

FICTION

Henry Beam Piper

The Answer

A PUBLIC DOMAIN BOOK

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by

H. Beam Piper

For a moment, after the screen door snapped and wakened him, Lee Richardson sat breathless and motionless, his eyes still closed, trying desperately to cling to the dream and print it upon his conscious memory before it faded.

"Are you there, Lee?" he heard Alexis Pitov's voice.

"Yes, I'm here. What time is it?" he asked, and then added, "I fell asleep. I was dreaming."

It was all right; he was going to be able to remember. He could still see the slim woman with the graying blonde hair, playing with the little dachshund among the new-fallen leaves on the lawn. He was glad they'd both been in this dream together; these dream-glimpses were all he'd had for the last fifteen years, and they were too precious to lose. He opened his eyes. The Russian was sitting just outside the light from the open door of the bungalow, lighting a cigarette. For a moment, he could see the blocky, high-cheeked face, now pouched and wrinkled, and then the flame went out and there was only the red coal glowing in the darkness. He closed his eyes again, and the dream picture came back to him, the woman catching the little dog and raising her head as though to speak to him.

"Plenty of time, yet." Pitov was speaking German instead of Spanish, as they always did between themselves. "They're still counting down from minus three hours. I just phoned the launching site for a jeep. Eugenio's been there ever since dinner; they say he's running around like a cat looking for a place to have her first litter of kittens."

He chuckled. This would be something new for Eugenio Galvez for which he could be thankful.

"I hope the generators don't develop any last-second bugs," he said. "We'll only be a mile and a half away, and that'll be too close to fifty kilos of negamatter if the field collapses." [Pg 6]

"It'll be all right," Pitov assured him. "The bugs have all been chased out years ago."

"Not out of those generators in the rocket. They're new." He fumbled in his coat pocket for his pipe and tobacco. "I never thought I'd run another nuclear-bomb test, as long as I lived."

"Lee!" Pitov was shocked. "You mustn't call it that. It isn't that, at all. It's purely a scientific experiment."

"Wasn't that all any of them were? We made lots of experiments like this, back before 1969." The memories of all those other tests, each ending in an Everest-high mushroom column, rose in his mind. And the end result—the United States and the Soviet Union blasted to rubble, a whole hemisphere pushed back into the Dark Ages, a quarter of a billion dead. Including a slim woman with graying blonde hair, and a little red dog, and a girl from Odessa whom Alexis Pitov had been going to marry. "Forgive me, Alexis. I just couldn't help remembering. I suppose it's this shot we're going to make, tonight. It's so much like the other ones, before" He hesitated slightly. "Before the Auburn Bomb."

There; he'd come out and said it. In all the years they'd worked together at the *Instituto Argentino de Ciencia Fisica*, that had been unmentioned between them. The families of hanged cutthroats avoid mention of ropes and knives. He thumbed the old-fashioned American lighter and held it to his pipe. Across the veranda, in the darkness, he knew that Pitov was looking intently at him.

"You've been thinking about that, lately, haven't you?" the Russian asked, and then, timidly: "Was that what

you were dreaming of?"

"Oh, no, thank heaven!"

"I think about it, too, always. I suppose" He seemed relieved, now that it had been brought out into the open and could be discussed. "You saw it fall, didn't you?"

"That's right. From about thirty miles away. A little closer than we'll be to this shot, tonight. I was in charge of the investigation at Auburn, until we had New York and Washington and Detroit and Mobile and San Francisco to worry about. Then what had happened to Auburn wasn't important, any more. We were trying to get evidence to lay before the United Nations. We kept at it for about twelve hours after the United Nations had ceased to exist."

"I could never understand about that, Lee. I don't know what the truth is; I probably never shall. But I know that my government did not launch that missile. During the first days after yours began coming in, I talked to people who had been in the Kremlin at the time. One had been in the presence of Klyzenko himself when the news of your bombardment arrived. He said that Klyzenko was absolutely stunned. We always believed that your government decided upon a preventive surprise attack, and picked out a town, Auburn, New York, that had been hit by one of our first retaliation missiles, and claimed that it had been hit first."

He shook his head. "Auburn was hit an hour before the first American missile was launched. I know that to be a fact. We could never understand why you launched just that one, and no more until after ours began landing on you; why you threw away the advantage of surprise and priority of attack"

"Because we didn't do it, Lee!" The Russian's voice trembled with earnestness. "You believe me when I tell you that?"

"Yes, I believe you. After all that happened, and all that you, and I, and the people you worked with, and the people I worked with, and your government, and mine, have been guilty of, it would be a waste of breath for either of us to try to lie to the other about what happened fifteen years ago." He drew slowly on his pipe. "But who launched it, then? It had to be launched by somebody."

"Don't you think I've been tormenting myself with that question for the last fifteen years?" Pitov demanded. "You know, there were people inside the Soviet Union not many, and they kept themselves well hidden who were dedicated to the overthrow of the Soviet regime. They, or some of them, might have thought that the devastation of both our countries, and the obliteration of civilization in the Northern Hemisphere, would be a cheap price to pay for ending the rule of the Communist Party."

"Could they have built an ICBM with a thermonuclear warhead in secret?" he asked. "There were also fanatical nationalist groups in Europe, both sides of the Iron Curtain, who might have thought our mutual destruction would be worth the risks involved."

"There was China, and India. If your country and mine wiped each other out, they could go back to the old ways and the old traditions. Or Japan, or the Moslem States. In the end, they all went down along with us, but what criminal ever expects to fall?"

"We have too many suspects, and the trail's too cold, Alexis. That rocket wouldn't have had to have been launched anywhere in the Northern Hemisphere. For instance, our friends here in the Argentine have been doing very well by themselves since *El Coloso del Norte* went down."

And there were the Australians, picking themselves up bargains in real-estate in the East Indies at gun-point, and there were the Boers, trekking north again, in tanks instead of ox-wagons. And Brazil, with a not-too-implausible pretender to the Braganza throne, calling itself the Portuguese Empire and looking eastward. And, to complete the picture, here were Professor Doctor Lee Richardson and Comrade Professor Alexis Petrovitch Pitov, getting ready to test a missile with a matter-annihilation warhead.

No. This thing just wasn't a weapon.

A jeep came around the corner, lighting the dark roadway between the bungalows, its radio on and counting down *Twenty two minutes. Twenty one fifty nine, fifty eight, fifty seven* It came to a stop in front of their bungalow, at exactly Minus Two Hours, Twenty One Minutes, Fifty Four Seconds. The driver called out in Spanish:

"Doctor Richardson; Doctor Pitov! Are you ready?"

"Yes, ready. We're coming."

They both got to their feet, Richardson pulling himself up reluctantly. The older you get, the harder it is to leave a comfortable chair. He settled himself beside his colleague and former enemy, and the jeep started again, rolling between the buildings of the living-quarters area and out onto the long, straight road across the pampas toward the distant blaze of electric lights.

He wondered why he had been thinking so much, lately, about the Auburn Bomb. He'd questioned, at times, indignantly, of course, whether Russia had launched it but it wasn't until tonight, until he had heard what Pitov had had to say, that he seriously doubted it. Pitov wouldn't lie about it, and Pitov would have been in a position to have known the truth, if the missile had been launched from Russia. Then he stopped thinking about what was water or blood a long time over the dam.

The special policeman at the entrance to the launching site reminded them that they were both smoking; when they extinguished, respectively, their cigarette and pipe, he waved the jeep on and went back to his argument with a carload of tourists who wanted to get a good view of the launching.

"There, now, Lee; do you need anything else to convince you that this isn't a weapon project?" Pitov asked.

"No, now that you mention it. I don't. You know, I don't believe I've had to show an identity card the whole time I've been here."

"I don't believe I have an identity card," Pitov said. "Think of that."

The lights blazed everywhere around them, but mostly about the rocket that towered above everything else, so thick that it seemed squat. The gantry-cranes had been hauled away, now, and it stood alone, but it was still wreathed in thick electric cables. They were pouring enough current into that thing to light half the street-lights in Buenos Aires; when the cables were blown free by separation charges at the blastoff, the generators powered by the rocket-engines had better be able to take over, because if the magnetic field collapsed and that fifty-kilo chunk of negative-proton matter came in contact with natural positive-proton matter, an old-fashioned H-bomb would be a firecracker to what would happen. Just one hundred kilos of pure, two-hundred proof MC2.

The driver took them around the rocket, dodging assorted trucks and mobile machinery that were being hurried out of the way. The countdown was just beyond two hours five minutes. The jeep stopped at the edge of a crowd around three more trucks, and Doctor Eugenio Galvez, the director of the Institute, left the crowd and approached at an awkward half-run as they got down.

"Is everything checked, gentlemen?" he wanted to know.

"It was this afternoon at 1730," Pitov told him. "And nobody's been burning my telephone to report anything different. Are the balloons and the drone planes ready?"

"The Air Force just finished checking; they're ready. Captain Urquiola flew one of the planes over the course and made a guidance-tape; that's been duplicated and all the planes are equipped with copies."

"How's the wind?" Richardson asked.

"Still steady. We won't have any trouble about fallout or with the balloons."

"Then we'd better go back to the bunker and make sure everybody there is on the job."

The loudspeaker was counting down to Two Hours One Minute.

"Could you spare a few minutes to talk to the press?" Eugenio Galvez asked. "And perhaps say a few words for telecast? This last is most important; we can't explain too many times the purpose of this experiment. There is still much hostility, arising from fear that we are testing a nuclear weapon."

The press and telecast services were well represented; there were close to a hundred correspondents, from all over South America, from South Africa and Australia, even one from Ceylon. They had three trucks, with mobile telecast pickups, and when they saw who was approaching, they released the two rocketry experts they had been quizzing and pounced on the new victims.

Was there any possibility that negative-proton matter might be used as a weapon?

"Anything can be used as a weapon; you could stab a man to death with that lead pencil you're using," Pitov replied. "But I doubt if negamatter will ever be so used. We're certainly not working on weapons design here. We started, six years ago, with the ability to produce negative protons, reverse-spin neutrons, and positrons, and the theoretical possibility of assembling them into negamatter. We have just gotten a fifty kilogramme mass of nega-iron assembled. In those six years, we had to invent all our techniques, and design all our equipment. If we'd been insane enough to want to build a nuclear weapon, after what we went through up North, we could have done so from memory, and designed a better which is to say a worse one from memory in a few days."

"Yes, and building a negamatter bomb for military purposes would be like digging a fifty foot shaft to get a rock to bash somebody's head in, when you could do the job better with the shovel you're digging with," Richardson added. "The time, money, energy and work we put in on this thing would be ample to construct twenty thermonuclear bombs. And that's only a small part of it." He went on to tell them about the magnetic bottle inside the rocket's warhead, mentioning how much electric current was needed to keep up the magnetic field that insulated the negamatter from contact with posimatter.

"Then what was the purpose of this experiment, Doctor Richardson?"

"Oh, we were just trying to find out a few basic facts about natural structure. Long ago, it was realized that the nucleonic particles protons, neutrons, mesons and so on must have structure of their own. Since we started constructing negative-proton matter, we've found out a few things about nucleonic structure. Some rather odd things, including fractions of Planck's constant."

A couple of the correspondents a man from La Prensa, and an Australian whistled softly. The others looked blank. Pitov took over:

"You see, gentlemen, most of what we learned, we learned from putting negamatter atoms together. We annihilated a few of them over there in that little concrete building, we have one of the most massive steel vaults in the world, where we do that but we assembled millions of them for every one we annihilated, and that chunk of nega-iron inside the magnetic bottle kept growing. And when you have a piece of negamatter you don't want, you can't just throw it out on the scrap-pile. We might have rocketed it into escape velocity and let it blow up in space, away from the Moon or any of the artificial satellites, but why waste it? So we're going to have the rocket eject it, and when it falls, we can see, by our telemetered instruments, just what happens."

"Well, won't it be annihilated by contact with atmosphere?" somebody asked.

"That's one of the things we want to find out," Pitov said. "We estimate about twenty percent loss from contact with atmosphere, but the mass that actually lands on the target area should be about forty kilos. It should be something of a spectacle, coming down."

"You say you had to assemble it, after creating the negative protons and neutrons and the positrons. Doesn't any of this sort of matter exist in nature?"

The man who asked that knew better himself. He just wanted the answer on the record.

"Oh no; not on this planet, and probably not in the Galaxy. There may be whole galaxies composed of nothing but negamatter. There may even be isolated stars and planetary systems inside our Galaxy composed of negamatter, though I think that very improbable. But when negamatter and posimatter come into contact with one another, the result is immediate mutual annihilation."

They managed to get away from the press, and returned as far as the bunkers, a mile and a half away. Before they went inside, Richardson glanced up at the sky, fixing the location of a few of the more conspicuous stars in his mind. There were almost a hundred men and women inside, each at his or her instruments-view-screens, radar indicators, detection instruments of a dozen kinds. The reporters and telecast people arrived shortly afterward, and Eugenio Galvez took them in tow. While Richardson and Pitov were making their last-minute rounds, the countdown progressed past minus one hour, and at minus twenty minutes all the overhead lights went off and the small instrument operators' lights came on.

Pitov turned on a couple of view-screens, one from a pickup on the roof of the bunker and another from the launching-pad. They sat down side by side and waited. Richardson got his pipe out and began loading it. The loudspeaker was saying: "*Minus two minutes, one fifty nine, fifty eight, fifty seven*"

He let his mind drift away from the test, back to the world that had been smashed around his ears in the autumn of 1969. He was doing that so often, now, when he should be thinking about

"*Two seconds, one second. FIRING!*"

It was a second later that his eyes focussed on the left hand view-screen. Red and yellow flames were gushing out at the bottom of the rocket, and it was beginning to tremble. Then the upper jets, the ones that furnished power for the generators, began firing. He looked anxiously at the meters; the generators were building up power. Finally, when he was sure that the rocket would be blasting off anyhow, the separator-charges fired and the heavy cables fell away. An instant later, the big missile started inching upward, gaining speed by the second, first slowly and jerkily and then more rapidly, until it passed out of the field of the pickup. He watched the rising spout of fire from the other screen until it passed from sight.

By that time, Pitov had twisted a dial and gotten another view on the left hand screen, this time from close to the target. That camera was radar-controlled; it had fastened onto the approaching missile, which was still invisible. The stars swung slowly across the screen until Richardson recognized the ones he had spotted at the zenith. In a moment, now, the rocket, a hundred miles overhead, would be nosing down, and then the warhead would open and the magnetic field inside would alter and the mass of negamatter would be ejected.

The stars were blotted out by a sudden glow of light. Even at a hundred miles, there was enough atmospheric density to produce considerable energy release. Pitov, beside him, was muttering, partly in German and partly in Russian; most of what Richardson caught was figures. Trying to calculate how much of the mass of unnatural iron would get down for the ground blast. Then the right hand screen broke into a wriggling orgy of color, and at the same time every scrap of radio-transmitted apparatus either went out or began reporting erratically. The left hand screen, connected by wiring to the pickup on the roof, was still functioning. For a moment, Richardson wondered what was going on, and then shocked recognition drove that from his mind as he stared at the ever-brightening glare in the sky.

It was the Auburn Bomb again! He was back, in memory, to the night on the shore of Lake Ontario; the party breaking up in the early hours of morning; he and Janet and the people with whom they had been spending a vacation week standing on the lawn as the guests were getting into their cars. And then the sudden light in the sky. The cries of surprise, and then of alarm as it seemed to be rushing straight down upon them. He and Janet, clutching each other and staring up in terror at the falling blaze from which there seemed no escape. Then relief, as it curved away from them and fell to the south. And then the explosion, lighting the whole southern sky.

There was a similar explosion in the screen, when the mass of nega-iron landed a sheet of pure white light, so bright and so quick as to almost pass above the limit of visibility, and then a moment's darkness that was in his stunned eyes more than in the screen, and then the rising glow of updrawn incandescent dust.

Before the sound-waves had reached them, he had been legging it into the house. The television had been on, and it had been acting as insanely as the screen on his right now. He had called the State Police the telephones had been working all right and told them who he was, and they had told him to stay put and they'd send a car for him. They did, within minutes. Janet and his host and hostess had waited with him on the lawn until it came, and after he had gotten into it, he had turned around and looked back through the rear window, and seen Janet standing under the front light, holding the little dog in her arms, flopping one of its silly little paws up and down with her hand to wave goodbye to him.

He had seen her and the dog like that every day of his life for the last fifteen years.

"What kind of radiation are you getting?" he could hear Alexis Pitov asking into a phone. "What? Nothing else? Oh; yes, of course. But mostly cosmic. That shouldn't last long." He turned from the phone. "A devil's own dose of cosmic, and some gamma. It was the cosmic radiation that put the radios and telescreens out. That's why I insisted that the drone planes be independent of radio control."

They always got cosmic radiation from the micro-annihilations in the test-vault. Well, now they had an idea of what produced natural cosmic rays. There must be quite a bit of negamatter and posimatter going into mutual annihilation and total energy release through the Universe.

"Of course, there were no detectors set up in advance around Auburn," he said. "We didn't really begin to find anything out for half an hour. By that time, the cosmic radiation was over and we weren't getting anything but gamma."

"What has Auburn to do?" The Russian stopped short. "You think this was the same thing?" He gave it a moment's consideration. "Lee, you're crazy! There wasn't an atom of artificial negamatter in the world in 1969. Nobody had made any before us. We gave each other some scientific surprises, then, but nobody surprised both of us. You and I, between us, knew everything that was going on in nuclear physics in the world. And you know as well as I do"

A voice came out of the public-address speaker. "Some of the radio equipment around the target area, that wasn't knocked out by blast, is beginning to function again. There is an increasingly heavy gamma radiation, but no more cosmic rays. They were all prompt radiation from the annihilation; the gamma is secondary effect. Wait a moment; Captain Urquiola, of the Air Force, says that the first drone plane is about to take off."

It had been two hours after the blast that the first drones had gone over what had been Auburn, New York. He was trying to remember, as exactly as possible, what had been learned from them. Gamma radiation; a great deal of gamma. But it didn't last long. It had been almost down to a safe level by the time the investigation had been called off, and, two months after there had been no more missiles, and no way of producing more, and no targets to send them against if they'd had them, rather he had been back at Auburn on his hopeless quest, and there had been almost no trace of radiation. Nothing but a wide, shallow crater, almost two hundred feet in diameter and only fifteen at its deepest, already full of water, and a circle of flattened and scattered rubble for a mile and a half all around it. He was willing to bet anything that that was what they'd find where the chunk of nega-iron had landed, fifty miles away on the pampas.

Well, the first drone ought to be over the target area before long, and at least one of the balloons that had been sent up was reporting its course by radio. The radios in the others were silent, and the recording counters had probably jammed in all of them. There'd be something of interest when the first drone came back. He dragged his mind back to the present, and went to work with Alexis Pitov.

They were at it all night, checking, evaluating, making sure that the masses of data that were coming in were being promptly processed for programming the computers. At each of the increasingly frequent

coffee-breaks, he noticed Pitov looking curiously. He said nothing, however, until, long after dawn, they stood outside the bunker, waiting for the jeep that would take them back to their bungalow and watching the line of trucks Argentine army engineers, locally hired laborers, load after load of prefab-huts and equipment going down toward the target-area, where they would be working for the next week.

"Lee, were you serious?" Pitov asked. "I mean, about this being like the one at Auburn?"

"It was exactly like Auburn; even that blazing light that came rushing down out of the sky. I wondered about that at the time what kind of a missile would produce an effect like that. Now I know. We just launched one like it."

"But that's impossible! I told you, between us we know everything that was happening in nuclear physics then. Nobody in the world knew how to assemble atoms of negamatter and build them into masses."

"Nobody, and nothing, on this planet built that mass of negamatter. I doubt if it even came from this Galaxy. But we didn't know that, then. When that negamatter meteor fell, the only thing anybody could think of was that it had been a Soviet missile. If it had hit around Leningrad or Moscow or Kharkov, who would you have blamed it on?"

THE END.