That's your modern press—twisting the truth all ways to make a sensation."

"But there does seem something in it, Harley," said Holm quietly. "I was out in the field yesterday and the day before, hunting speciments of *Sarracenia purea* for some work of mine, and there's hardly a species that hasn't changed—hasn't lost part or even almost all of its roots, among the smaller plants, with leaves giving way to tough hollow tendrils."

I stared at him. "You don't really mean to say it's all true?" I asked him. "That the cabbages and celery are losing their roots and walking around arm in arm?"

He laughed at my picture of it, but sobered again. "I'm afraid it's pretty comprehensive," he told me. Then, as we were passing just then down the stone steps, he reached down into the shrubbery bed that encircled the building to pluck forth a small seedling of *Cornus stolonifera*, or dogwood, there. "Look at this," he said, showing it to me. "You see—the roots are almost gone but the plant is healthy enough, and with tendrils pushing out instead of leaves."

I took it unbelievingly, but as my eyes ran over it I frowned

with quick interest. The little plant was, indeed, a most extraordinary spectacle to the trained eye of a botanist. Its roots, which should have been thick and fibrous, had apparently shrunk and withered until there was left of them but a few thick stubs. The stems had grown greatly recently, it was apparent, but instead of shooting up vertically had spread out in all directions like those of some flat shrubs. Where the leaves should have been sprouting there was a series of little brown tendrils pushing forth; as he had said, tendrils that were hollow but extraordinarily tough and flexible, seeming like continuations of the stems, but obviously taking the place of leaves in drawing the plant's food elements from the air.

I gazed at it in fascinated interest, then reached down quickly to pull another, which proved exactly the same. I gazed down, then, saw in the bed beside us a small specimen of *Rhamnus cathartica*, a few inches in height, sprawled out flatly also. But when I reached down for it I gave an exclamation of surprise, for in it the roots had dwindled to one or two little projections beneath the base of the stem, and it was only necessary to lift the plant from the ground. Then, as I gazed at it lying flat on my hand in the sunlight, a thing happened which, in spite of the immeasurably greater and more terrible things that I have experienced since, chills me yet with revulsion. The stems of the little plant moved—moved, not by the wind, as for a moment we thought must be the case, but with life—moved blindly, gropingly, over my palm toward my cuff, its tendrils and stems crawling slowly toward it!

With a sharp exclamation I dropped the thing, then looked at Holm with wide eyes. "Like a damn snake in my hand, the thing felt," I said. And then, my wonder surmounting my revulsion: "But this is fantastic, Holm!"

"For once the newspapers haven't exaggerated," he agreed. "And according to them the same phenomena are

appearing in all but the biggest forms of plant life, over all earth."

"Fantastic," I repeated. "And no one knows what the cause of the thing is?"

"Not the real cause—no," he said slowly, "But I've found that without doubt the immediate cause is—"

Holm did not finish the sentence for me, a friend joining us at that moment, but I found it finished in the newspapers of the next morning, for in them I found the interviews which their reporters had obtained from Holm after our conversation. By then the world-wide extent of the phenomenon, and its importance, had begun to be realized. Practically every form of plant life up to the large trees, and especially the ferns and conifers, was developing swiftly along the lines already discovered, roots vanishing, stems spreading, tendrils replacing foliage, and showing in many cases an elementary power of movement. That latter phase of the thing added, indeed, a somewhat comic element to the situation just then, for gardeners and farmers reported that plants of various sorts which had been sown in straight rows had developed such powers of slow movement as in many cases to scatter them random over the fields. It was natural for the newspapers to turn to the botanists for explanations of the thing, and it was natural for those in the Philadelphia region to turn to Dr. Holm, as a botanist of unrivaled reputation.

The interviews with Dr. Holm which appeared in that morning's newspapers added to that reputation, since he gave the first clear explanation of the phenomenon which had yet appeared. "It is known to all," Holm said, "that plants are living things, and that like all living things they require certain food elements. There are nine elements necessary for the life of plants—carbon, hydrogen, oxygen, nitrogen, sulfur, phosphorus, potassium, calcium and magnesium.

The first three of those elements, carbon, hydrogen and oxygen, the plant is able to obtain from the air, chiefly in the form of carbon dioxide and water vapor. The remaining six elements are not present in the air, and must be sought for in the earth, in the soil. Therefore the plant sends down roots into the soil to obtain those six remaining elements and bring them up into the plant, just as the first three are brought down into the plant from the air by the stems and leaves.

"But suppose those six elements were present in the air. Then the plant could obtain them, could obtain all its food elements, from the air by its stems and leaves and tendrils, and would have no need of roots in the soil. And it is for that reason that the roots of almost all plant life are now withering and vanishing. Those six latter elements, in the form of gaseous compounds, have been added recently to earth's atmosphere, in quantities detected by the university's laboratories and other laboratories recently, quantities so small as to be hardly detectable by us, but large enough to furnish all plant life with those elements, to make their roots unnecessary, to atrophy and wither away those roots as is now being done. It may be that those gaseous compounds, those six elements, have been poured forth into our atmosphere by volcanic craters opening in the earth's crust, or it may be that earth is passing through a cloud of such gases in space, but the fact is clear that it is the addition of those gases to earth's atmosphere that is causing this great change in earth's plant life.

"Neither is it surprising that with roots vanishing the plant forms are acquiring a power of free movement. It will be recalled that my own former associate, Dr. Jackson Mandall of the University of Philadelphia, whose disappearance two years ago was such a loss to the science of botany, was strongly of the opinion that plants, if spared the necessity of roots by obtaining all needed elements from the air, would

swiftly develop powers of movement. It was Dr. Mandall's theory that plant forms are in reality as living and conscious as animal forms, but are bound to immobility by their roots alone, and that if the necessity of roots were removed from them they would equal animals in powers of movement. The theory seems in some sense borne out by the changes of the last weeks in the plant life of earth.

"But how long will these changes continue? That is less easy to say, since it depends directly upon how long these gaseous compounds continue to be poured into our atmosphere. If, as seems most probable, they are being poured forth by volcanic fissures, the outpouring of them will doubtless subside soon, and the changes in plant life cease. Plants that have lost their roots altogether during this period of change will likely be entirely and almost immediately killed by the ceasing of this outpouring. But if that outpouring of gases ends soon it will be found, I think, that earth's plant life will for the most part soon return to its former state. Of course, a continued outpouring of such gases into the atmosphere over a period of time would result in an increase of plant powers of movement and other powers to an unpredictable extent, but it is unnecessary to say that no one anticipates such a condition."

This was the substance of Dr. Holm's statement on the matter, and coming as it did from the man who, since the disappearance of his brilliant associate, Dr. Mandall, was recognized as the nation's leading botanist, it was considered final. The phrases which he had used concerning the temporary quality of the phenomenon had a soothing effect on those who had begun to show concern over the world's food supply. And though the gaseous compounds of the six elements mentioned were undeniably present in earth's atmosphere, it was taken for granted, as he had said, that they were only there temporarily. Thus the effect of Dr. Holm's statement was to diminish the sensation that had

been caused by the thing, and although it was still featured by the press in the next few days, it was in a somewhat lower key.

While the thing was of utmost interest to myself, as a botanist, I had small enough time to spend in studying it, being just then occupied in preparing examinations for my classes. Dr. Holm, I had reason to believe, was devoting close study to it, and though I did not see him in those next few days I heard that he was very much occupied. Except for a few botanists like him, though, the increasing changes of the plants in those next days got little enough attention. Enough there were to consider in dismay the odd and leafless condition of their tendril-clustered shrubs, to exclaim over the rootlessness of their garden plants, to worry concerning their oddly behaving crops, to shout with laughter at the sight of slow tendrils moving blindly, gropingly, painfully, of small plants crawling infinitely slowly over the soil. But surprise and worry and laughter were all that were aroused by these phenomena that were, unknown to all of us, the first heralds of the terror that was to come.

It was just five days after Dr. Holm's statement that the Hartville horror burst upon the peoples of earth.

Looking back upon that horror now, I think that it was its utter unexpectedness that made it most terrible. Dr. Holm had, indeed, in his statement, admitted that the great changes in earth's plant life might continue to an unpredictable extent, were the outpouring of gaseous compounds into earth's atmosphere to continue. And that that outpouring, whatever its source, was continuing, was known to all from the daily chemical analyses made of the atmosphere. But despite the fact that we all thus knew the changes must be continuing, none of us, not even Dr. Holm or myself, ever dreamed of what thing was to come of those changes for Hartville and for the world.

Hartville was that village in the central Pennsylvanian mountains from which the first reports of changes in plant life had come, and in the succeeding days the changes that were taking place over all earth seemed more advanced at Hartville than at any other place. The village itself was made up of one or two straggling streets of homes, with some three or four hundred inhabitants, and with a few places of business. It lay at the bottom of a deep valley between two spurs of the eastern Appalachians, and all about it stretched the thick green forest, covering the mountains on each side, even over their flat summits, lapping over the deep valley like a green sea of vegetation in which the village and its clearing were the only island. There were few farms in that section, most of the villagers being retired farmers from farther up the valley.

The changes in plant life had been first observed by these villagers in their gardens and in the surrounding forest, and in the days that had followed, while those changes were taking place over all earth, it had been clearly evident that they were farther advanced always in the region about Hartville. The plant life there was losing its roots faster, was developing more tendrils, was acquiring a greater power of slow crawling movement. They had reported, too, that almost all plant life save the larger trees was tending to change into what seemed a single form, so far as could be seen—an octopus-like plant-mass, a thick rootless stem with many branching tendrils. Many of these plants had been seen crawling very slowly and blindly through the forests about the village.

And these plant-masses, they asserted, had developed also another curious power, more unusual even than that of movement, being none other than the power of catching and devouring insects. This, of course, had always been a power of certain plants such as the sundew and Venus flytrap and others, but now it was shared by all the plant-masses about

the village. Observation showed that they accomplished this by grasping with their tendrils any beetle or insect which settled upon them, gripping it so tightly as to kill it at once. Held thus, a green and sticky fluid was exuded from the tendril walls upon the dead insect. This had the effect of swiftly disintegrating and decaying the body of the creature held, so swiftly indeed that within an hour or less almost all of it would have been drawn down into the stem of the plant-mass through the hollow tendrils, those tendrils then releasing whatever shell or bone or hard part of the body was left.

It was this new phase of the phenomenon, certainly the most sensational so far, that took Dr. Holm and me to Hartville on the day after that on which we heard of it.

"Something strange there is in that Hartville region, Harley," he had said to me. "Why should the changes of plant life have occurred there first? Why should they be farther advanced there than over the rest of earth, unless it is there that the gaseous compounds are pouring into earth's atmosphere?"

"But that seems impossible," I said. "Those gases are supposed to be coming from volcanic craters of fissures, and none have opened there—"

"Impossible—perhaps so," he said, thoughtfully, "but perhaps something which we would deem even more impossible is going on there now—something that may mean dread menace to our earth. I'll not explain now, Harley, but we leave for Hartville in the morning."

So it was that late on the next afternoon we entered Hartville, pressing along the rough mountain roads and up the narrow valley between the looming bulk of the mountains on either side until we drove at last into the village. A peaceful spot it seemed to Dr. Holm and me, a neat little mass of white-painted frame buildings lying deep between the giant-like mountains that rose to east and west, with all

about it the forest's encircling thickness. We found it, though, in a state of very perceptible excitement, knots of conversing villagers gathered along its street. And when Dr. Holm had announced his identity and was recognized as the famous botanist, some fifty of them gathered about us, eager to show us at once the extraordinary things going on about them.

And extraordinary they were, we found, when we accompanied our numerous guides to the edge of the forests that lapped the village round on all sides. For though Dr. Holm and I had noted something of the unusual character of those forests on our drive to the village, we realized now for the first time their truly fantastic appearance. They seemed like the forests of another planet, the greater trees leafless, bearing upon every branch masses of tendrils. And here and there inside the forest's edge were crawling slowly and gropingly a few of the plant-masses that had been described. Some were but a few inches in diameter, and some were all of six feet, but great or small they seemed all of the same form, octopus-like masses of tendrils on thick rootless stems, groping blindly and very slowly about. Farther back in the encircling forests, we were told, there were believed to be great numbers of the things, but since one or two dogs of the village had failed to return from a venture there a day before none of the villagers had been hardy enough to desire further exploration of them for the time being.

Dr. Holm was very silent, solemn almost, as we walked back down the village street with our excited guides. I saw him glancing up with a puzzled air toward the forested summits of the mountains and heard him discussing some feature of them with those about him. He did not confide to me, though, whatever thoughts filled him, telling those of the village only that we would make a comprehensive investigation of the forests on the morrow. And when we had re-

turned to the little frame hotel and sat upon its veranda after dinner watching the sunset purple and darken over the western mountains, Dr. Holm was silent still. Gazing out toward those mountains over the dark masses of the forest about us, my own thoughts were not on the morrow's plans but on the crawling plant-masses that had formed here, that would be beginning to form over all the world. What could be causing these stupendous changes? And what was to be their end?

Darkness had lain over the village for but a few hours when Dr. Holm and I rose to retire. Already, I saw, the yellow-lighted windows scattered about us were going black, one by one, and by the time I parted from Holm at his door and entered my own room to gaze forth from its window, darkness lay almost completely over the sleeping village. Sleeping there in the white starlight it lay, its encircling forests dark about it, its bordering mountains brooding above it, and for minutes I gazed forth over it, with strange thoughts. When I did turn and enter my bed, however, I found myself so drowsy from our day's rough journey that I fell almost at once into a dreamless sleep.

A village sleeping—a world sleeping—as its doom crept upon it. . . .

It was a scream that brought me back to wakefulness hours later, a wild scream from the village street that was followed instantly by others and that brought me erect in bed, trembling. All was still dark about me, and I sensed that it was but an hour or so before dawn. Then as I sat there, tense, there came a final terrible scream from the street, followed by a series of choking gasps, and then by silence. I gazed forth, trembling more with amazement than any other emotion, but could see nothing in the darkness outside, so sprang from bed, hastily donning my clothes, and aware as I did so that a rising tumult was sounding across the village—an opening of doors and windows, a sound of hoarse shouts,

and of more screams of terror. By then I was at Holm's door, but when I flung it open it was to find his room empty, his bed apparently not slept in. Stunned by his absence, I heard the hoarse voice of the hotel's proprietor beneath me, raced down the stairs with him, and then as he opened the door there met our eyes in the street outside, under the pale starlight, a sight that to this day chills me with terror to remember. The street was full from end to end with hundreds of slow-crawling plant-masses!"

Plant-masses in hordes, in hundreds, in thousands, that thronged thick in the street before me, that swarmed through all the village. Plant-masses that had gathered in a mass at one place in the street, their numberless tendrils gripping the dead, crushed body of one of the villagers, exuding sticky green fluid upon it. Plant-masses that had swiftly gripped with those tendrils the astounded, half-clad people who had ventured into the street in answer to those wild screams, and who now were themselves screaming as the hordes of plant-things pulled them down. Motionless I gazed, my mind reeling with horror, and then the crawling masses beneath, before me, had brushed against me, had felt my presence there and that of the man beside me, and before we could draw back had whipped forth with myriad tendrils to catch and hold us, to draw us down toward them.

Never afterward have I been able to collect into coherent form my memories of the moments that followed. I remember screaming like a trapped animal, screaming as the hotel owner beside me was screaming, as we were drawn resistlessly downward by those clutching tendrils. I remember struggling madly in their grip, and of being aware, even in that nightmare-like moment of struggle, of the things about me; of the men and women and children caught by those crawling masses that swarmed about them, drawn down and inward by their clutching tendrils; of dead bodies

held within those tendrils' grip and covered rapidly with exuding green fluid.

These things flashed before my vision in that moment as I was drawn downward by the tendrils that held me. Then with a sudden revulsion that awoke me from the stupefaction of horror that had made my struggles weak, I struck out with all my force at the things that held me, strove to tear from me the clinging tendrils that had coiled about me. But those tendrils were like tough ropes holding me, and while I tore one loose two others were grasping me, so that steadily I was being drawn downward, still other plant-masses swarming about me. I saw that the man beside me had been pulled to the ground by three great plant-masses and that with their deadly grip about him his wild threshing was swiftly ceasing, the green sticky fluid from them coating him swiftly as they held him in their grip still, while four others of the great octopus-like things had gripped me. Against that deadly grip my struggles were useless, and even as I tore at the things that held me I knew myself weakening, surrendering. Then, with a sudden last inspiration, my hand went to the long pocket at my thigh, jerked from it and opened the long, thin and keen botanical knife which that pocket held.

The next moment I had cut with wild slashes the dozen or more tendrils that held me, and as they waved blindly about, dripping green fluid, I reeled to one side from them. Along the starlit street the wild screams of those captured by the plant-masses had lessened, almost ceased, and as I staggered to one side now I saw that I was all but alone living among the hordes of thick-swarming plant-things that filled the village, though here and there and everywhere masses of them were clutching dead bodies, coating them with their green disintegrating fluid, settling to devour them. And at that sight the last remnants of reason left my horror-stunned mind, and I staggered into the street mindless of

the plant-masses that crawled in hundreds within it, slashing my way with blind, crazed fury through them as I staggered on.

On—on—dazedly, insanely, gripped by tendrils of the plant-masses that swarmed about me and that I slashed wildly away, reeling on without knowledge of direction or purpose, throwing myself frenziedly forward with whirling blade until the village was behind On I staggered, into the encircling forests and up the forested slopes, as even then the few survivors of the village behind me were staggering north and south to carry the word of Hartville's doom to the world.

The gray light of dawn was filtering through the forest about me when I came at last to my senses, when the mists of horror lifted at last from my brain. I gazed about me. I was high on the forested slope of the great mountain west of Hartville, I found. Around me rose the silent ranks of the great trees, trees the sight of which renewed my horror, since I saw now that the great roots they had formerly had were fast dwindling to stubby projections, and that the masses of tendrils they bore upon their branches were waving slowly about with hideous life. Soon they too would be able to crawl forth at will, great plant-monsters that with the smaller plant-masses would spread untold horror before them!

I gripped myself, though, striving to consider my situation. Impossible it was to return to Hartville, for that was swarming now with the hordes of the plant-masses that had swept all life from it. To remain in the forests was equally impossible, since with every hour the great trees about me were gaining in horrible life and power. I could not expect help from the outside world, I knew, since even now the terrible metamorphosis that had taken place about Hartville would be taking place over all earth. It was the revolt of

all earth's plant life that was going on, the plant revolt that had begun here at Hartville and that by now would be sweeping the world!

"Holm!" I whispered, my thoughts shifting suddenly to my friend. "Holm gone—and I—"

Abruptly I made my decision, swiftly turned. My one chance was to escape from the forest about me to some more barren region, at least, and since I dared not return down into the valley I must surmount the mountain summit, strike out into the country beyond. I started up the slope toward the summit far above, hoping against hope that I might glimpse from that summit some plantless region where I might find refuge from this mighty plant revolt that was springing into being over all the world.

The time that followed, the hours of that day that I toiled unceasingly upward, I do not like to reflect on now. It was an interminable period in which I struggled up the steep slope through forests fantastically like a dream. Through forests of great trees whose tendrils leaned toward me as I passed them, striving to grip me; through forests of trees stirring with hideous life among which roamed plant-masses large and small that crawled toward me with ever-increasing speed, apprised by some strange sense of my presence, and from which I was hard pressed to escape; on and on upward I toiled, with tree-monsters and plant-masses ever increasing in power and in rapidity of movement about me, until I came at last with sunset to the last thinly-forested slope that led up to the mountain's flat summit.

Halting with panting lungs at that slope's bottom, I saw that about me were no more of the plant-masses. The trees about me, though—naturally stunted trees whose gnarled and looped trunks were unnatural to begin with—seemed even further endowed with terrible life than any I had yet seen.

Reeling from exhaustion, I labored upward, through the tree-things upon the slope, slashing aside their reaching ten-

drils that touched and grasped me, upward until I was clambering onto the broad flat summit of the mountain. Even as I had climbed a dim, dull roaring sound had been coming to my ears, and now as I clambered up onto the summit's surface that roar came to me much louder. For the moment, though, I heeded it not, gazing about me, a light of sunset now full before me.

The summit on which I stood was flat and irregular of outline, seeming to me about half a mile across. Upon it there were numbers of thick, gnarled trees like those on the slopes, tree-monsters whose massed tendrils shot menacingly toward me as I advanced between them. By quick movements, though, I managed to stumble between them, and then was through them, had reached the edge of a circular clearing that had been made there at the flat summit's center, a clearing that occupied the greater part of its surface and that was ringed round completely by the writhing, tendriled tree-monsters. As I stumbled out from the menace of those reaching tendrils into that clearing the dull roaring sound I had heard before burst upon my ears loudly. And as I did so I stopped short, stunned, heedless for the moment of the reaching tree-things behind me.

For at the center of the flat clear space before me there was a pit of a thousand feet in diameter, whose rock walls sank downward and out of the line of my vision, apparently to great depths. And it was from this mighty pit that there came the roaring sound I had heard; for up from that pit was rushing a terrific torrent of wind or air or gases that I knew must be of awful speed and power. At the same time there came to my nostrils a strong and acrid odor of chemicals that I had already noticed on the slope below, an odor of mingled gases. The great change that had taken place in all earth's plant life, that had taken place here most rapidly of all places—the great *man-made* pit or shaft before me that was flinging terrific quantities of gaseous

compounds into the atmosphere unceasingly—my mind staggered beneath the import of these things, and stunned, dazed, I gazed farther about me.

Scattered throughout the clearing were several buildings, most of them the type of makeshift shack that is seen around construction sites. But I noticed one building, especially, because it seemed of an incredible solidity and sturdiness for so barren and remote a place. As I gazed at it, wonderingly, the fact dawned on me, so stunning and horrible at first, that I could scarcely comprehend it. This strange building could have but one function: to house an atomic pile.

The crimson sunset illumined all things about me, and dazedly I stared, until a sound behind me made me whirl around with suddenly renewed terror. It was but the great tree-monsters behind me, though, straining their twisting tendrils out toward me in a vain attempt to reach me. They could not reach me, but all the terror that they inspired in me returned, and I turned quickly away from them toward the makeshift building to my right. Stealthily I approached it, keeping out of line of the open door and the open window, and finally I was crouching beneath that window. And as I reached it, as I crouched silently beneath it, a voice from within came clearly out to me.

"—and make you see, Holm, what chance you had of preventing me, of preventing what I have decreed for the destiny of the world!"

Holm! At that name I gasped, and then I raised myself, slowly, silently, until my eyes were above the level of the window beneath which I crouched. Two men were in the room into which I was gazing, I saw instantly; two men, one of whom sat against the wall opposite me, arms and legs bound tightly, and whom I recognized as Holm. He sat silent there, despair upon his face, and facing him, back toward me, was another man, a tall, big-shouldered man

with tawny hair, a pistol in his belt. Even as I saw him that man turned slightly toward me, and as I glimpsed the strong profile, the burning gray eyes, I could hardly repress my cry. For it was Mandall. That former associate of Holm's whose fame as Dr. Jackson Mandall, the brilliant botanist, had been world-wide until his disappearance two years before.

He was speaking now as Holm, helpless and despairing, was forced to listen to his mad utterances.

"Stupid Holm, stupid, for you to attempt to thwart my purposes. But you were always so, even when we worked side by side in the university's laboratories, always working from your unchanging point of view, never doubting in the least but that all plant life had been put on earth for the sole purpose of being useful to us animals—us humans. Never considering that a plant may be and is a more perfect organism than any animal, and that as such it should have a better right to dominate the world than those crude botches of life that make up animal life, human life.

"You think me mad, Holm. Maybe so, but seeing the chaos and ugliness the animal races spread on earth, I determined that they no longer deserved to live, that the plants are at least equal to them and probably superior. And why not? A plant lives, even as animals live. It breathes as they breathe. It sleeps as they sleep and awakens as they awaken. It eats and drinks as they eat and drink, though in an infinitely superior manner, taking the raw and inorganic elements for its nourishment. You knew all this, Holm; you knew the work of Bose and Kasenin and Taylor; you knew that they have proved that plants can feel pain and can shrink from pain, can be intoxicated by certain substances and can reach toward the pleasure of intoxication, can feel even as animals can feel, and when given the power, can fight their enemies even as animals do. Plants that catch and kill insects and tiny animals in a myriad of ingenious

ways, plants that feign death when approached by enemies, plants that store water against the dry season—you knew of these and a myriad others, yet you would not admit that plants have consciousness, intelligence.

"But I knew that it was in fact only their immobility that had restricted the plant races. If they had no roots to hamper them, if they were able to move at will as animals are able to move, I knew that they would sweep all human and animal life before them from the face of the earth. A plant world, Holm! It was my ideal, a plant world in which a mighty civilization of the cool-minded plant races might some day develop.

"It was my dream, that, and I resolved to attain it, to loose the great plant races in full power upon earth, to wipe out all those animal species to which I myself, to my misfortune, belonged. So I set to work on the most gigantic task, surely, ever attempted, the task of reversing the order of domination of species that had reigned for such eons on earth, of raising up the plant races to rule and of annihilating for all time the animal races. To do that but one thing was necessary, and that was to give the plants power of movement. And there was a way, I saw, in which that might be accomplished.

"That way was simple enough in principle. Of the nine food elements required by all plants, only carbon, hydrogen and oxygen are present in the atmosphere in a form obtainable by plants. The remaining six the plant races could obtain only by sending roots down into the soil. If I were to add those six elements to the earth's atmosphere, in the form of gaseous compounds, the plant life of earth would need roots no longer. And since it is nature's rule to swiftly atrophy or wither any part of a living creature no longer used or needed, the roots of all plant life would swiftly vanish. I needed only to add those gaseous compounds to

the atmosphere, therefore, to cause a colossal plant revolt over all the earth.

"So I set myself to cause that plant revolt, in that way. Gathering together all funds I could command I disappeared completely from my accustomed life. My plan required that I find some spot on earth's surface where all of the six elements I required were present in quantities, and for a long time I searched for such a place. At last, however, I found the place I sought, here on the summit of this mountain above Hartville. The tests I made showed me that at a certain depth were present all the elements I needed, and so at once I began to prepare to use them.

"To cover my plans I announced myself in Hartville and elsewhere as a mine prospector, and for that expressed reason caused the great shaft here in the summit to be sunk to the depth of the minerals I needed. I had these buildings erected, and very secretly began the installation of an atomic pile to give me an unfailing supply of power, and then when all the supplies and equipment I needed were here I announced myself as dissatisfied with results and abandoned the place. Thus it was soon forgotten by all who knew of it, and in a few weeks I could come back secretly and begin work here without anyone knowing of my existence.

"My problem was a great one, to release the six elements I needed from their mineral compounds in the great shaft's depths, and to build them up again into gaseous compounds that could be poured up into the atmosphere. That is why I chose the atom, as an infinite source of power. I knew that once the plants lost their roots the flow of these food element gases would have to be continuous or they would die. The mightiness and abundance of atomic power would insure their continuation, even after my death.

"Then, after two years of preparation, I switched on my atomic generator and sat back to watch.

"I watched, Holm, and saw the plant life about me chang-

ing, saw the smaller plants on the mountain's slopes swiftly losing their roots, acquiring tendrils instead of leaves—tendrils that replaced the leaves, as I saw, because they could more efficiently obtain and ingest the nine elements now taken from the air instead of three. And, drawing themselves slowly over the ground with those tendrils, the plants acquired power of movement. I knew then that my theory had been correct to the last iota, and that given power of movement the plant races could meet the animal races on equal terms and could vanquish them.

"I watched that change going on upon the mountain, safe from it myself since there was no smaller plant life on the mountain's summit or upper slopes to form plant-masses that might menace me. And I knew that it was going on, more slowly, over all the world. The radio set I had brought with me informed me of those changes that were puzzling the whole world—changes of which none, not even you, Holm, had suspected the true meaning. And here on the mountain those changes were continuing, and even the stunted trees here on the summit were being affected, were putting forth masses of tendrils and were swiftly losing their roots, were striving also for power of movement. I watched their changes here on the summit, knowing that I could destroy them if I wished at any time before they could become dangerous to me. And so, last night the plant-masses had reached such a state of activity that they were able to pour down into the village in search of the animal food they sensed there, to strike the first great blow of the plant races at the world.

"And so last night, Holm, you came here in a futile effort to stop the holocaust. But you are too late. For with every hour earth's plant life changes as it has changed here, and when it shall have completely formed itself over all earth it will sweep all other living creatures from the face of earth and leave the great plant races supreme upon it for all time!"

Mandall's voice ceased, and to me, crouching there beneath the window in the fading light of sunset, it seemed that all things about me—the great shaft and its roaring current of gases, the building against which I crouched, the great tree-things whose masses of tendrils whipped restlessly about—that all these things were turning swiftly about me as I listened to the doom which one man had cast upon the world. Then as my spinning brain steadied a little I raised myself again to the window's edge, peered inside it. Mandall was regarding Holm still with his burning eyes, and as I looked I saw Holm raise his head and face him.

"Mandall, you're mad!" he said. "To send this terror upon earth—to raise these plant-creatures against your own race—"

"My own race!" cried Mandall in mad anger. "My own race, a race of botched animals—a race that I disown! The plant races shall be master, shall sweep it and all others from the face of earth!"

He wheeled toward the open door, took a step outside, his eyes gazing burningly out over the scene without. And as he did so I clung there for the moment incapable of motion, the horror that had weighed upon my mind with each passing hour seeming to numb it now from further action.

I strove, though, to gather my whirling thoughts, and raised myself a little farther above the window's level. Holm was sitting still opposite me, head down, in all his attitude expressing clearly the unutterable despair that filled him. I gazed fearfully toward Mandall, standing still outside the building's door, his back toward us, then made a swift motion. Holm, however, had not looked up, had not seen, and now in something like desperation I gave utterance to a low hiss, hardly audible. It was heard by Holm, though, for he looked quickly up at the sound of it, and then was staring at me with suddenly widening eyes, a cry of recognition upon his lips.

I silenced him in time with a frantic gesture, though, then pointed questioningly toward Mandall, outside the door. Holm looked toward him, his eyes alight now with hope, and then shook his head silently, motioning with his head in explanation toward the pistol plainly in sight in Mandall's belt. He nodded swiftly toward his own bonds, and I divined instantly that he wished me to release him, and that whereas two of us might overcome Mandall, in spite of his pistol, one could not hope to do it. I glanced again toward Mandall, whose somber gaze over the great vista before him was unchanged, and then drew myself gently up and over the open window's edge, and lowered myself silently inside.

Standing motionless for a moment with pounding heart, I took a silent step forward. It was but a dozen steps that separated me from Holm, yet each one seemed infinite in length as I stepped silently across the room toward him. I stole a glance toward Mandall as I moved on, but he had not turned, not moved, and now my hopes were running high as I stepped on, with my knife open in my hand. Holm was watching me come, his soul in his eyes, and then I was beside him, was stooping swiftly and with my blade was severing the bonds that held his wrists, was reaching then to sever those that held his ankles, reaching—

"Harley! Behind you!"

It was Holm's sharp cry beside me that made me whirl instantly around, and as I did so I had a momentary glimpse of Mandall's tall form towering over me, of the pistol in his hand raised above my head. So sudden had been that warning cry, so swift and sudden had been Mandall's leap back inside toward me when he had turned to see me, that I had no chance to grasp him, to grapple with him. I could but fling up my arms in a vain attempt to halt the blow from the pistol that even then was descending upon me. For even as I made that vain endeavor to avoid it the blow crashed down upon my head, and then brilliant light seemed

to burst from all things about me as I sank nervelessly downward into darkness.

Pain-shot darkness, black torments of racking pain—it was through those that I struggled back to consciousness. I was aware first of the dull roar of the shaft's gaseous currents, outside, and then of strange scuffling, smiting sounds that seemed to come from near me. Even then I was aware that it could have been but moments that I had lain in that unconsciousness, for my upflung arms had saved me from much of the force of the blow that had stunned me. Nearly dead from exhaustion as I was, though, after my wild climb up the mountainside, and half unconscious still from the crashing blow, it was only after moments of effort that I could open my eyes.

I was lying where I had fallen, where Holm had been, and now as I looked slowly about I saw through the open door Holm and Mandall, locked together in a struggle in the clearing outside. My blade had severed the bonds on Holm's wrists and though his ankles still were tied he was clinging with all the strength of mad despair to Mandall, who was struggling himself to shake him off; silently, except for the sound of their panting breathing and their scuffling over the ground in the clearing outside, with the great tree-monsters beyond them whipping their tendrils wildly about and straining to and fro.

I strove to lift myself from the floor, to reel out toward that struggling pair, but my stunned, exhausted body could not obey my will. I saw Mandall gradually beating down Holm's resistance, and I sobbed, writhed, and then with a supreme effort threw out my arms and dragged myself, only half-conscious still, a little across the floor. I crept forward toward the door, toward that switch which would put the dampers in the atomic pile, the switch that would save the world. On—on—while now Mandall and Holm were reeling still across the clearing in mad battle, always nearer

to the great tree-monsters at the clearing's edge whose tendrils were straining toward them.

Now I was within a yard of the switch, was dragging myself forward with the last remnants of my strength toward it. And as I did so I saw Mandall, struggling there with Holm almost within reach of the great tree-monsters' tendrils, glance momentarily toward me and see me. As he glimpsed me there almost at the switch his eyes became mad, and with insane strength he thrust Holm down to the ground, was leaping with pistol in hand toward me.

In that moment I knew it for the end; both Holm and I would be dead and the last chance of halting the world's doom gone. But even as Mandall leaped I saw something else, something that made me cry out crazily myself. I saw Holm, thrust to the ground by the other, spring upward with one last wild access of strength, saw him in spite of his bound ankles hurling himself in one swift motion upon Mandall and knocking him backward toward the clearing's edge, *knocking him backward toward the tree-monsters whose myriad tendrils were straining toward him!* There was a wild scream from Mandall as those numberless tendrils whipped about him; I saw him hoisted swiftly upward by them, still other tendrils shooting out to tighten about him, and then he had been drawn downward and out of sight into the tendril-covered mass of the tree-monsters, his mad screams abruptly ceasing.

Sunset was fading in the west again when Holm and I passed out of the building, to pause outside its door. It had not been until that morning that I had awakened, and during the hours of that day Holm and I had destroyed as much of the deadly apparatus as we safely could. Now, as we passed out of the building into the unchanged glory of sunset, we stood silent for a time in the silence that

seemed to lie over all the world.

Before us there drooped, brown and dead and withered, those great tree-monsters that Mandall's hand had loosed upon the world, and that had drawn Mandall himself to death. Brown and dead and withered they were now, their tendrils hanging limp and motionless—dead and withered as all those plant-hordes that had formed over earth, we knew, must be; dead and withered as Mandall himself had foretold would be the case were the great shaft's uprush of gaseous compounds halted.

Beyond those brown, dead, monstrous things, too, Holm and I could see far down and over the countryside in the sunset's light, fading now to twilight; could see, on the mountain's lower slopes far below, brown, motionless masses, brown and dead plant-masses, lying strewn about as they had perished, and we knew that over all earth the plant-masses that had formed would be lying dead also; knew that already the terror that had descended upon the peoples of earth so inexplicably would have lifted, as inexplicably, to them, and that upward already would be rising the joyful clamor of a world reprieved at the very moment of death.

"Mandall's doom." It was Holm speaking, gazing out over that far reach of mountain and valley. "Mandall's doom —and surely the world passed almost beneath it."

But my own eyes were on the brown, dead monsters before us. "Mandall's doom—yes," I said.

We were silent again then, there in the deepening twilight, were walking in silence through those withered tree-things to the summit's edge, were passing over that edge and down the slope, down toward the world. The darkness of night was descending swiftly upon us, white points gleaming out here and there above us. Steadily, though, we moved onward, downward, down the slope of the great mountain whose summit rose darkly behind us, its great bulk looming black against the sky's scattered stars.

MARY ANONYMOUS

By Bryce Walton

Ten miles out of New Washington the duralium observation tower was a slim needle stuck in the ground. Three officers of the UN High Command waited at the top of it, within view of the rocket. They waited for zero hour. They were Major-General Engstrand, Lt. Colonel Morgenson, and Major Schauffer.

At 0500, Professor Michelson entered. He still wore a chemical-stained smock, a faded shirt and a pair of baggy trousers. He sat down in a dissolving way indicating a vast accumulated weariness. He felt old, very old, now that the last big project was finished.

"The G-Agent's all loaded," he finally said. "Three tons." He looked out the window. "You may give the firing orders, sir," he said to Major-General Engstrand.

Relief sighed voicelessly in the tower room.

Schauffer also looked out the window. Morgenson contemplated his fingernails. Engstrand stood very straight, filled with the magnitude of this moment's promise of final victory. Then he grabbed up the phone. "All right, Burkson. Everything's set. The rocket will go as scheduled."

He sat down and wiped slowly at his puffy but somehow powerful face.

The slim and calm Schauffer turned, got a bottle out of the liquor cabinet, poured four drinks. "We've worked long and hard," he said. "A toast to a well earned victory, gentlemen."

They drank.

Michelson was thinking, not of a well earned victory, but of retirement and rest. Forty years he had worked. For victory over the Eurasians. After that, for victory over the

Martians. He wanted to sleep late, fish and rest in the sun.

"Three tons of G-Agent," Engstrand said softly.

The rocket would hit Mars. Countless other rockets would fly out of it, each directed, each exploding and casting out its deadly sprays and gases of the G-agent.

"Within an hour," Morgenson said, "after the rocket hits, there won't be a bug, a germ, a piece of lichen left alive. Unless somebody sends it there, there won't be anything alive on Mars again for a long time."

"I'd still like to know what kind of life it is," Schauffer said.

Michelson looked at the floor. "Now we'll never know."

"But we'll stay alive to speculate about it, and some day maybe they'll figure how to get a man across space. And then we'll know what died up there."

There was a chance, Michelson knew, but a very slim one, that something might go wrong. The rocket might crash on the Earth somewhere. But no one else probably even dared to think about it. None of them were as old nor as tired as Michelson. A lot of people would die. Just in case the Martians might have something in the way of gases as deadly as the G-agent, the population had been supplied with hypos of antidote, gas masks, and suiting. But still, so many people would die. However such a thing was very highly improbable.

They drank again.

Engstrand put his hand on Michelson's bowed shoulders. "Again you've done a magnificent job, old friend." His voice was low. "Three weeks ahead of schedule. That time advantage may have saved us all. God knows what the Martians are getting ready to send now!"

"One thing we can be thankful for," Schauffer said. "No spies. No worry about security, no saboteurs. Of course the Martians are lucky too—or were—in that respect." He looked thoughtfully into his glass. "The Martians did us a favor

really. They created world unity. A psychologist couldn't have predicted it. But think of that—since the war with Mars, no human being has ever tried to sabotage anything directed at defeating the Martians!"

"It's natural enough. This time it's humans against—well—God knows what! But nothing human." Engstrand poured himself another drink. "No human being has had anything to identify with in the enemy's camp. You're right, Major. In a way, the Martians did us a favor. And now we'll do them one—one last favor. They're too damn evil to live, and they'll sure be glad, somewhere in their guts, to be finished off!"

Schauffer turned to Michelson, and grinned. "Where's Mary?"

"She wasn't feeling well," Michelson said. "I left her out at Lake House." He stood up. Quietly, he said. "Good-bye, gentleman. I'm going home, to Lake House. I'm tired."

"Aren't you going to watch the rocket blast?"

Michelson shook his head. "I think not."

They all shook hand with Michelson. "Write us, will you, Mike," Engstrand said. "Let us hear from you often."

"Of course," Michelson said. At the door he turned, an old man, stooped by years of devotion to more and more deadly chemicals. "If you need me, I'll still be at Lake House."

He went out of the observation room and stood for a moment looking at the elevator that waited with an open mouth. He had always been with G-2. Back when they had started over again in the ruins of World War III he had been in charge of various space-going projects aimed at a quick defeat of the Eurasians, and this always included the latest complex developments in bacteriological warfare, and the use of liquid and atmospheric gases. He had sent the

first New Era test rocket into space, the first one to the moon, the first ones to Mars.

Instruments far in advance of the original telemetering and servomotor devices, had measured temperature, radiation, chemical makeup of atmosphere, minerals, various field effects, measured and catalogued all life, even to its cultural development, then sent back their measurements and evaluations on ultra-high-frequency to ground observers on Earth.

He had sent out the first rockets with monkeys, rats, guinea pigs and birds to test the effects of alien conditions on living organisms. No human being had ever survived. They stopped trying.

But the Martians had been carrying on a program much the same. They had been frightened. They had sent deadly rockets. The war had begun, fantastic push-button operation between worlds millions of miles apart. This Earth rocket loaded with three tons of G-agent was what the UN hoped would be the last retaliatory gesture in a number of years of interspatial bickering. For it was also evident now that no Martian could get across space to Earth.

Michelson sighed, stepped into the elevator and started home. Home to rest, fish, lie in the sun. Home to Mary who kept him occupied and entertained in his loneliness.

But Mary had not been ill. She had not stayed at Lake House either. She had been aboard Michelson's helio, hiding in the luggage compartment. She had the key to Michelson's office and she was there.

But her head ached now. She hadn't slept for two days, thinking about what had to be done. Her head ached worse now as the wave directives came again and again, bringing new bursts of coercive pain with any deep emotional hint of possible resistance.

Now, in fact, there was doubt in Mary's mind that there was any desire to resist the directives, or if there ever had

been. Now even those lingering wonderings about the possibility of doubt brought pain.

Better just to act. And it was time.

The clock gave her exactly one hour, she knew, to destroy the central building sector, the heart of the giant UN Research Foundation, and also wreck the rocket due to blast for Mars. She had heard Daddy Mike say what time the rocket would blast if he got the G-Agent loaded on schedule, and she knew he had done that.

There was little if any caution exercised at the Foundation. It had been well established by years of precedent that humans just didn't sabotage an effort directed at aliens. Especially Martians who, time and time again, had almost brought destruction to earth in innumerable unexpected ways. Added to that was the fact that no Martian could get across the void to take care of it directly, any more than an Earthman could to Mars for a similar purpose.

Mary had the advantage of this freedom. But the immediacy with which she could be identified by all the personnel about the Foundation might be a handicap as well as a possible advantage. She would have to exercise extreme caution herself.

The directives had stopped. She was on her own as long as she didn't resist the preceding orders. From this point on it was strictly Mary's responsibility.

She checked the electrodoor. No one was approaching Daddy Mike's office. She wasn't sure whether or not he would return to his office before going to Lake House. She wondered what he would do, how sad he would be, to find her gone.

From behind the rearmost, long unused files in the filing cabinet, she took the capsule of G-Agent. There was enough of the nerve gas in the ten ounce container to destroy everyone in the building, within half an hour after it was thrown into the ventilator shaft.

She went to the wall, pressed the button, and the opening was revealed by a sliding panel. Without hesitation, she tossed in the capsule of G-Agent. Dimly, she remembered how she had collected it, painfully over a period of months, drop by drop and stored it in the special non-corrosive alloy of the container. She had access to all of Daddy's laboratory equipment.

The container would explode in half an hour. Thirty minutes to get outside the buildings and over to the pits and the lethal rocket.

She felt nothing but a kind of depersonalized tension of responsibility as she removed her hat and took the small deadly neutron beam gun from the tiny sling she had fixed inside. She put the hat back on and tied the ribbon under her chin. The hat had caused much amused reaction from those friends of Daddy Mike who had become accustomed to her being constantly with the old man.

She ran into the bright shine of the tubular metal hall. She hoped with a flash of unexpected feeling that Daddy Mike would leave the building before the G-Agent was activated.

He loved her. Her heart throbbed painfully as she remembered how much Daddy loved her. How he had held her on his lap and stroked her hair and philosophized endlessly to her, not caring that she was not supposed to understand such complexity. But sharing this as he did all things with her in his aging loneliness.

She crouched there in the hall and thought of that, how she would love Daddy as Daddy loved her. Except that she was incapable of love. Dimly she remembered that once, long, very long ago, there had been a kind of spontaneous expression of physical desire, and sensuous pleasure, from the contact with others. But since then there had been the experiments, endless, too painful to recall. The bursting of blood and the repair, the brain slicing and the laying open

of cells, and the sewing up. Years, a lifetime, a foreverness of pain, and the apparent making good as new again. But the scars were too deep too show, and too deep to mend.

Such pain for so long, the cold objective testing, had killed any capacity for love. Mary was convinced of that.

She held the gun to her left side and ran in silence down the glowing tube.

An overweight guard in his brown UN uniform eased around the curve in the tube and stood with his back to her. It was a good place for him to walk what was to him a useless beat. There was nothing to guard against but boredom. This was the building's left wing and fairly isolated, and he could merely stand here and wait for the far end of his shift.

She slid along the wall. Her feet moved with a vague whispering silence, the silence of unconscious stealth. But then the guard turned to place his heel more comfortably on the inward-sloping bottom of the tube. And he saw her.

He grinned. "Mary!" he said. Everyone knew her. And everyone loved Mary. "What are you doing out here?"

He could never guess the truth, she thought. Even if someone told you, you would never believe it.

The good humor spontaneously beginning to bubble from the fat guard was changed into a kind of gasping cough of unbelieving fear. Desperate words filtered out through his teeth. A white line moved around his lips. His hands reached out and hung suspended.

"Mary—Oh God, Mary—the gun, that's—that's a real gun, Mary—"

The charge was light. It contacted the Guard's face just above the chin. It dissolved instantly all of his face and most of his brain. It left only a smeared shell of bone behind, like a bowl tipped up.

She ran on down the slightly curving tube. *They were never never so kind to me. For he is free from the directives*

that pull and push and pry and pick at the brain. He is free from pain.

When this was done, she would be free. As free as the guard.

Once near the rocket, the long task would be ended. She would then theoretically be free from the complex thought which her body was incapable of handling without pain. Free from the pain of an imbalanced body and nervous system. And free of the coercion bands, the directive waves that could sometimes rip the cells apart.

She pressed the down button of the elevator. At that moment the high scream of the alarm sirens shrieked in her ears. She cowered a moment. It came from all around. It bathed her in painful sound. It became a pervading throb that seemed to come from the metal everywhere.

They had discovered the guard already. That was one of those unpredictable elements. Purely chance that anyone would have passed there just after the guard was killed. That could be the only reason for the alarm!

She had to get outside the buildings. She had to get over there near enough to the rocket to blast the firing tubes! She wasn't even off the tenth floor.

There was nothing to fear except failure. Death itself would be a welcome if not a preferred kind of freedom for her. But if she failed and lived, there would be torture. And the misty worlds of pain, not only in the labs but from the coercion directives. As far as she knew, perhaps the directive rocket buried somewhere high in the pines near the lake would contain even more duties for her, if this failed. Except that now she would be known and they would hunt her down and—but so far they did not know who had killed the guard.

No, if they caught her they wouldn't kill her. That was sure enough. There would be the labs again. They would

probe, cut her open, try to find out why. She had long been a living instrument for finding out why.

As the elevator dropped, the walls pulsed with the screams of the alarms.

She had one advantage she realized that she had been doubtful of earlier. She was Mary, and everyone knew and loved her. Though it was definite now that a saboteur was loose inside the Foundation, there was nothing so far to connect Mary with such a fact.

She concealed the gun in the sling inside her cap, and tied the ribbon firmly under her chin. When the elevator reached the first floor, the panel slid back. She was tensed to run out, but a group of Foundation guards were running for the opening. Their faces were twisted into various expressions of tense terror. They were all inside a gigantic gas capsule, they knew that, one of terrible potential lethality. Evidently it was suspected that the G-Agent might be used.

Mary ran out, turned, leaped for the narrowing gap between the guards and the arched opening that led into the court. Most of the guards scarcely noticed her at all, and if they did they evidently figured it was hardly anything to cause diversion from the awful emergency.

But one of them, a man named Jonothan who had often caressed her and expressed his love for her, smiled. It was a kind of conditioned reaction that broke the frozen fear of his mouth and cheeks. He leaned toward her, his hand outstretched.

"Mary—this is no place for you, baby. You'd better come back up with us."

The invisible mouth of the intercom spoke. "The saboteur may be heading for the rocket which must blast on schedule. Already deadly gases may have been released inside the Foundation. Sections five and six will establish instant cordon around the rocket pits. Anyone not obeying security

instructions will be shot instantly. Anyone entering or leaving the Foundation buildings or grounds without proper identification will be shot. All guards will immediately put on masks, and protective suiting, and will prepare antidote injections. Sections seven and eight will search the main wing. Sections nine and ten—"

"Come on, John!" someone yelled from the elevator. Kits were falling open. Masks were unfolding. Suit capsules were exploding under compressed air, and the special suits were breaking out in fluffs of green.

"Hey, for God's sake, Johnny, come on!" The voices were ragged with fear.

A warning would also, Mary knew, be going out to all civilians made susceptible immediately by inversion, movements of predictable winds. But Mary knew that many would die, many many would die, when the rocket crashed. If she could succeed.

Only for that inevitable percentage who would die in great pain did she have any recognizable sympathy. She had a duty, else she herself would experience greater and greater pain.

"You'd better come along with us, Mary baby," Jonothan said. He reached for her, while the others yelled at him. The intercom itself was toned with terror that was in the walls and in every man's eyes and his voice and the stance of his body.

Mary giggled. She started a kind of disarming dance. But this time it did not excite the laughter and general response it usually did.

Her stomach turned sickeningly at she felt the release, the ribbon fluttering and the cap falling. The thud and the bright shining spin of the gun over the mosaicked floor. The sling had broken.

She danced toward it.

Jonothan yelled, but the voices of the others snapped off

into a pulsing silence. Then an incredulous murmur trickled over the floor.

"Mary—what are you doing with that? Mary—stop—wait, Mary—"

Desperately, Jonothan dived to the floor. He clawed. He kicked with his frantic feet for traction on the floor. He screamed at her as he pawed to reach the gun. But she leaped over him and turned with the gun ready.

Jonothan was slowly standing up. His face was white. His lips moved. His throat trembled. But no words came out.

Behind him, a voice shivered. "Give us the gun, Mary."

Pleading, cajoling, shaking, other voices joined.

"Mary—give us the gun now!"

"Please, Mary, you can kill people—"

"You just give Uncle Patrick the gun now, honey, and—"

She was backing away toward the arched opening. Beyond that were the gardens, the fountains, the pretty landscape of the courts. Beyond that were the helio landings, and then the pits. It wasn't so far.

Jonothan was trying to smile at her as he reached again for the gun. Behind him, the others stood immobile and without any more words. The intercom had words, but no one was listening now.

She fired a much heavier charge than that against the guard on the tenth floor. Between Jonothan's outstretched arms which had held her with love, his torso and head disappeared. His arms fell and the legs toppled like parts of a mannequin. Beyond the vacancy that had been Jonothan, several others tried to draw their guns. All were abruptly reduced to jellied and smoking anonymity. Mary ran for the courts.

She heard herself giggling without recognizable meaning as she ran under the rainbowed fountains, leaped the flower

hedges, and skimmed over the carefully designed green of lawn patches.

She still had that initial advantage. No one still could logically connect her with what was happening. So far there were no living witnesses. At least it was unlikely that there were.

She was a little behind her schedule and every second was now important. Where before there had been allowed some margin for error, now there was none.

She wanted to get a helio. She wanted to get as far up wind and as far into the air as possible when the G-Agent began drifting over the land. She wanted to live for the reasons she had thought about before, many times. She couldn't say that her life was important to her now any more than it ever had been. It had never been her life, not in her memory. Always she had been the instrument of others. She could blast the rocket back to earth from inside a helio, and keep on from there to some degree of personal safety.

That was the plan.

As she ran she wondered with a kind of dull throbbing hope if after this task was fulfilled, she would be free of the Martian directives. She didn't know. She could only hope.

Long after the high degree of intelligence she now possessed came to her, (that too having been something imposed to increase her effectiveness as an instrument) she had prayed to be free of pain and imprisonment. Even where there was not the capacity to formulate any awareness of her merely being used, or of being a prisoner of others, she had felt the primitive cellular discontent that had now become open and passionate desire for freedom.

Maybe after this was done, she would be free for the first time that she could really remember. What she could do with it, where she could go, where she could hide with it, whether she could even live to enjoy it, if in fact she

could enjoy something she had never had, was really not of much consequence to her as she ran and thought about it. Even one brief flare of freedom would be its own exultant reward.

Figures made a scrambling chaos of unreality out of the area which usually displayed such a paradoxical atmosphere of quiet peacefulness. Sirens shrieked. Helios hummed and hovered nervously, then darted off in angled desperation through the slanting rays of dusk. Evidently there were a fortunate few whose emergency obligations were taking them elsewhere. And a few others, undoubtedly, who were escaping in guilt-ridden cowardice from an intolerable suspense.

She jumped, slid the cowl back, crawled into the plastoid bubble before the two-seated passenger helio. The controls were simple. She had watched Daddy Mike many times as he commuted to and from Lake House. Jokingly he had let her sit on his lap and play with the controls, not being able even to suspect what she was really learning, and what the end result would be.

As the helio whirred to lifting life, Mary did not bother with altitude. That would come later. She sent the helio skimming low over the courts and the landing plots, over the monuments and fountains, toward the pits.

Warnings would be going out across the decentralized populations of the nation. Terror would be creeping over the land as the G-Agent would creep over it soon, very soon now.

One thing she was still sure of—no one knew, or could even suspect, the identity of the saboteur they were searching for.

She heard the gasp, then a sort of whimpering moan, and that changed even as she turned with tense sharpness, to hoarse and spasmodic laughter.

She seemed geared to any emergency, so that nothing,

such as this, could be a surprise. A surprise would mean temporary indecision. She could not afford that. She turned, keeping the controls level, and raised the gun.

A man was on his knees, his hands gripping one another. His eyes and teeth protruded, and saliva ran out of the corner of his mouth. Evidently he was a civilian employee, a clerk with his anonymous brown suit and his shaven head. Someone who had no strong identification with the plant except that it was a job, it was security. So now that it had turned into a giant gas capsule, he had only wanted to get away from it. His eyes kept bulging as they stared at Mary. They didn't believe in Mary. He was trying to laugh away what wasn't logical. But he couldn't laugh it away.

"I was told to lay off the neuro-tabs," he whispered. "The medic told me I'd start flipping—flip, flip—he said—if I took too many neuro-tabs. He was right. I've flipped. I'm gone." Then the laughter that was not laughter really broke out all over him like a rash, and it filled the interior of the helio. "I've run away from my job when the alarm sounded!" He started screaming. "I can't go back anyway. No job—hell—I'm finished no matter what!"

He bent forward and groped for the button that would open the rear helio door. Mary lowered the gun, hoping this man's own madness would make it easier for her. Adjusting the blast so that it would kill him without releasing too much deadly kinetic energy within so small a space would be a delicate thing. It was highly dangerous.

He turned while the wind sucked at him and flapped his brown suit around his bony legs. He blinked slowly at Mary and tears ran down his cheeks. "Even if you're not real, you're the last I'll see, the last thing. So good-bye!"

The air pulled him abruptly out into its deceptive nowhere. For an instant, she felt drawn to his lonely pathway of escape. She wanted to say after him, "Good-bye," but she couldn't.

As the helio swung to the left, the rocket lifted with strange slowness, heavy and steady, on its column of fire. Reality compressed to only the helio and a narrowly restricted line between the gun and the lifting rocket.

A few other helios moved in the area, but none nearly this close to the rocket. Observers would know. Once the thing was done, she wondered if she could possibly escape. They would know that the destructive blast came from this helio.

A section of the cowling slid back. The helio slowed, hung suspended. Mary aimed slightly upward. She felt the automatic sight adjuster clicking delicately, the slight tug as the mags tilted the barrel directly into the meticulous balance of the firing jets.

As she fired, she sent the helio straight up at maximum speed and the cowling slid closed.

This was the end of her assignment. The gun's full charge had been exhausted. It was no longer of any use. She dropped it. She knew the hit had been direct. A glance showed the rocket already curving in a terrible kind of deceptive gentleness away to the right over New Washington. Soon its parabola would become a screaming plunge. Nothing could divert it. To try to destroy it in the air would mean nothing, for in any case, its deadly tons of G-Agent would be spread on the winds over the land.

The Foundation and everything in it would, by now be thoroughly contaminated by the G-Agent she had released inside. It would take a long time to decontaminate, to rebuild. And a lot of people were going to die, would be dying now. The antidote would save many from death. It would preserve others short of death in a state she could not envy, for to her it would be far worse than dying.

But Mary could hardly concern herself with the wrecking of the Foundation, or the people who would die. Her con-

cern was intense—to escape, to hide. And to know for certain whether or not, now that her task was done, the agonizing coercive directions from the Martian rocket would continue.

So far there was no hint of this. She only wanted to get away. There were no invisible fingers probing in there, none of the drawing to tautness that had so many times ended in torture. Maybe somehow, the directive rocket with its intricate mechanism was delicately equipped to know when her job was successfully done.

She would soon know.

The helio whined with strain. A shiver racked the metal. A scream burst from Mary's lips. She concentrated on her hands, forced the controls, drove the helio at maximum speed, trying to head across the park reserve toward the river and the great National Forest area.

But already they were in close pursuit. Figures were running in all directions far below.

The stars were breaking out and it was night now except for the glare of the exploding rocket far to the left. Now below the forest area shifted into view and the winding shine of the river.

Night was the best time for the spreading of the G-Agent. Inversion was right. The stuff swept along close to the ground which cooled more slowly than the air. That, too, had been planned. The timing was right. Everything had been worked out right.

But now—what was to happen to her?

She felt none of the probing demands from the direction rocket. She felt not even a hint of them. Perhaps they had gone away forever and she was free. Free! FREE!

They wanted her alive, or her helio, with her as part of it, would have been disintegrated long before this. She could understand why. The worst that she could do she had done. There was no need in killing her to prevent more sabotage.

They wanted her alive. They wanted to know who she was, what she was, what organization or organizations she represented, if any. They had no idea who she was. Or at least it seemed unlikely yet that they had found out. Perhaps they even thought she was a Martian. Whatever they thought, they didn't know. She realized how desperately they had to know.

The helio dropped straight down toward the deceptive softness of the forest sea. The wind sighed around the helio as the green darkness loomed up, seeming to rush up from all sides, its softness changing suddenly into the harshness of jagged limbs and bulging trunks. She clung to the dead controls as though there were some kind of promise in them, some solidity. But everything dropped from under her, a sickening dislocation, and she clung as though she had no support, as though the earth itself were falling away.

The tearing impact was like a thousand echos of her terrors.

And the forest and the wet shine of harsh wood that tore metal and ripped like flashes of hot light, the blanket of crushing leaves, and the cooling shadows rushed smothering in around her.

Lights fingered through the leaves. She could hear footsteps, stealthy and invisible, flowing among the lights. The lights moved around, streaming in from all directions, like the shifting bars of a tightening cage.

She wasn't dead! When she moved slightly in the twisted shine of metal, a beam of light glanced from it in a blinding glare. She felt the pain from her torn leg. Her right side seemed crushed. She felt the hotness of blood burning her ribs.

She heard voices murmuring through wet leaves, caught the slight movement of protective green suiting and the shining leer of gas masks. They were far upwind now from where the rocket had crashed to spew out its lethal loads.

She didn't know as she squirmed desperately through the jagged hole in the metal, whether or not one of the many subsidiary rockets had exploded up wind from this location.

It was something to look forward to.

She tried to suppress the whimpering moan as the torn leg scraped over the metal. Then she dropped to the damp leaves and crouched there and wondered which way to go. The light beams moved in, crisscrossed now like a tightening wire mesh. She crawled, digging her fingers into the leaves. The leaves whispered a call to her from above.

The light swung. Its beam flooded full and blindingly in her face. A gun came into view over the edge of the beam and feet smashed toward her through the brush.

Her only weapon was the oldest one of all. She sprang up. The beam flashed upward in a wavering circle as her hands closed on the man's throat. Her weight carried him scrambling back. His heels caught. He fell. His hands stabbed around with the gun as his breath choked off and his muscles worked with panicky power. With her left hand she dug into his windpipe. She released the other hand and tore the mask away, ripping the tough fiber like rotten cloth.

She flung the flashbeam away, dragged the guard into the brush. Light beams slashed around as she crouched among the leaves. The man no longer struggled. When she took her hand away from his throat, he still did not struggle.

A beam flashed full over her, held. Someone yelled wildly: "The guy who fell out of the helio! He was right. Oh God—he wasn't crazy!"

"Don't shoot! Don't shoot, you idiot!"

"I tell you he was right! It's Mary! The man was right—"

"Don't shoot! That's an order!"

She leaped up, caught the limb. She went on up among the thick sweet concealment of a thousand leaves. She swung into the next tree, then the next, faster and faster she moved. The leaves skimmed past her face.

Her breath came in ecstatic gasps as the light beams faded behind, and the damp dark freedom of the trees spread away in all directions.

She knew which way to go. And she was going there a long time before she even realized the fact. She wondered vaguely for a moment then how it was that she knew where to go, for it was a long way, over the river, and through the hills and the forest.

Guards in helios whirred everywhere in the night clouds. Cars whined through the narrow roads around her. A net formed through the forest. A net of men, guns, lights, cars, helios, and many kinds of detectors.

For what seemed much longer than it was, her strength held.

It enabled her to pierce the net again and again when they were sure she was trapped. She went over it, under it, through it, part of the thick night in the trees and the brush. The river was the worst, for she hated water.

But she could no longer climb through the comparatively safe corridors of the trees. She could no longer run. Air sucked between her teeth. One leg dragged behind her as she crawled slowly through the dark, along the lake, up the winding path. She could only crawl. Finally crawling became a hitching dragging effort that slowed with each attempt.

Blood and dirt had formed a sticky mud over her legs and ribs and chest. Damp leaves stuck to her, and the bitter rocks of the path leading up to the cabin had cut her flesh. There were lights in the windows of Lake House. The windows and the door were open to the warm night. Beyond the cabin she could see Daddy Mike's helio on the landing.

How quiet and peaceful it is, she thought, here by the lake in the forest in the night. The moon moved from behind the clouds and spread a warm golden mist over the ground. Frogs sang from the lake below. And from all around

came the insistent humming and stirrings and singings of life, but all muted and peaceful and subdued to make the night peaceful and quiet.

She dug her fingers into the rock of the path. Her body dragged on a little at a time. She whimpered again, but not very loud. Her body flattened in a weariness that was only a little above defeat. Her face pressed to the cool stone.

"Daddy," the inexpressible thought was a whisper in her mind. "Help me, Daddy. You love me—"

She remembered the warmth inside, the old man with his warm laughter, taking her on his lap, caressing her, swinging her up on his shoulders and walking with her along the lake in the evening. She thought of the old man who loved her.

The thought gave here enough strength to reach the open door. She lay there sighing in her chest, her face pressed against the wood.

She raised her eyes to the interior of the cabin.

She tried to move nearer, tried to lift her hand up into the shaft of light. She wanted to call out, say something. Only a low inaudible moan strained through her clenched teeth.

She rolled half over. Inside then, she saw Daddy Mike. He was sitting near the big radio panel, his head bowed and resting on his hands. On the other side, through the open door, she could see the gleam of glass and metal from the big laboratory. A spasm went through her. She could hear the sounds of caged life in there.

Lights blinked on the radio panel. Michelson slowly raised his head and twisted a dial. "Yes," he said. She could hardly hear him. He seemed very tired, more tired than she had ever seen him. And much older too. Old and thin and tired.

"Mike—"

"Hello, Engstrand."

"I've got Guards on the way up there, Mike! Has that damn thing showed up yet?"

"No—not yet."

"I don't know why I never figured it would try to get back there. But that's where it's heading, we're sure of it now. Listen, Mike—if it does get up there before my men do, remember, don't kill it! Do anything you can think of, but keep it there and don't kill it! Apparently it's wounded anyway!"

"Yes, yes," Michelson said. He brushed at his eyes.

Mary lay there, half inside the open cabin door, imprisoned by her inability to speak. She stared into the laboratory, then at Michelson.

"We're set back at least five years, Mike! It's a hellish thing! But who could have anticipated a thing like that?"

"I guess nobody could."

"We're getting things under control, but it's hell down here! We don't know yet how many people have died."

"How could it be," Michelson said. "I've tried to figure out—"

Engstrand's voice was loud. It seemed to Mary that he was right there in the cabin with Michelson. "It's obvious what happened, Mike! Those first experimental rockets we sent up there. The damn Martians got hold of one of those chimps and worked on it. Sent it back and we didn't suspect the difference. They made it intelligent enough to plan and execute this whole thing! They must have put one of their own brains into it or something. Only a damn Martian would think of a thing like that!"

Michelson's head raised quickly. From the side, Mary could see his eyes suddenly widen. Then he wiped his hand across his lips.

The hand trembled. "Of course," he whispered then. "But who could ever have suspected it?"

"That's the only explanation," Engstrand said. "We've got to have that chimp alive! We can learn plenty from it. We'll cut in there and put that brain under observation . . ."

"I'll do what I can, if Mary shows up here," Michelson said. "But those Guards should get here!"

"They will, Mike! They will! They're on their way."

Mary dug her fingers into the floor. She moved slightly, and one hand fell with a slight thud. Michelson looked down. He kept on staring. His lips moved without saying anything a few times, then he stammered. "Engstrand—she's here!"

"What? What?"

"She's here—here on the floor. She just—just crawled in through the door!"

"Don't kill her! Get a hypo or something—"

Michelson slowly stood up. "There's no danger," he finally said, still looking down at her. "She's wounded all right. She looks almost dead now."

"Don't let her die!" Engstrand's voice filled the room. "You've got to keep her alive!"

"All right, I'll do what I can," Michelson said. "You'd better come up now. Bring the medics. We may have to work on her fast."

"I will. I'm on my way!"

She wanted to say no. She wanted to scream out no and tell him it was all wrong. If the Martians had given her the ability to speak, she could have explained everything long before this, and they could have helped her, and none of this would have happened. She could explain how she was forced to kill and destroy.

Michelson backed away from her, haltingly, then ran into the lab. He came back out and knelt down. He had a long hypodermic needle. The needle came down. It looked bigger and bigger.

She had thought maybe he would understand. But he didn't. He couldn't. Nobody could.

A few words could have made all the difference. But she could not speak.

What she wanted to explain most of all was that it was no kind of Martian intelligence that had been given to her. The Martians had no familiar kind of intelligence. They had worked on her, developed her own brain to its capacity. If they only knew that here it would be so different. I'm more like you, she wanted to explain, more like you than you could possibly guess. She could say nothing.

She could only whimper as the needle went in. Dimly, she saw the table wheeled out, the shiny familiar gleam of the instruments, the septic chrome containers and the rising cleansing waves of steam.

She felt herself being lifted to the table. The wheels turned inexorably under her. The ceiling swam in a blur above her. The gray aging tired face bent over her. She could roll her eyes back and see the dark mouth of the laboratory door opening wider and wider as she was wheeled toward it, through it—

You said you loved me, she thought, as he bent over her and she could hear the clinking of glass. But you never did because if you did you would understand, even though I cannot speak.

She closed her eyes. Around her were the familiar smells, the antiseptic, the chemicals, the odor of animals waiting to die or be experimented on in their cages. She could hear the chattering of the monkeys, the coughing of dogs, the squealing of rats. She could remember how the placid guinea pigs would be seeking one anothers' warmth in the corner of a cage.

It was all beginning again, and there would never never, she knew, be an ending to it.

She clutched at his hand, squeezed it between her hands and pressed it against her cheek.

"Daddy," the thought whispered unheard, "Daddy Mike—"

THE STAR
By H. G. Wells

It was on the first day of the new year that the announcement was made, almost simultaneously from three observatories, that the motion of the planet Neptune, the outermost of all the planets that wheel about the sun, had become very erratic. Ogilvy had already called attention to a suspected retardation in its velocity in December. Such a piece of news was scarcely calculated to interest a world the greater portion of whose inhabitants were unaware of the existence of the planet Neptune, nor outside the astronomical profession did the subsequent discovery of a faint remote speck of light in the region of the perturbed planet cause any very great excitement. Scientific people, however, found the intelligence remarkable enough, even before it became known that the new body was rapidly growing larger and brighter, that its motion was quite different from the orderly progress of the planets, and that the deflection of Neptune and its satellite was becoming now of an unprecedented kind.

Few people without a training in science can realize the huge isolation of the solar system. The sun with its specks of planets, its dust of planetoids, and its impalpable comets, swims in a vacant immensity that almost defeats the imagination. Beyond the orbit of Neptune there is space, vacant so far as human observation has penetrated, without warmth or light or sound, blank emptiness, for twenty million times

a million miles. That is the smallest estimate of the distance to be traversed before the very nearest of the stars is attained. And, saving a few comets more unsubstantial than the thinnest flame, no matter had ever to human knowledge crossed this gulf of space, until early in the twentieth century this strange wanderer appeared. A vast mass of matter it was, bulky, heavy, rushing without warning out of the black mystery of the sky into the radiance of the sun. By the second day it was clearly visible to any decent instrument, as a speck with a barely sensible diameter, in the constellation Leo near Regulus. In a little while an opera glass could attain it.

On the third day of the new year the newspaper readers of two hemispheres were made aware for the first time of the real importance of this unusual apparition in the heavens. "A Planetary Collision," one London paper headed the news, and proclaimed Duchaine's opinion that this strange new planet would probably collide with Neptune. The leader writers enlarged upon the topic. So that in most of the capitals of the world, on January 3rd, there was an expectation, however vague, of some imminent phenomenon in the sky; and as the night followed the sunset round the globe, thousands of men turned their eyes skyward to see—the old familiar stars just as they had always been.

Until it was dawn in London and Pollux setting and the stars overhead grown pale. The Winter's dawn it was, a sickly filtering accumulation of daylight, and the light of gas and candles shone yellow in the windows to show where people were astir. But the yawning policemen saw the thing, the busy crowds in the markets stopped agape, workmen going to their work early, milkmen, the drivers of news-carts, dissipation going home jaded and pale, homeless wanderers, sentinels on their beats, and in the country, laborers trudging afield, poachers slinking home, all over the dusky quickening country it could be seen—and out at sea by seamen

watching for the day—a great white star, come suddenly into the westward sky!

Brighter it was than any star in our skies; brighter than the evening star at its brightest. It still glowed out white and large, no mere twinkling spot of light, but a small round clear shining disc, an hour after the day had come. And where science has not reached, men stared and feared, telling one another of the wars and pestilences that are foreshadowed by these fiery signs in the Heavens. Sturdy Boers, dusky Hottentots, Gold Coast Negroes, Frenchmen, Spaniards, Portuguese, stood in the warmth of the sunrise watching the setting of this strange new star.

And in a hundred observatories there had been suppressed excitement, rising almost to shouting pitch, as the two remote bodies had rushed together, and a hurrying to and fro, to gather photographic apparatus and spectroscope, and this appliance and that, to record this novel astonishing sight, the destruction of a world. For it was a world, a sister planet of our earth, far greater than our earth indeed, that had so suddenly flashed into flaming death. Neptune it was, had been struck, fairly and squarely, by the strange planet from outer space and the heat of the concussion had incontinently turned two solid globes into one vast mass of incandescence. Round the world that day, two hours before the dawn, went the pallid great white star, fading only as it sank westward and the sun mounted above it. Everywhere men marvelled at it, but of all those who saw it none could have marvelled more than those sailors, habitual watchers of the stars, who far away at sea had heard nothing of its advent and saw it now rise like a pigmy moon and climb zenithward and hang overhead and sink westward with the passing of the night.

And when it next rose over Europe everywhere were crowds of watchers on hilly slopes, on house-roofs, in open spaces, staring eastward for the rising of the great new star. It rose with a white glow in front of it, like the glare

of a white fire, and those who had seen it come into existence the night before cried out at the sight of it. "It is larger," they cried. "It *is* brighter!" And, indeed, the moon a quarter full and sinking in the west was in its apparent size beyond comparison, but scarcely in all its breadth had it as much brightness now as the little circle of the strange new star.

"It is brighter!" cried the people clustering in the streets. But in the dim observatories the watchers held their breath and peered at one another. "*It is nearer,*" they said. "*Nearer!*"

And voice after voice repeated, "It is nearer," and the clicking telegraph took that up, and it trembled along telephone wires, and in a thousand cities grimy compositors fingered the type. "It is nearer." Men writing in offices, struck with a strange realization, flung down their pens, men talking in a thousand places suddenly came upon a grotesque possibility in those words, "It is nearer." It hurried along awakening streets, it was shouted down the frost-stilled ways of quiet villages, men who had read these things from the throbbing tape stood in yellow-lit doorways shouting the news to the passers-by. "It is nearer." Pretty women, flushed and glittering, heard the news told jestingly between the dances, and feigned an intelligent interest they did not feel. "Nearer! Indeed. How curious! How very, very clever people must be to find out things like that!"

Lonely tramps faring through the wintry night murmured those words to comfort themselves—looking skyward. "It has need to be nearer, for the night's as cold as charity. Don't seem much warmth from it if it *is* nearer, all the same."

"What is a new star to me?" cried the weeping woman kneeling beside her dead.

The schoolboy, rising early for his examination work, puzzled it out for himself—with the great white star, shining broad and bright through the frost-flowers of his window. "Centrifugal, centripetal," he said, with his chin on his fist. "Stop a planet in its flight, rob it of its centrifugal force, what

then? Centripetal has it, and down it falls into the sun! And this—!

"Do *we* come in the way? I wonder—"

The light of that day went the way of its brethren, and with the later watches of the frosty darkness rose the strange star again. And it was now so bright that the waxing moon seemed but a pale yellow ghost of itself, hanging huge in the sunset. In a South African city a great man had married, and the streets were alight to welcome his return with his bride. "Even the skies have illuminated," said the flatterer. Under Capricorn, two Negro lovers, daring the wild beasts and the evil spirits, for love of one another, crouched together in a cane brake where the fire-flies hovered. "That is our star," they whispered, and felt strangely comforted by the sweet brilliance of its light.

The master mathematician sat in his private room and pushed the papers from him. His calculations were already finished. In a small white phial there still remained a little of the drug that had kept him awake and active for four long nights. Each day, serene, explicit, patient as ever, he had given his lecture to his students, and then had come back at once to this momentous calculation. His face was grave, a little drawn and hectic from his drugged activity. For some time he seemed lost in thought. Then he went to the window, and the blind went up with a click. Half way up the sky, over the clustering roofs, chimneys and steeples of the city, hung the star.

He looked at it as one might look into the eyes of a brave enemy. "You may kill me," he said after a silence. "But I can hold you—and all the universe for that matter—in the grip of this little brain. I would not change. Even now."

He looked at the little phial. "There will be no need of sleep again," he said. The next day at noon, punctual to the minute, he entered his lecture theater, put his hat on the end of the table as his habit was, and carefully selected

a large piece of chalk. It was a joke among his students that he could not lecture without that piece of chalk to fumble in his fingers, and once he had been stricken to impotence by their hiding his supply. He came and looked under his gray eyebrows at the rising tiers of young fresh faces, and spoke with his accustomed studied commonness of phrasing. "Circumstances have arisen—circumstances beyond my control," he said and paused, "which will debar me from completing the course I had designed. It would seem, gentlemen, if I may put the thing clearly and briefly, that—Man has lived in vain."

The students glanced at one another. Had they heard aright? Mad? Raised eyebrows and grinning lips there were, but one or two faces remained intent upon his calm gray-fringed face. "It will be interesting," he was saying, "to devote this morning to an exposition, so far as I can make it clear to you, of the calculations that have led me to this conclusion. Let us assume—"

He turned toward the blackboard, meditating a diagram in the way that was usual to him. "What was that about 'lived in vain?' " whispered one student to another. "Listen," said the other, nodding toward the lecturer.

And presently they began to understand.

That night the star rose later, for its proper eastward motion had carried it some way across Leo toward Virgo, and its brightness was so great that the sky became a luminous blue as it rose, and every star was hidden in its turn, save only Jupiter near the zenith, Capella, Aldebaran, Sirius and the pointers of the Bear. It was very white and beautiful. In many parts of the world that night a pallid halo encircled it about. It was perceptibly larger; in the clear refractive sky of the tropics it seemed as if it were nearly a quarter the size of the moon. The frost was still on the ground in England, but the world was as brightly lit as if it were midsummer moonlight. One could see to read quite ordinary

print by that cold clear light, and in the cities the lamps burnt yellow and wan.

And everywhere the world was awake that night, and throughout Christendom a somber murmur hung in the keen air over the countryside like the belling of bees in the heather, and this murmurous tumult grew to a clangor in the cities. It was the tolling of the bells in a million belfry towers and steeples, summoning the people to sleep no more, to sin no more, but to gather in their churches and pray. And overhead, growing larger and brighter, as the earth rolled on its way and the night passed, rose the dazzling star.

And the streets and houses were alight in all the cities, the shipyards glared, and whatever roads led to high country were lit and crowded all night long. And in all the seas about the civilized lands, ships with throbbing engines, and ships with bellying sails, crowded wth men and living creatures, were standing out to ocean and the north. For already the warning of the master mathematician had been telegraphed all over the world, and translated into a hundred tongues. The new planet and Neptune, locked in a fiery embrace, were whirling headlong, ever faster and faster toward the sun. Already every second this blazing mass flew a hundred miles, and every second its terrific velocity increased. As it flew now, indeed, it must pass a hundred million miles wide of the earth and scarcely affect it. But near its destined path, as yet only slightly perturbed, spun the mighty planet Jupiter and his moons sweeping splendid round the sun. Every moment now the attraction between the fiery star and the greatest of the planets grew stronger. And the result of that attraction? Inevitably Jupiter would be deflected from its orbit into an elliptical path, and the burning star, swung by his attraction wide of its sunward rush, would "describe a curved path" and perhaps collide with, and certainly pass very close to, our earth. "Earthquakes, volcanic

outbreaks, cyclones, sea waves, floods, and a steady rise in temperature to I know not what limit"—so prophesied the master mathematician.

And overhead, to carry out his words, lonely and cold and livid, blazed the star of the coming doom.

To many who stared at it that night until their eyes ached, it seemed that it was visibly approaching. And that night, too, the weather changed, and the frost that had gripped all Central Europe and France and England softened toward a thaw.

But you must not imagine because I have spoken of people praying through the night and people going aboard ships and people fleeing toward mountainous country that the whole world was already in a terror because of the star. As a matter of fact, use and wont still ruled the world, and save for the talk of idle moments and the splendor of the night, nine human beings out of ten were still busy at their common occupations. In all the cities the shops, save one here and there, opened and closed at their proper hours, the doctor and the undertaker plied their trades, the workers gathered in the factories, soldiers drilled, scholars studied, lovers sought one another, thieves lurked and fled, politicians planned their schemes. The presses of the newspapers roared through the nights, and many a priest of this church and that would not open his holy building to further what he considered a foolish panic. The newspapers insisted on the lesson of the year 1000—for then, too, people had anticipated the end. The star was no star—mere gas—a comet; and were it a star it could not possibly strike the earth. There was no precedent for such a thing. Common sense was sturdy everywhere, scornful, jesting, a little inclined to persecute the obdurate fearful. That night, at seven-fifteen by Greenwich time, the star would be at its nearest to Jupiter. Then the world would see the turn things would take. The master mathematician's grim warnings were treated by many

as so much mere elaborate self-advertisement. Common sense at last, a little heated by argument, signified its unalterable convictions by going to bed. So, too, barbarism and savagery, already tired of the novelty, went about their nightly business, and save for a howling dog here and there, the beast world left the star unheeded.

And yet, when at last the watchers in the European States saw the star rise, an hour later it is true, but no larger than it had been the night before, there were still plenty awake to laugh at the master mathematician—to take the danger as if it had passed.

But hereafter the laughter ceased. The star grew—it grew with a terrible steadiness hour after hour, a little larger each hour, a little nearer the midnight zenith, and brighter and brighter, until it had turned night into a second day. Had it come straight to the earth instead of in a curved path, had it lost no velocity to Jupiter, it must have leapt the intervening gulf in a day, but as it was it took five days altogether to come by our planet. The next night it had become a third the size of the moon before it set to English eyes, and the thaw was assured. It rose over America near the size of the moon, but blinding white to look at, and *hot;* and a breath of hot wind blew now with its rising and gathering strength, and in Virginia, and Brazil, and down the St. Lawrence valley, it shone intermittently through a driving reek of thunder-clouds, flickering violet lightning, and hail unprecedented. In Manitoba was a thaw and devastating floods. And upon all the mountains of the earth the snow and ice began to melt that night, and all the rivers coming out of high country flowed thick and turbid, and soon—in their upper reaches—with swirling trees and the bodies of beasts and men. They rose steadily, steadily in the ghostly brilliance, and came trickling over their banks at last, behind the flying population of their valleys. And along the

coast of Argentina and up the South Atlantic the tides were higher than had ever been in the memory of man, and the storms drove the waters in many cases scores of miles inland, drowning whole cities. And so great grew the heat during the night that the rising of the sun was like the coming of a shadow. The earthquakes began and grew until all down America from the Arctic Circle to Cape Horn, hillsides were sliding, fissures were opening, and houses and walls crumbling to destruction. The whole side of Cotopaxi slipped out in one vast convulsion, and a tumult of lava poured out so high and broad and swift and liquid that in one day it reached the sea.

So the star, with the wan moon in its wake, marched across the Pacific, trailed the thunderstorms like the hem of a robe, and the growing tidal wave that toiled behind it, frothing and eager, poured over island and island and swept them clear of men. Until that wave came at last—in a blinding light and with the breath of a furnace, swift and terrible it came—a wall of water, fifty feet high, roaring hungrily, upon the long coasts of Asia, and swept inland across the plains of China. For a space the star, hotter now and larger and brighter than the sun in its strength, showed with pitiless brilliance the wide and populous country; towns and villages with their pagodas and trees, roads, wide cultivataed fields, millions of sleepless people staring in helpless terror at the incandescent sky; and then, low and growing, came the murmur of the flood. And thus it was with millions of men that night—a flight nowhither, with limbs heavy with heat and breath fierce and scant, and the flood like a wall swift and white behind. And then death.

China was lit glowing white, but over Japan and Java and all the islands of Eastern Asia the great star was a ball of dull red fire because of the steam and smoke and ashes the volcanoes were spouting forth to salute its coming.

Above was the lava, hot gases and ash, and below the seething floods, and the whole earth swayed and rumbled with the earthquake shocks. Soon the immemorial snows of Tibet and the Himalayas were melting and pouring down by ten million deepening converging channels upon the plains of Burma and Hindustan. The tangled summits of the Indian jungles were aflame in a thousand places, and below the hurrying waters around the stems were dark objects that still struggled feebly and reflected the blood-red tongues of fire. And in a rudderless confusion a multitude of men and women fled down the broad river-ways to that one last hope of men—the open sea.

Larger grew the star, and larger, hotter, and brighter with a terrible swiftness now. The tropical ocean had lost its phosphorescence, and the whirling steam rose in ghostly wreaths from the black waves that plunged incessantly, speckled with storm-tossed ships.

And then came a wonder. It seemed to those who in Europe watched for the rising of the star that the world must have ceased its rotation. In a thousand open spaces of down and upland the people who had fled thither from the floods and the falling houses and sliding slopes of hill watched for that rising in vain. Hour followed hour through a terrible suspense, and the star rose not. Once again men set their eyes upon the old constellations they had counted lost to them forever. In England it was hot and clear overhead, though the ground quivered perpetually, but in the tropics, Sirius and Capella and Aldebaran showed through a veil of steam. And when at last the great star rose near ten hours late, the sun rose close upon it, and in the center of its white heart was a disc of black.

Over Asia it was as if the star had begun to fall behind the movement of the sky, and then suddenly, as it hung over India, its light had been veiled. All the plain of India from

the mouth of the Indus to the mouth of the Ganges was a shallow waste of shining water that night, out of which rose temples and palaces, mounds and hills, black with people. Every minaret was a clustering mass of people, who fell one by one into the turbid waters, as heat and terror overcame them. The whole land seemed a-wailing, and suddenly there swept a shadow across that furnace of despair, and a breath of cold wind, and a gathering of clouds, out of the cooling air. Men looking up, near blinded, at the star, saw that a black disc was creeping across the light. It was the moon, coming between the star and the earth. And even as men cried to God at this respite, out of the East with a strange inexplicable swiftness sprang the sun. And then star, sun and moon rushed together across the heavens.

So it was that presently, to the European watchers, star and sun rose close upon each other, drove headlong for a space and then slower, and at last came to rest, star and sun merged into one glare of flame at the zenith of the sky. The moon no longer eclipsed the star but was lost to sight in the brilliance of the sky. And though those who were still alive regarded it for the most part with that dull stupidity that hunger, fatigue, heat and despair engender, there were still men who could perceive the meaning of these signs. Star and earth had been at their nearest, had swung about one another, and the star had passed. Already it was receding, swifter and swifter, in the last stage of its headlong journey downward into the sun.

And then the clouds gathered, blotting out the vision of the sky, the thunder and lightning wove a garment round the world; all over the earth was such a downpour of rain as men had never before seen, and where the volcanoes flared red against the cloud canopy there descended torrents of mud. Everywhere the waters were pouring off the land, leaving mud-silted ruins, and the earth littered like a storm-

worn beach with all that had floated, and the dead bodies of the men and brutes, its children.

For days the water streamed off the land, sweeping away soil and trees and houses in the way, and piling huge dikes and scooping out Titanic gullies over the countryside. Those were the days of darkness that followed the star and the heat. All through them, and for many weeks and months, the earthquakes continued.

But the star had passed, and men, hunger-driven and gathering courage only slowly, might creep back to their ruined cities, buried granaries, and sodden fields. Such few ships as had escaped the storms of that time came stunned and shattered and sounding their way cautiously through the new marks and shoals of once familiar ports. And as the storms subsided men perceived that everywhere the days were hotter than of yore, and the sun larger, and the moon, shrunk to a third of its former size, took now fourscore days between its new and new.

But of the new brotherhood that grew presently among men, of the saving of laws and books and machines, of the strange change that had come over Iceland and Greenland and the shores of Baffin's Bay, so that the sailors coming there presently found them green and gracious, and could scarce believe their eyes, this story does not tell. Nor of the movement of mankind now that the earth was hotter, northward and southward toward the poles of the earth. It concerns itself only with the coming and the passing of the Star.

The Martian astronomers—for there are astronomers on Mars, although they are very different beings from men—were naturally profoundly interested by these things. They saw them from their own standpoint of course. "Considering the mass and temperature of the missile that was flung through our solar system into the sun," one wrote, "it is astonishing what little damage the earth, which it missed so narrowly, has

sustained. All the familiar continental markings and the masses of the seas remain intact, and indeed the only difference seems to be a shrinkage of the white discoloration (supposed to be frozen water) round either pole." Which only shows how small the vastest of human catastrophes may seem, at a distance of a few million miles.