

THRILLING
WONDER
STORIES



The
**DEADLY
DUST**
By WILLIAM
FITZGERALD

**IN THE
CARDS**
By GEORGE
O. SMITH

THE DEADLY DUST

By WILLIAM FITZGERALD

CHAPTER I

Where Is Bud Gregory?

A sturdy, small fishing-boat wallowed and rolled and heaved and pitched in the huge slow swells of mid-Pacific. It looked very much like any other fishing-boat and remarkably like those tuna-boats that put out from the West Coast of the United States and pursue their prey for as many thousands of miles as may be necessary.

It was just a little over a hundred feet long and was powered obviously by a Diesel engine. There was just one thing odd about the boat and one oddity about its crew and one about the object it towed and one about its wake.

The odd thing about the boat was that something remarkably like a radar antenna was fitted atop its pilot-house. The oddity about its crew was that every man wore heavy protective clothing of a sort usually found only among workers about atomic piles.

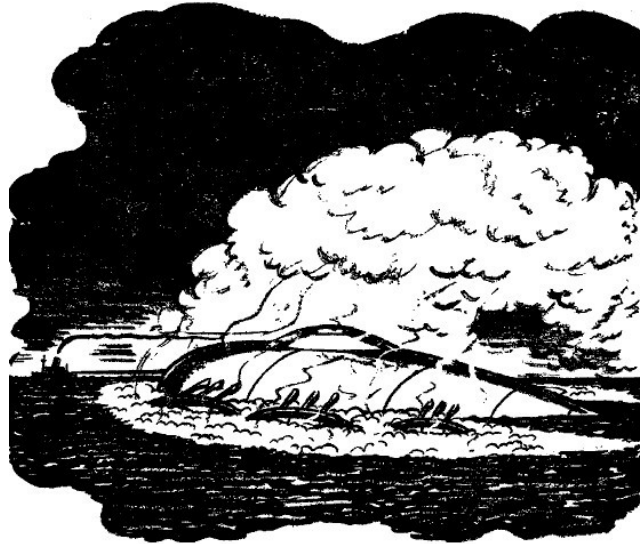
The oddity about the object it towed was that aside from the supporting pontoons that kept it afloat it was made of lead. It was a torpedo-shaped object some forty feet long and no more than eight or ten feet in diameter, kept from sinking by sheet-metal floats on either side.

The oddity of the wake was that it was quite clear for a few miles and then—miles and miles behind—dead fish lay on the water. It was possible to back-track the tuna-boat for a long, long way by dead fish lying on the surface. Of course, perhaps fifty miles astern the dead fish had been scattered by the waves and the trail had been thinned out and was not so clear.

But the fishy corpses made a trail for a hundred miles beyond that if you looked for them. Curiously, the trail was equally dense along its whole length, as if a certain poisonousness only had been towed through the water and did not spread afterward.

There was an oddity in the behavior, too, of the small craft after a while.

The radar-antenna turned and flickered here and there, restlessly. It searched the horizon exhaustively. Then, suddenly, an oily liquid came out of the torpedo-shaped leaden object. It bubbled to the surface and spread out. It evaporated very quickly, though. The vapor was blown to the eastward by the wind.



An oily liquid came out of the torpedo-shaped object, bubbled to the surface and spread out.

The seeming tuna-boat forged ahead sturdily, towing that odd object, which now gushed out a volatile liquid which evaporated quickly and whose fumes were blown away. It went on for miles and miles and miles, its radar-antenna flickering nervously about the horizon while the transient film of oily stuff trailed behind it.

And there was another peculiarity. The trail of dead fish grew much thicker after the liquid spread out to dry up and blow away to eastward. Instead of forty or fifty fish per mile there were hundreds. In one place, where a school of some finny sort had swum beneath the temporary layer of oil, the ocean was almost carpeted with scaly, belly-up corpses....

On August 8th the background-count of all the standard Geiger-Miller tubes on the Pacific Coast, from Oregon to Southern California, went up from 1-3 to 3-5 per minute per square centimeter of tube surface.

On the same day Bud Gregory found a new home for his family. And Bud Gregory was—though the fact made him extremely unhappy—the most important man in the United States, perhaps the most important man in the world. He was in hiding because of it.

He was so much more than a mere genius that there is no possible way to describe him, and therefore he drove furtively by back roads up through Northern California and across Oregon and finally found a home for his family fronting on one of the minor inlets opening off Puget Sound.

The house was an abandoned shack, built of shakes—slabs cut off logs to square them for a sawmill—and it was in the last stages of dilapidation. But Bud Gregory viewed it with vast satisfaction.

So did his family. His tow-headed children regarded the brush that went back to the hills with lively anticipation. It was cut-over land with only a seed-tree standing here and there. The older boys inspected the water in view with enthusiasm.

Bud Gregory's wife noted that the stove, left behind when the shack was abandoned, could be patched with flattened tin cans or sheet-iron to serve admirably, and that there was a spring only a hundred yards from the house. She learned that there was a very small town only four or five miles away. She was content.

So Bud Gregory's family unloaded pots, pans, bedding, two hound dogs, certain folding cots and assorted gunnysacks of provisions and canned goods from the car. They moved in. There were berries and woods-greens for the girls to pick nearby, there were rabbits to snare and fish to catch for the boys and nobody was likely to try to make anybody go to school. Bud Gregory's family was happy.

As the sun went down, with the ancient and decrepit jalopy standing forlornly beside the really quite unspeakable shack, Bud Gregory sat comfortably on the sagging doorstep and leaned back against the rotting side-wall. He reflected complacently that nobody was likely to bother him here for a long time to come. He could sit in the sun and not be bothered.

In a very real sense he was the greatest physicist yet known on earth. He had the greatest command over subatomic particles of any human being so far born. His profession was the repair of hopelessly disarranged automobiles but his occupation, his avocation and his only desire was simply to sit and do nothing. Sometimes, though, he liked to drink a little beer.

On August 9th, the background-count of standard Geiger-Miller tubes was up to 3-5 per minute per square centimeter as far east as St. Louis. On the Coast it was up to 5-7. On August 10th, the count was 3-5 in the Atlantic States, 5-7 in the center of the country and 7-9 on the Pacific Coast....

There was another small fishing-boat ploughing its way through the long slow mid-Pacific swells, towing an odd object which was supported by floats. There had been another one before it and another before that.

Like its fellows which had made these strange patrols, towing lead-sheathed torpedo-shaped objects, this fishing-boat also never seemed to fish—Not even when there were very plain evidences of tuna in profitable quantities all about.

The boat forged ahead, its radar flickering about the horizon. Suddenly the movement of the radar-antenna ceased. It remained fixed in one position and one position only. Then, as suddenly, men ran about the boat's deck.

They hastily assembled machine-guns at the stern. There were sharp, tearing noises above the droning hum of the Diesel engine. Tiny puffs of smoke were torn away from the muzzles of the machine-guns by the wind which blew to the east.

Bullets ripped and tore the sheet-steel floats. Great gashes appeared in the plating. Water poured into the supporting pontoons. A protective-suit-clad sailor swung an axe and the tow-rope parted. The lead object settled and sank swiftly.

Seconds after it was out of sight the only crew-members who appeared on deck wore commonplace working clothes. When a four-motored

transpacific flying clipper droned out of the mistiness of the horizon there was nothing out of the ordinary in view. The radar-antenna was invisible. It had been unshipped. And of course the thing that had been towed was far, far below the surface....

The Geiger-Miller tube background-count did not rise on August 11th or 12th but on the 13th—when it was 7-9 in the Eastern and Central states—it made another jump. It went up to 8-10 on the Coast. The matter began to look serious.

Bud Gregory and his family, however, paid no heed. The older boys had explored their immediate surroundings very happily. The family dined on woodcock—out of season—rabbits, fish and corn bread. The oldest boy of all, aged fourteen, trudged all the way to the nearby small town and reported that there was a movie theatre there which showed films twice a week.

Beer was to be had. There were two stores and a post office and a consolidated school, a small bowling-alley, a sawmill and a hospital out of all proportion to the town itself. He was not impressed. He went fishing.

On August 14th the background-count on the West Coast was 9-11. On the 15th it was 10-12 and on the 16th it was 12-15. In the rest of the country the count climbed steadily. In Washington, D. C., standard counters clicked at the 10-12 rate and Doctor David Murfree became convinced that something was very, very wrong.

The background-count for standardized Geiger-Miller tubes is a measure of the normal everyday radioactivity of the earth as a whole. When a tube of given dimensions, with given pressure and given voltage applied, indicates that stray subatomic particles have passed through it at the rate of from one to three per minute for each square centimeter of its surface, the cosmos is normal.

But when the rate goes up over the entire United States, so that one has to assume that the radioactivity of the whole nation's surface has multiplied itself at least four times, it is upsetting.

Doctor David Murfree's title was a science doctorate. Because of the

raised background-count he went to his superiors in Washington and asked for leave. He had a hunch that he had better find Bud Gregory and ask some questions about the matter.

It was not a pleasant interview. For a Civil Service employee to ask some special concession from his superiors is always unpleasant and Murfree was not in the good graces of his bosses. By his rating he drew a salary of forty-seven hundred dollars a year and by his seniority he could not be fired without formal charges and a hearing. But his superiors disapproved of him.

When an atomic pile started up of itself in the Great Smokies, Murfree to be sure, had managed to get it stopped on his own initiative and had presented to the United States the greatest known store of artificial radioactive material on earth. But Bud Gregory, who was responsible for that gigantic pile, had got away into the anonymity of tramp motordom.^[1]

And again when there was good prospect of an atomic war, with the United States on the receiving end of a well-organized attack, Murfree had managed to find Bud Gregory and, according to his own report, had prevented that attack, too. But again Bud Gregory had slipped away and Murfree could bring back nothing but a smashed and inoperative device he declared was responsible for the safety of the United States.^[2]

True, three dead men were found where Murfree had said they would be and they had been killed by bullets from guns they held in their hands and the bullets had gone in backward. Which made Murfree's otherwise improbable story rather plausible.

But his immediate superior did not approve of him because he had brought back neither Bud Gregory nor a painstaking report with math and diagrams which could be issued as essentially the product of the organizing genius of the administrative officers of the Bureau.

So, on August 17th, while Bud Gregory sat peacefully in the sunshine and his children picked berries, Dr. David Murfree sat in the office of his section's administrative officer and argued.

"But there's nothing else to do! I have to take some leave!"

The administrative officer was displeased.

"I don't think Gregory's responsible," explained Murfree patiently. "He knows better, now. All he wants is to be left alone to loaf and drink beer. He won't do anything to draw attention to himself—more's the shame and pity—and anything that would increase basic radioactivity would decidedly be on the show-off side. But he's the only man who could possibly solve the problem!"

The administrative officer scowled darkly.

"It isn't the whole earth, remember," said Murfree as patiently as before. "Only the United States. That means something quite preposterous. It's not dangerous yet but it isn't right! I've got to take some leave to see if I can find Gregory and get an explanation!"

The administrative officer was no scientist. He pointed out that Murfree was asking for leave when everyone else in the Bureau wanted his vacation. If Murfree left his duty it would be considered that he had resigned.

Murfree clamped his jaw.

"Oh, the deuce!" he said angrily. "In that case I've resigned. I'm going! I've got to!"

The small fleet of seeming tuna-boats had developed a regular routine. One or more lay at a dock where a shed jutted out over the water and could easily hide two or three lead-sheathed objects to be towed. At least one ploughed sturdily across the ocean, its radar flickering incessantly in every direction, to detect and warn of any other ship or any aircraft which might presently come into sight.

If the radar reported another ship—however far away—the tuna-boat and its tow changed course to avoid a meeting. If a meeting could not be avoided the tow could be sunk and of course on the tuna-boat there wasn't anything peculiar which couldn't be thrown overboard if it became necessary to prove its utter innocence.

The island which was the small fleet's base was small itself and very seldom visited. If anybody did come its entire population of perhaps

seventy souls was united. Personnel had been chosen and trained to distract the attention of any possible visitor from the things that were the real background of the ships' activities.

It should not be difficult. After all, atomic piles are not so large and they can be built and hidden underground and the necessary shielding can be made to look like perfectly natural parts of an island landscape.

The fishing-boats went about their routine. They were very busy. But they didn't catch any fish. They didn't try...

On August 22nd the acceptance of Murfree's unwritten resignation came through. He scowled at the slip and then cleaned out his desk and went home. On that day the background-count in the East was 25-28. On the Pacific Coast it was 32-35.

This meant that in two weeks the radioactivity of the surface-soil of the United States had multiplied itself ten times. If it doubled itself just six times more there wouldn't be any United States. There might not be any world.

But out in the state of Washington, looking out over Puget Sound from his happily somnolent seat before the shack of moldering shakes, Bud Gregory decided that he would like to have some beer.

He counted up his money and sent his oldest to the town four miles away to bring back half a dozen bottles. For speed he let the fourteen-year-old boy use the antique automobile in which the family had wandered across the continent.

The boy cranked up the jalopy and drove away. It was very fortunate that he did so. Murfree heard about it and therefore was able to locate Bud Gregory.

CHAPTER II

"What's in It for Me?"

Murfree had a very bad conscience. Now, when his wife had set her heart upon a vacation at the seashore with their little daughter—Washington is an oven in the summer—he had joined the ranks of the unemployed. But Murfree knew that he had to hunt for Bud Gregory. He had to!

"Somebody's got to do it," he told his wife defensively. "And after all, I'm the only person he'll work with."

His wife waited.

"It's lunatic," said Murfree, "but what can I do? The whole country is getting more radioactive. The normal count has gone up ten times! It goes up in waves which start on the Pacific Coast and move east. There's no rise in Europe, Asia, South America or anywhere else. It isn't dangerous yet but it's heading that way. Somebody's got to find out about it!"

"Why must it be you?" asked his wife.

"Because nobody else will!" he told her vexedly. "There is a certain amount of radiation which is normal. There is a certain amount which is safe. The amount all over the United States is away above normal. It's still safe but it's heading for the point where it won't be!"

"Well?" his wife said.

"A certain amount more," said Murfree, "and there'll be a terrific increase in the number of abnormal babies. Freaks, mutations, monsters. A little beyond that, there'll be no babies! The rest of the living world would follow.

"A little more and plants will begin to throw sports. More yet and plants will become sterile. Seeds will cease to grow. A little more radiation than that and we'll all tend to develop cancer, and still more and we'll

begin to run fevers and die of radiation-burns."

"And you're the only person who sees it," said his wife bitterly. "So you have to spend your money trying to find this Gregory and bribe him to do something!"

"But," said Murfree again, "nobody else will!"

Which was true. Twice before he'd spent his own savings for the safety of his family while all other families got their safety free. His conscience bothered him. But there wasn't anything else to do. Rather guiltily he called a friend who made microchemical analyses for the F.B.I.

He asked if he could be notified if any events took place of the sort—he described it specifically—which would mean Bud Gregory was involved. Then he doggedly made ready to take his family to the seashore. Employed or not, his daughter needed fresh air and sunshine and the sea after a year in Washington.

Two days later he had them settled at the beach. He'd packed up the one personally-owned souvenir of his encounters with Bud Gregory. He went to the largest privately-owned power-generating station in the United States. He demonstrated the gadget. He left it installed. Then he called back to Washington on long distance.

He had a certain amount of money by this time—a fee for the experimental use of Bud Gregory's gadget—and within limits he could travel. There was news. His friend in the F.B.I. told him of a happening which sounded as if Bud Gregory was involved. So Murfree headed for the Pacific Coast by air.

A very decrepit vessel cast anchor off the small island of the tuna-boats. It made cryptic signals and the population of the island came rejoicing to the dock to greet its crew. Of course the people of the island did not use radios for communication. Radio messages can be intercepted and, if sent in code, arouse curiosity.

The decrepit vessel, therefore, brought news. It was good. The news consisted of background-count measurements made in different cities of the United States over some weeks past. The men who had made the

measurements were passengers on the ship which brought them.

They were highly elated. They were taken to see the atomic piles which had produced the measurements. They bowed profoundly before the atomic engines which silently produced death for a nation.

And that night there was celebration on the island. But the tuna-boat due to leave went out on schedule despite the festivities. It towed a torpedo-shaped lead object behind it...

On the 29th of August the background-count of standard Geiger-Miller tubes on the West Coast was 56-58 and still going up. The radioactivity-constant of the United States had risen to something like twenty-five times normal. It showed no tendency to stop.

Bud Gregory's boy was in trouble. The event itself was not important but it enabled Murfree to find Bud Gregory. The happening occurred within half an hour after Bud sent his son to town for some beer.

The fourteen-year old boy chuffed away from the shack into which his family had moved. The car in which Bud Gregory had taken his tribe across the continent was an ancient and dilapidated rattletrap. By any normal standard it should have wheezed its last mile years before.

It had a cloth top, a cracked windshield and, when it was running exclusively on its motor, it made noises like a broken-down coffee grinder working on a protesting cat. It should have groaned at any grade and balked at any really perceptible incline. Its absolute maximum of speed should have been twenty miles an hour downhill.

But Bud Gregory was something very much more than a genius. He had made a gadget for his car. It was a radio tube and a coil or two, the windings being made in a fashion nobody else could understand and Bud Gregory could not explain. When the gadget was turned on and attached to any bit of metal things happened.

Normally the molecules of—say—the metal of any automobile-engine block move in all directions in a strictly random fashion. When Bud Gregory's gadget operated, the molecules of the same automobile-block moved in the same direction—ahead.

If the motor wasn't running the metal cooled down as the heat-energy it contained was turned into kinetic energy. If it was kept running the burning fuel in its cylinders kept it from going so far below zero that it would condense liquid air upon itself.

The gadget was still attached to the motor of the ancient car. It had helped pull the car across the continent and was solely responsible for the fact that it had pulled the Rockies. Now it was turned off. The small boy turned it on. The car began to ride smoothly and easily with seemingly infinite power.

It came out of the narrow woods-road upon a main highway. The fourteen-year-old boy turned up the gadget. The ancient jalopy breezed up to sixty miles an hour—seventy—eighty...

A horn blared its astonishment as a motorcycle-cop flashed past, going in the opposite direction. Bud Gregory's son heard the cop's brakes squeal. He was going to turn around and come in pursuit.

The flapping, squeaking, preposterous flivver hit one hundred and twenty miles an hour as the scared boy lit out. He rounded a curve. The small town lay before him. In panicky haste, he turned the knob to reverse the molecular drive of the four-wheeled wreck he drove.

In fifty yards it dropped from a hundred and twenty miles to ten. He snapped off the drive and limped into town on three cylinders. He parked the car in an inconspicuous place and went and got the beer.

He lingered uneasily, afraid to go back until the motor-cop should have vanished. The motor-cop came into town, swearing. The boy saw him ask questions. He moved out of sight. The boy got into the car and stowed the beer. Then he saw the cop heading for his car where it was parked. The cop looked purposeful.

The small boy cringed. He shared his father's terror of the Law. When the motor-cop was ten yards away, Bud Gregory's son reacted in panic. He flipped over the molecular-drive switch and the car plunged forward.

It dented the fender of the car ahead of it, side-swiped a farm-truck,

upset a "*Keep Right*" sign and flashed for the open road, with no sound of any running engine.

The motor-cop lunged for his motorcycle and roared in pursuit. A fourteen-year-old boy is not a startlingly conservative driver at any time. Bud Gregory's son was filled with stark terror. On the two-mile stretch of straight road just around the first curve he gave the car all the speed that molecular heat-energy would yield.

It wasn't the same as atomic power but it was plenty. The motor-cop reached the curve just in time to see the jalopy stop almost as abruptly as if it had run into a brick wall—but unharmed—and go careening into the woods-road. The cop roared in pursuit.

He didn't catch up but in the winding woods-road he ran into patches of below-zero fridity that almost scared him into giving up the chase. The boy had forgotten to start the engine and when you extract from a motor-block the heat-energy required to drive a flivver four miles at top speed, with acceleration and deceleration thrown in, it gets cold! It left a trail of almost-condensed air behind it.

The wreck happened just fifty yards from the shack in which Bud Gregory's family had settled down. The car slid off the road at the last curve, ploughed through fifty yards of underbrush and spindling saplings, came at last to an immovable stump—and had reached the end of its journeying.

The boy was completely unhurt. But his toes were frostbitten on the twenty-ninth of August, on a bright sunshiny day with all the woods rioting in lush green growth.

The motor-cop got no adequate explanation. Bud Gregory was shaken but firm in his resolution to play dumb. He couldn't explain anything but the boy's toes were frostbitten. In the end the cop took the boy back to the hospital to have his toes treated, resolving to return to examine the wreck.

But of course, when he got back, there was no gadget to discover and absolutely nothing to explain the car's speed, the boy's frostbitten toes or a patch of frost-killed vegetation—in August—where the wreck still

lay crumpled.

It was this obstinately inexplicable situation that had been reported to Murfree by his friend of the F. B. I. So he reached that small town as fast as planes would take him, and found Bud Gregory sitting miserably on the steps of the small town's hospital.

The most important man in the United States was acutely unhappy. His son was going to have to pay a fine for reckless driving, the hospital would charge something, his car was wrecked beyond even his ability to repair it—the motor-block had burst, of course, when the water in the circulating-system froze—and he might have to go to work.

Murfree walked up to Bud Gregory and nodded.

"Hello," said Murfree. "I hear you're in trouble."

Bud Gregory looked up.

"Migosh!" he said helplessly. "It's Mr. Murfree, the Gov'ment man!"

"Not a government man any more," said Murfree. "I've got some money for you."

"Uh—you don't owe me no money, Mr. Murfree," said Bud Gregory unhappily. He peered around Murfree with gloomy suspicion and asked, "You got some detectives with you?"

"Not a soul," said Murfree. "But I have got some money for you. You sold me a gadget once. You'd used it to fix my car."

Bud Gregory spread out his hands.

"You paid me for that, Mr. Murfree. You paid me six hundred dollars. I lived on that for a long time. I et hawg-meat an' drunk beer an' me an' my family came clear across the United States on that money, Mr. Murfree. But you don't owe me no more."

"We'll go and get some beer," said Murfree. "It may take explaining."

Bud Gregory cheered. He looked uneasily about but Murfree had always played fair with him. Their meeting had been in a tiny village in the Smokies when Murfree's car overheated and froze and Bud Gregory

produced a gadget which was made of stray radio parts. He plugged it in a light-socket and attached it to Murfree's car.

Immediately the car wasn't stuck fast. It ran. When fresh oil was spread about it was as good as new. Bud Gregory explained casually that the gadget made some sort of stuff—perhaps electronic—which made pieces of metal slide easily on each other.

Later, in an emergency, he sold the gadget to Murfree for six hundred dollars, and Murfree could make it work, but he had never been able to understand it. Neither had the most eminent scientists of the United States. Nor could any of them duplicate it so the duplicate would work. It demonstrably eliminated all friction—all—from any device to which it was attached, but it remained an enigma.

With beer before them, Murfree passed five ten-dollar bills across the table. He did not dare offer more, knowing Gregory.

"You sold me that dinkus which stops all friction," said Murfree casually. "I can't understand it nor can anybody else. But it still works. So, since it belonged to me, when I got out of Government service, I took it to a big power-generating station. I explained what it would do.

"We hooked it on the big turbine. And it not only stopped all friction in the bearings but it ended steam-friction against the rotor-blades and baffles. The efficiency of the whole set-up rose by something over eight per cent."

Bud Gregory looked longingly at the fifty dollars.

"But you don't owe me no money," he said unhappily.

"You've got ten dollars a day coming to you as long as that dinkus keeps on working," said Murfree casually. "If you ever want more money just make another one or show me how to do it and I'll take care of the situation."

Bud Gregory blinked. Then he grew expansive as realization came.

"Mr. Murfree, you' a gentleman!" he said expansively. "Soon's my boy's toes get well an' I got me a new car I won't have to worry about nothin'!

You come on out to the house with me! My old woman, when she hears this news, is goin' to cook you a dinner that'll sure say thank-you! An' I'll get some beer an' some ten-cent seegars!"

Murfree nodded. He had a telegram in his pocket. The background-count of Geiger-Miller tubes was up to sixty on the Coast here. The soil of the United States was just thirty times as radioactive as it should be. When it reached a certain point, now not so far away....

Back and forth, back and forth, day after day, the little tuna-boats worked busily. They were equipped with bait-tanks and refrigeration units for such tuna as they might catch but they made no attempt to catch them.

Their only purposeful activity seemed to be towing torpedo-shaped containers of lead to points some hundreds of miles from their base island and then allowing the volatile liquid in the containers to flow out on the surface of the ocean and be carried away eastward as vapor.

They took great pains not to be sighted by any other vessel as they went out, tow loaded with its enigmatic liquid, or returned with it empty. They had been fortunate. Only one such tow had had to be scuttled when a transpacific clipper soared overhead, early in their traffic.

Whatever they were trying to do, they seemed to meet with no obstacles as they carried out their purpose.

Murfree still hadn't the faintest idea what could be the cause of the excess radioactivity of American soil alone. The newspapers hadn't found out about it. They probably wouldn't realize the potential danger if they did.

But the lives of a hundred and forty million people were at the mercy of a completely unexplained phenomenon—unless Bud Gregory somehow solved the problem.

Murfree's problem was to get him to work on it.

"I want you," said Murfree, "to work out a gadget to save some lives."

CHAPTER III

Dusty Answer

Bud Gregory puffed expansively. They were seated before that unspeakable shanty Bud Gregory had pre-empted and which was now his home. They had dined on bracken-greens and grouse—out of season—and sea-trout with cornbread and bacon-drippings and wild fennel and a monstrous brew which Bud Gregory fondly considered to be coffee.

Now they looked out over an inlet of Puget Sound, with sunset colorings making the sky to westward a glory of rose and gold.

"Shucks, Mr. Murfree," said Bud Gregory happily. "I ain't no doctor. I just fix cars. An' now I got me ten dollars a day comin' in rain or shine an' I don't have to bother doin' that!"

Murfree smoked.

"It'll pay you a lot more than ten dollars a day."

"What do I want with more'n that?" asked Bud Gregory. He beamed. "My ol' woman don't need more'n five-six dollars a week for corn-meal an' hawg-meat an' I got a shotgun.

"I'll git the boys some twenty-tuos so's they can knock over squirrels an' take out for some beer now an' then an' the rest'll buy me a new car in no time. I don't need no fancy car. I c'n make most anything run if it's got four wheels."

Murfree blew a smoke-ring. "I'm asking you to save some human lives," he repeated.

"If they got money to pay me," said Bud Gregory comfortably, "they got money to pay doctors that know all about that kinda stuff. You tell 'em to go to a fella that makes a business o' doctorin'."

"Only," said Murfree, "you have to be the doctor. They'll die of radioactivity burns. Know what I mean?"

Bud Gregory shook his head.

"You know the—hunks of stuff that metal is made of," Murfree said carefully, fumbling for words that would describe atoms to Bud Gregory—who understood them better than any other man alive. "The atoms that are different for iron and copper and so on."

"Yeah," said Bud Gregory. He looked absorbedly at the water before his door. "They different in the middle an' they got different—uh—skins around 'em. Say! There's a school o' fish down there! See 'em jump?"

Murfree felt an impulse to jump himself. Bud Gregory had spoken of atoms as being different in the middle and having different kinds of skins around them. He obviously spoke with precision of atomic nuclei and electron-shells.

But how did he know? Murfree ached with envy of Bud Gregory, who knew so much that Murfree would give anything to know—and who only wanted to sit in the sun.

"Some kinds of metal," said Murfree, as carefully as before, "break down and change into other kinds. Some when stray hunks of stuff hit them"—he referred to free neutrons—"and some all by themselves."

The last was radioactivity. Bud Gregory spoke regretfully.

"If that boy o' mine wasn't in the hospital with frostbit toes he sure would admire to go after some of them fish. Yeah. I know what y'mean. There's some stuff bustin' down everywhere, all the time. Lots more lately."

Murfree stiffened. Increased background radioactivity! How did Bud Gregory know? To say that he perceived the facts of atomic structure and behavior as casually and as effortlessly as a mathematical freak perceives the cube root of 89724387 would be accurate but it wouldn't mean anything.

Murfree wanted desperately to try to find out how Bud Gregory knew but he foreknew the uselessness of the attempt. He wet his lips.

"Yes," said Murfree. "A lot more's breaking down lately. Thirty times as

much as usual. Nobody knows the cause."

Bud Gregory said off-handedly, "Dust." Then he waved his hand exuberantly.

"Y'know, suh?" he said. "It sure does feel good to know that I got ten dollars a day comin' in without no bother! I don't have to work myself to death no more. I can just set if I want to! You sure are a friend o' mine, Mr. Murfree!"

"What do you mean by dust?" demanded Murfree sharply.

"Just dust," said Bud Gregory. "Settlin'. It's all bustin' down all the time as it drops, sendin' out hunksa stuff. It ain't thick, but it—uh—kinda accumulates." He paused. Then, "Yes, suh! I done a lot o' worryin' in my time but now I aim to stop! You say I'll get that money as long as that dinkus works?"

Murfree stared at him. Dust settling down and breaking down as it settled was radioactive dust. Accumulating. Taking three days to travel from coast to coast. That steady overhead wind from west to east on which the Japs had sent bomb-laden balloons drifting across the Pacific to the United States....

"Wait a minute!" said Murfree sharply. "You say there's radioactive dust settling down? That's not natural! And only on the United States—that's men's doing! It's a sneak attack! And such dust sent in scattered thin would only be noticed by freaks like me! It's an attack with radioactive dust."

Something close to horror came suddenly to him. Radioactive dust has been imagined as a weapon, of course.^[3]

But it has always been imagined as a super-deadly poison gas, a whirlwind weapon killing overnight. There had never been any imagining of its use as an insidious slow poison, killing undetected, murdering a nation by slow, inexorable stages, without warning or provocation or even the alternative of submission or death!

But if Bud Gregory were right, that was the case now. The rise in radioactivity could only be the work of men who had set out to murder

a nation in a cold hatred surpassing even the hatred of the Nazis for Jewry. It would be the work of men who knew that the United States could never be subdued by any possible weapon and, since it stood in their way, must be destroyed.

Other scientists had observed the rise in radioactivity and had extrapolated its curve. They inferred that if the rise continued much longer there would be danger. If it continued far enough the danger would become fatality. But the danger had seemed only a possibility.

If Bud Gregory was right it was a certainty! The United States was not the scene of an anomalous rise in the background-count of stray subatomic particles. Not at all—the United States was the victim of an attack which would end, if not somehow countered, with the death of every living organism on its surface, down to the smallest quasi-cellular virus on a rotting leaf!

And there was no defense against such a weapon as this—unless Bud Gregory could contrive it. Murfree's voice was unsteady when he spoke again.

"Listen," he said. "Somebody's turning loose that dust. Somebody's making it. They're spreading it to drift all over the United States and settle, so that everybody in the country will die!"

Bud Gregory spoke obliviously.

"I never did like the idea of workin' myself to death. From now on I can just set, not botherin' nobody an' nobody botherin' me." Then what Murfree had said hit home. He turned his head. "What's that, Mr. Murfree?"

"Somebody," said Murfree shakily, "somewhere out in the Pacific most likely."

Then his brain worked swiftly and surely. In matters that he knew and that his training had fitted him to handle his brain was probably better than Bud Gregory's. He simply had not the intuitive knowledge of facts beyond science which Bud Gregory possessed.

"I see how it's done," said Murfree in a sudden deadly hatred. "You take

an atomic pile. If you want radioactive iron, you put a rod of iron in it. When it comes out, it's radioactive. If you want carbon or copper or anything else all you need to do is put it in the right part of a pile, where neutrons of the proper speed will hit."

Gregory blinked at him. Perhaps Murfree's statements seemed so elementary as to be nonsense to Bud, or perhaps they were far beyond his comprehension.

"They'd make a pile and run a coded pipe through it," said Murfree, savagely. "Then they'd run a liquid through that pipe. Any liquid! Gasoline! Kerosene! It would come out radioactive! It could be evaporated and it would spread and diffuse in the air and, as it spread, here an atom and there an atom would break down, emitting radiation and becoming another substance entirely.

"And that would be a new compound which wouldn't stay vapor but would come out as a microscopic particle of dust with an electric charge that would draw moisture or other particles to it! It would grow and grow and ultimately settle down as a dust-mote too small to be seen.

"And that would happen quintillions and quintillions and quintillions of times, and motes of poison would settle—are settling...."

"Mmmmmm," said Bud Gregory. "Yeah. The dust ain't, an' then all of a sudden it is. Like—uh—soot formin'."

The parallel was exact. A vapor like gasoline, burning without enough oxygen, turns to solid soot. Radioactive vapor, transforming itself, would become solid particles of dust, which would attract water-vapor and other particles and settle to the earth.

"Somebody's doing it!" said Murfree, grinding his teeth. "Somebody who wants to rule the earth! They know they've got to knock us out first, before they can try to build up their own nation to jingoism again! So they've started to murder us! Every one of us!"

Bud Gregory spoke contentedly.

"They ain't got nothin' against me! I don't bother nobody!"

He beamed at the sunset. He was gangling and slope-shouldered and untidy. He was utterly without ambition and practically without desires. And he looked at all possible situations only as they affected his desire not to do anything at all. But he was the most important man in the United States. He could have earned any conceivable sum if he had wanted it. But he didn't. He only wanted to sit in the sun.

"You've got to figure out how to beat this trick!" said Murfree, very pale. "In two weeks the babies that are conceived will begin to be freaks. In a month there won't be any babies conceived. In two months people will begin to die!"

"You' a good friend o' mine, Mr. Murfree," said Bud Gregory amiably. "You just brought me the best news I ever had in my life. You told me I don't have to worry no more. I ain't goin' to, Mr. Murfree! I'm goin' to rest!"

"I'm telling you," said Murfree sharply, "that there are men at war against the United States! They're making war on your country!"

"All right, suh," Bud Gregory said amiably. "Maybe so. But it ain't likely they'll draft me for no war. I'm married an' I got children. Let 'em have a war! If I got ten dollars a day comin' in steady I'm satisfied! I ain't goin' to bother nobody an' I don't want nobody to bother me!"

Murfree clenched his fists. He hated Bud Gregory for a moment. But the most important man in America was neither wilful nor unpatriotic. He was simply impervious to abstractions such as riches or the love of country. The problem had not yet been stated so it had meaning to him.

Murfree compressed his lips. After a long time he stood up.

"All right. Figure this out! If you don't figure some way to take care of that radioactive dust, in three months at the outside I'll be dead. And if I'm dead, who's going to collect that ten dollars a day and send it to you?"

He strode away into the darkness for the four-mile hike back to town. It was the only argument that could possibly make Bud Gregory exert himself.

CHAPTER IV

Danger Point

The little boats went about their business, which was the murder of a nation. Even Nazis never dreamed of the extermination of a nation and every living organism which lived on its soil, down to the last one-celled animalcule living in a mud-puddle.

The crews of the little boats moved competently about their task of towing great containers of a deadly liquid for hundreds of miles from their base and then spreading out that liquid on the water. It evaporated at a known rate. Its vapor was blown eastward at a known rate.

It thinned and attenuated and was mixed with other air so that when it reached the coastline of America it was undetectable except as a minute rise in the background-count of subatomic particles. But as it moved and thinned and thinned it changed—at a known rate.

Presently it was not a vapor but an infinitely diffuse dust-cloud which no instrument on earth could detect as such. It settled to the earth and continued to change and slowly, slowly, slowly, accumulated to a layer which, when less than a molecule thick, would make North America a desert.

The inhabitants of the island and the crews of the little ships were very industrious people. They seemed to love their work.

Murfree had his suitcase on the porch of the hotel when Bud Gregory came shambling into the town. The suitcase was on view for Bud Gregory to see. Murfree saw the most important man in the United States come awkwardly, hesitantly down the street. Murfree went briskly out, picked up his suitcase and started toward the bus-stop.

"Uh—hello, Mr. Murfree," said Bud Gregory unhappily. "You leavin'?"

"Nothing to stay here for," said Murfree. "If I'm going to die I might as well be with my family. No use staying here."

"Uh—y'mean—" Bud Gregory said.

"You can make gadgets," said Murfree crisply. "One happens to be needed to keep me from being killed—with everybody else in the United States. Including you, by the way. You won't make it. So that's that."

Bud Gregory scraped his foot on the ground.

"Uh—I made one this mornin', Mr. Murfree," he said awkwardly. "I got to figurin' an' I figured you was right. That stuff that keeps bustin' up by itself is settlin' down all around. An'—uh—it ain't good for humans if it gets too strong.

"So I—uh—I made a dinkus that can gather it up. I figured I could—uh—have my kids clean it up around the house. Y'want to see it?"

"Cleaning up around your house won't be enough," Murfree said evenly. "For one thing, if there were no crops or any birds or any fish and every tree and bush in the woods was dead—what would you eat?"

Bud Gregory looked miserable.

"Y'want to come look, Mr. Murfree?" he asked. "Maybe it ain't a good dinkus, but—uh—"

"I'll come," said Murfree shortly.

Inside he felt a queer envious turmoil. Bud Gregory could make anything but he had no idea of the possibilities inherent in his gadgets. He'd made devices of incredible possibilities—and used them to keep from working and to make it possible to win two-dollar bets and to keep from having to buy a new car instead of the wreck he'd owned.

If Murfree'd possessed Bud Gregory's ability—

"I'll get a car to drive us out," said Murfree grimly, "so if there's no use staying I needn't miss my bus."

"Uh—I'll get some beer an' some ten-cent seegars," said Bud Gregory hopefully. "If this dinkus ain't right, maybe you can figure out somethin' else."

That was hopeful. Bud Gregory was afraid of losing his pension. Therefore he would try to perform any mere miracle the situation demanded. And he should be able to do anything that could be imagined.

They drove out. Murfree was very silent. He didn't know how the original radioactive material was put into the air, or where, for its sweep across North America. At a guess, the distribution-point should be somewhere out in the Pacific.

Planes equipped with Geiger-Miller counters might be able to track back the origin of the deadly dust. But planes hunting the hideout of a nation's would-be murderers would surely be detected far away.

And if they were detected the murderers might simply loose a cloud of dust which nothing could either stop or survive. So that there should be no hunt for the men who wielded the weapon until the weapon itself could be withstood.

They reached the woods-road. They went down it. They reached the water's edge. Bud Gregory spoke uneasily under his breath.

"Uh—Mr. Murfree, I wish you'd send this fella back. Tell him to come thisaway presently. I—uh—that dinkus is kinda funny. If it ain't no good I wouldn't want nobody to know about it. They might—uh—think there was witchery in it."

"All right," said Murfree.

In spite of himself, Murfree began to hope. Bud Gregory had been so completely unimpressed by his own achievements before that if he had made something which disturbed him it must be remarkable.

The car went away. Bud Gregory expanded. He went in his house and came out again, bearing an intricate contrivance. It was evident that he was at once proud and apprehensive. The device had no radio tube about it.

There were wires and there were scraps of glass here and there and there was a painstakingly straightened bit of copper gas-line tubing inside an arrangement of wires which was—well—it was not exactly a

coil and it was certainly not a helix.

The wires were arranged in several patterns, of which one was certainly a logarithmic spiral. The whole assembly looked insane. And there was a metal plate at one end, nailed to the wooden base. It looked protective, as if it defended the device against something.

"Mr. Murfree, suh," said Bud Gregory anxiously, "I worked right hard on this, tryin' to please you, suh. You' always been a good friend to me an' I want you to know it. So this was the best I could do. If it ain't enough you try to figure out somethin' an' I'll try to make it."

"What does this do?" asked Murfree.

He looked at it and enviously admitted to himself that every single part of it was meaningless. He saw a switch which was a light-switch from Bud's wrecked car. He saw a bare iron wire which he guessed would turn white with frost when the device was turned on to reveal that it was absorbing heat and yielding electricity. But every other part seemed nonsense.

"This here dinkus," said Bud Gregory hopefully, "it—uh—you know, Mr. Murfree, how the hunks of stuff that things are made of stick together, suh. They kinda pull on each other."

Murfree nodded. Bud Gregory referred to interatomic and intermolecular attraction. The force which holds atoms together in molecules and molecules in crystals and ultimately makes planets possible.

"When you—uh—break somethin'," said Bud Gregory, "the parts you break it into stop pullin' at each other. They' too far away from each other."

Here Bud Gregory referred to the inexorable operation of the law of inverse squares. Atoms draw each other only at atomic distances. Molecules adhere only at distances comparable to the diameter of molecules. Otherwise all objects would fuse together immovably.

"This—uh—kinda changes that," said Bud Gregory, his forehead creased in the effort to explain. "It makes 'em still pull at each other,

even far away."

"If you break a nail or a piece of glass an' put one piece in this place here it kinda gets in focus, Mr. Murfree. An' if you point the dinkus at the other piece—uh—no matter how far away the other part is, it—uh—pulls back to the one that's in focus."

Murfree felt incredulous but he suppressed it. In his mind, he knew that if Bud Gregory said it, it was so. Of course it violated all known laws of physics....

"It ain't," said Bud Gregory, "because they used to be one piece of stuff, but because they're the same kinda stuff."

Then Murfree felt as if he'd been jolted all the way down to his shoe-soles. A steel magnet will draw another steel magnet to it, not because they are steel but because they are magnets.

But Bud Gregory was saying that a bit of iron in the focus of his gadget would draw other bits of iron whether there was magnetism or not. More, he said that glass would draw glass! Murfree knew that Bud Gregory could do anything, but he could not believe that!

"I don't see how—"

"I'll show you, suh," said Bud Gregory anxiously. "I'll put a drop o' water right here where it focuses, suh, an' point it at the inlet yonder. It'll draw water."

He put a drop of water on a plate behind the straightened-out section of gas-line tubing. He pointed the device at the broad waters of this inlet of Puget Sound. He turned the switch.

Water splashed from the protective metal baffle-plate at the end of the gadget's base—quantities of water. It splashed as if a fire-hose played upon the baffle-plate. Murfree, goggling, saw a straight pencil of pure liquid water, impossibly defying gravity, coming toward the gadget from an indefinite distance out in the Sound.



Water splashed from the protective baffle-plate at the gadget's base—quantities of water.

It flowed through emptiness, through space, through the air itself as if it were in an invisible hose. It came in a mathematically straight line from the inlet beyond the shore. It hit the baffle and splashed. And Murfree knew that, since water was in the focus of the gadget, therefore water had been drawn from wherever the tube pointed.

Bud Gregory flipped off the switch. Water ceased to splash. A half-mile-long cable of water, stretched taut in mid-air, abruptly dropped. There was a wet streak across the ground toward the inlet. There was a long, long path of pock-markings where a straight line of water had fallen back into the inlet.

"M-my gracious!" said Murfree, dazed even though he knew Bud Gregory's gifts. "You've got a sort of artificial gravity! Only—only it's selective! You can pull any element toward you."

"Yes, suh," said Bud Gregory. He sweated, looking uncertainly at Murfree. "I—uh—I figured, suh, that if we could get up a liddle bit of that dust, we could kinda put it in this focus place, suh, an' we could sweep this dinkus all around an' all the dust that was the same kind as that in the focus would get pulled up an' stop against this plate that stopped the water.

"I put that plate on last," he added ruefully. "First time I turned on this thing I tried water an' I got soakin' wet. I hadda put somethin' on to catch the stuff that was bein' pulled."

Murfree stared, stunned, at the completely impossible device. No wonder Bud Gregory hadn't wanted it seen lest it make him liable to a charge of witchcraft! Such a charge was more likely in his native Appalachians, but even here—

"You think that'll do what you want, Mr. Murfree?" asked Bud Gregory hopefully.

Murfree opened his mouth to speak exultantly. Then he realized—he became tormented by the ruthless reasoning which told him of the present uselessness of this device, even while he was filled with envy of the man who had been able to make it and with admiration for the achievement itself.

"No-o-o-o," said Murfree reluctantly. "It won't do because there'd be the job of getting a sample of the dust. It would take weeks to gather up a carload of top-soil and separate the radioactive dust from it. We couldn't allow impurities such as humus or sand, or it would pull humus and sand with the dust.

"And if it took weeks we wouldn't have the dust itself but the stuff the dust had turned into. And even besides that—what would happen if you pulled into that gadget all the radioactive matter intended for a day's dose of poison for a continent?"

Bud Gregory's shoulders drooped.

"I reckon," he admitted, "that it would sure kill anybody who was workin' the dinkus."

"Definitely," said Murfree. "So far, no good."

There was a pause.

"Mr. Murfree, suh," said Bud Gregory anxiously, "let's us drink a little beer an' just set a while, suh. Maybe you'll think of somethin'."

Murfree followed him grimly back to the shack. He was in the

completely maddening position now of having Bud Gregory's complete cooperation and having no idea how it could possibly be used.

Bud would make anything Murfree asked but Murfree could not imagine a device which would defeat the weapon in use against the United States. And the weapon had to be defeated before any search could be made for those who wielded it!

Murfree sat with a glass of beer in his hands. He racked his brains vainly. Bud Gregory sat beside him, drinking beer. Presently he spoke dreamily.

"Y'know, suh, I'm thinkin' that maybe instead o' buyin' a car outa that ten dollars a day I got comin' to me, maybe I'll get me a boat. You can set a lot more comfortable in a boat than in a car you got to be drivin' all the time. Yes, suh, I'm goin' to think about buyin' me a boat!" ...

The tuna-boats worked valorously for the murder of a nation. Their crews knew joyfully that the last of their fellows who had remained in the United States—to test the results of their campaign—had left that country. The intensity of radioactivity which should result in mutations and monsters had almost been reached.

Sterility would follow, then death. And of course those who worked to murder America would cheerfully sacrifice their lives to accomplish it if necessary. Hatred is a stronger force than patriotism.

But there was no need and every man wanted to survive for the hellish satisfaction of knowing that all North America was a place of corpses—not even rotting because even the bacteria of putrefaction were dead too.

The tuna-boats towed their lead torpedoes away from the island where atom-piles made poison for them to scatter on the wind. They scattered that poison and returned for more. Enthusiasm mounted and mounted. Plans began for such a celebration as would befit the destruction of the greatest nation upon earth.

CHAPTER V

Killing Fish

It was dark. The car had come back for Murfree and he had sent it away again. He paced up and down. He chewed his fingers. To know of certain doom awaiting one's country and to have as one's ally a man who can do anything that can be imagined in the way of physics—and much that cannot be imagined—and not to be able to think of anything either possible or impossible to avert the doom—it was maddening.

Bud Gregory grinned amiably.

"Mr. Murfree, suh, have you thought of anything? If you ain't maybe we'd better set an' eat."

Murfree shook his head wearily.

"I'm still trying to think! If there were only some way to make that trick of yours work on any and every unstable element."

"You mean, suh, all the kindsa stuff that busts up by itself?" Bud Gregory asked.

"That's it," said Murfree exhaustedly, "but there's nothing—"

"Shucks!" said Bud Gregory. "That's easy, suh! The middle of the little hunka stuff that breaks down, it ain't solid, suh. There's somethin' holdin' it together, only it ain't satisfied. There's somethin' else pushin' it apart.

"So those two things fightin' each other, they make a kinda—uh—uh...." He knitted his brows. "Like a magnet, suh, an' a coil. A—uh—a field? Yeah! There's a—uh—field about the little hunksa stuff that are the kind that break down. All of 'em. You can pull 'em by that field."

He beamed but rather pityingly, as if explaining something to an infant in fond astonishment at the child's lack of knowledge. He had spoken casually of the factors causing instability in all elements heavier than bismuth and then had gone on from there. Murfree looked at him with lack-lustre eyes, worn out by his hopeless struggle to think.

"That would be a start," he said heavily, "but even then it wouldn't be practical, because if you dragged all radioactive substances to your dinkus you'd start a pile going around it to make more. If you could make it—make it—Wait!"

He stood tense for a moment. Then he spoke hopelessly.

"You couldn't make radioactives clump together where they were, could you? If we could make the dust gather into pellets so it'd be heavy and drop into the sea, the sea might be poisoned but we'd gain time."

"Clump together, suh?" Bud Gregory said. "I'll think about that. It'd mean turnin' the dinkus around. Puttin' the focus out front."

He frowned. Presently he complained, "I'm sure havin' to earn that ten dollars a day! I ain't thought so hard since I fixed a fella's car for him down Los Angeles way an' he paid me two dollars."

Then, suddenly, he snapped his fingers. He stood up and stretched.

"We'll eat us some supper, suh, an' I'll get to tinkerin'. It ain't goin' to be so hard but I got to make a brand-new dinkus."

He led the way happily into the shack.

"What'd you think about a kinda boat? Seems to me I could just buy me a sailboat an' put a hunka metal somewheres inside. Say! I could put a big pipe ouside, an' run that field I used to pull my car uphill into it.

"It'd pull the boat along an' water'd run through it an' keep it from gettin' too cold! Yes, suh! Not have to bother with no gasoline or nothin'! Save money that way an' with ten dollars a day comin' in an' only havin' to throw a fish-line over the side...."

Wind blew across the Pacific through the darkness. Across uncounted leagues it blew, carrying invisible molecules of vapor. And now and again some atom in one of those molecules emitted a fierce, invisible particle, and became another element entirely and the compound of which it was a part became another compound.

It ceased to be vapor and became an ultra-microscopic particle of dust which was deadly poison. Some of those dust-particles fell into the sea.

But most of them passed over the dark shoreline, gathering moisture and attracting other particles to themselves. They settled down toward the ground.

But the wind was not cleared of poison by that settling. Other invisible molecules of vapor emitted fierce rays and became other dust-particles. And this happened quintillions of quintillions of quintillions of times in the wind which blew in over the sea.

The tuna-boats were still busy.

Shortly after one o'clock in the morning Bud Gregory grinned exuberantly at Murfree. He had made a new contrivance on a bit of slab casually ripped from the outside of the shanty. There was a larger brass tube in the place of the gas-line of the earlier model. It had once been part of a tire-pump.

There was the same strangely-shaped sequence of wire wrappings, including the logarithmic spiral. Their sequence, however, was reversed. And there was a new device at what had been the focus, which was simply meaningless. Of course an iron wire was there.

Murfree knew it would turn white with frost when the device began to operate. It absorbed heat and made electricity. Perhaps primarily it made something else, with electricity only as a by-product. In any case it provided the power.

"This here ought to take care of it, suh!" said Bud Gregory. "We set it up an' aim it an' turn it on. Any kinda stuff that's in the wind that could bust up of itself, gets like the water I put in the focus this mornin'. It pulls to itself all the other kindsa stuff that busts down. Which way'll I point it, suh?"

Murfree considered, rather hopelessly.

"We want to clean up the wind that blows to the coast. How far will it range?"

"A long ways, suh! A long ways! It won't go straight off outa the air, neither. It won't travel nowhere there ain't some air. It'll bounce back when the air gets thin enough."

It would not be like a radar-wave, limited by the horizon.

"We'll try southwest," said Murfree. "Maybe a little west of southwest. We want it to spread out and work as far offshore as possible. Are you certain it will work?"

"You got a radium-dial watch?" asked Bud Gregory.

Murfree understood. He stripped off the watch. Bud Gregory hung it to a bush some fifty yards away. He pointed the new device at it, and turned it on. Instantly the faintly luminous numerals on the watch-face seemed to flame a lurid blue. Bud Gregory turned off the device. The watch-dial still glowed brightly—brightly!

"That dust that's been fallin'," said Bud Gregory humorously, "got pulled to the stuff in your watch. You better not wear that watch no more, Mr. Murfree. Not without you wash that dust off."

Murfree swallowed. Bud Gregory's device had endowed every particle of radioactive matter in its beam with the property of attracting and being attracted by all other radioactive matter. The tiny particles of radium in the luminous paint—one part of radium in twelve million of zinc sulfide—had been unable to move.

They were anchored in the paint. But the radioactive dust on the ground could move. It did move, swiftly, to cluster about the watch. And the zinc sulfide glowed as brightly as if it had suddenly been enriched to a thousand times its former radium content.

Murfree drew a deep breath.

"We'll kill a lot of fish," he said grimly. "Maybe we'll do more damage than that. But I'll take the responsibility. There's nothing else to do! Come on, we'll aim it and turn it on again."

They did. They set it on a tree-stump and Murfree oriented himself by the north star and pointed the botched-together device which only Bud Gregory could understand a little to the west of southwest. That was Murfree's best guess of the optimum setting, considering the coastline. He threw over the switch. The iron wire frosted, providing power. He saw it turn white in the starlight.

Aside from that, nothing at all seemed to happen.

CHAPTER VI

Ball of Fire

A tuna-boat was towing a lead torpedo through the darkness. It was, as it happened, heading back toward the island which was its base as it let the volatile liquid pour out on the sea. It had been forced to make a wide circuit to avoid observation by ships below the horizon. But otherwise everything was commonplace.

Then, without drama, the wind seemed to change peculiarly. Not the upper wind above the sea's surface—just the wind at the water's own level, saturated with the vapor of the liquid the torpedo had let out.

It blew toward the island on which the uranium piles worked. Since the tuna-boat lay in its path and offered resistance, the surface-wind piled up near the hull and flowed over and through the little ship.

A bell clanged stridently. Frenziedly. The bell was attached to a very ingenious device which tripped a relay if the background-count of a standard Geiger-Miller tube went above a conservative minimum.

It was necessary on a boat towing tanks of volatile and furiously radioactive liquid. But it was quite dependable. It gave instant warning and the members of the crew hastened to put on their protective suits, which long custom had led them to discard. The only flaw in the whole affair was that the warning-device had not operated fast enough. No device could have been fast enough.

The men who climbed into their protective suits breathed in as they moved a concentration of radioactive vapor intended to provide a day's increment of poison for acres in every breath. The men who locked their suits air-tight locked in enough radioactive gas in their lungs to kill them fifty times over.

Of course they did not notice it at the time. Perhaps they never noticed it. The little tuna-boat went on through the night. Presently it strayed off-course. The man at the wheel happened to be dead. So was everybody else on board.

The great leaden float was empty of its poison, which did not happen to be moving toward America. It constituted a cross-wind, blowing toward the home island of the tuna-boat. It was drawn by the force which holds the nuclei of atoms together, which force does not diminish according to the law of inverse squares.^[4]

At all distances, radioactive particles within the beam were drawn together with a force proportional to their masses, but not in proportion to distance.

There were atomic piles on the island from which the tuna-boat came. There were tons upon tons of uranium in those piles. They drew radioactive particles as the sun draws meteorites. Even radioactive gas-particles given off in the decay of fish killed by the towed tanks—even such gases moved toward the island.

There was nothing spectacular about anything which happened at first. A tuna-boat drove aimlessly through the night with all of its crew dead. A swift low breeze blew toward the island—many swift low breezes. Until they arrived nothing in particular seemed to be in train. But when those winds flowed over the island the situation altered gradually.

Radioactive gases and vapors clustered about the shielding around the atomic piles. More and more vapors and dust-particles arrived momentarily, drawn as by irresistible magnetic attraction. They reached the shielding-walls and clung. More came, and more, and more, and more.

As they flowed and darted across the island the island's population died. They did not notice. For a space they moved and chattered and prepared celebration—before they discovered that their bodies were still-moving corpses which gradually ceased to move.

There were no witnesses to what happened after that but it went on quite rationally. The atomic piles had been limited in their size so that they could be controlled. An atomic pile will never explode.

If it runs wild it will simply heat up and up to a temperature dependent solely upon its size and material. But the homing radioactive particles raised the temperature-limit of the piles they clustered about and

seeped in to join.

Pile-activity increased by the activity of the short-life products returned to it. The cooling-water turned to steam and ceased to flow. The piles glowed dull-red and then cherry-red and then blinding white, still without reaching their self-limiting temperature.

There was too much short-life radioactive matter around. Presently the piles vaporized and then they ran together in one monstrous mass of incandescent vapor whose normal self-limited temperature was higher yet.

This took time. It was all of an hour after the beginning of the whole process when a great globe of incandescent gas burned everything upon the island to a ghastly ash. The island was blasted, baked, dead, desolate.

Then the globe of vaporized metal—it was almost a mile in diameter—soared skyward in exactly the manner and for exactly the reason that a balloon would have risen. It was as bright as the sun but it was utterly harmless. The radiations it emitted were absorbed by other elements which became radioactive—and instantly joined the globe.



The globe of vaporized metal soared skyward in the manner of a balloon.

The globe rose skyward. It made all the sea as bright as day for twenty miles around. It went up and up and up....

When dawn came it had burned out. Its energies had been so trapped that only light and heat could permanently leave its mass. Undoubtedly, if there were observers on the then-favorably-situated planet Mars, they saw the flare.

But it did no harm beyond producing an anomalous warm area over a certain part of the Pacific which ultimately resulted in a local low-pressure area with resultant winds and precipitation—in short, a local thunderstorm. That was all. Only the people on the island would have noticed that. And they were dead....

When the background-count was down to 45-47 on the Pacific Coast, Murfree agreed that the device could be turned off. It was nearly a week before that happened and in the meanwhile he had calculated very nearly what must have happened far out at sea.

He knew that nobody who had planned to murder America could still be alive and it was very unlikely that anything remained of the apparatus they had worked with. He did wait until the radioactive dust that had spread over America had definitely entered the second half of its life.

Then he got ready to go back to his wife and daughter.

"Yes, suh!" said Bud Gregory warmly, "you sure are a friend o' mine! You goin' to send me that money regular, suh?"

"I'll send it," said Murfree. "Every week."

A boy came with a telegram for him. He put it in his pocket. It would be a background-count report, he considered, and it didn't matter.

"I'd like to give you a—uh—present," said Bud Gregory warmly. "Somethin' to show my appreciation, suh. Could—hm—would you like to have this here dinkus I made first, suh? I'll just give it to the children to play with if y'don't want it. If you'll take it to remember me by—"

"Thanks," said Murfree.

He got on the bus that would take him to the nearest town with an airport. After the bus pulled out, he idly opened the telegram. It was from the generating station that had been using Bud Gregory's gadget.

FRICITION ELIMINATION DEVICE SMASHED TODAY STOP. WORKMAN DROPPED TOOL FROM OVERHEAD STOP. CAN YOU SUPPLY OTHERS WIRE IMMEDIATELY.

Murfree felt a little sick. He had to keep Bud Gregory's confidence for dealings in the future should Bud Gregory be needed. He had strained that confidence to the limit now. If he asked for more, on a second threat to stop the ten dollars a day Bud Gregory counted on, it would be an end to everything. With that money Bud Gregory would sit in the sun and, when needed, he'd be on hand. If he didn't get that ten dollars....

At the airport Murfree sent a telegram to his former superiors in the Civil Service. He asked for his job back. He didn't know how he could make out, having to pay Bud Gregory ten dollars a day out of a forty-seven-hundred-a-year income but he felt desperately that it simply had to be done.

At the Cleveland airport he got an answer.

YOU WERE WARNED YOUR RESIGNATION WOULD BE CONSIDERED FINAL STOP. IT IS FINAL.

It was signed by the administrative officer who had objected to the disarrangement of vacation-schedules in order that Murfree might stop—as it had developed—a radioactive-dust attack upon the United States.

Murfree sank back gloomily into his plane-seat. He had to find a new source of income. He had to pay Bud Gregory thirty-six hundred and fifty dollars a year before he bought a loaf of bread for his own family. To live as he'd lived before he'd have to make over eight thousand a year. And the only thing he had now that he hadn't possessed before was the gadget Bud Gregory had made.

Suddenly his face went blank. He whistled softly to himself. He stared out the plane-window for a long time. Then he went composedly to

sleep.

When he joined his family at the seashore his wife was worried. She knew he'd left the Civil Service and had no immediate prospects. She asked him what his plans were. He grinned at her.

He unpacked the untidy parcel Bud Gregory had made for him—the device that had drawn water from a half-mile away. This was in the boarding-house where his wife and daughter had stayed while he was on the West Coast.

"I think I'll go in business for myself," he said comfortably. "Lend me your wedding-ring for capital, my dear."

Her expression was bewildered as she gave him the plain gold band. He put it in the focus of the device where Bud Gregory had put a drop of water. He sighted the gadget out of the window at the ocean. He turned it on. It would draw to itself any particles in its beam which happened to be of the same material as that in the focus of the device.

There was a metal plate to catch the drawn particles. His wife's golden wedding-ring was in the focus—and the sea contains gold. Only about a grain of gold to a ton of seawater, to be sure, but still—

A deposit of tiny, impalpable particles built up on the baffle-plate. Each infinitesimal grain, perhaps, came from a ton of seawater. But there were some thousands of billions of tons of seawater in view from the boarding-house window, and it would change, more or less, with each tide. Gold-dust came to the baffle-plate with respectable speed. Murfree turned it off presently.

"This is useless stuff, though," he said. "I'll go out and buy you something made of platinum. That's useful—and it's worth more than gold besides. I'd rather go into the platinum-producing business, any day!"

His wife gaped at him. He explained.

"I have to pay Bud Gregory a pension," he explained, "and this is the answer. I'm going to build myself a laboratory and see if I can get an inkling of what he knows offhand.

"I'll be able to give him all the money he can use now and I've always wanted to do some research on my own. I know just about exactly—what sort of a laboratory I want!"

Then he added: "Somewhere on the seashore."

FOOTNOTES

[1] See "THE GREGORY CIRCLE," *Thrilling Wonder Stories*, April, 1947.

[2] See "THE BOOMERANG FIELD," *Thrilling Wonder Stories*, June, 1947.

[3] Note: It is referred to in the Smyth Report on "Atomic Energy for Military Purposes"—the official report on the atom bomb.

[4] Note: The binding-force holding atomic nuclei together is known not to diminish according to the law of inverse squares, as do magnetism, gravity, electrostatic force, etc.—W.F.