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# EARTH ASUNDER!

an astounding novelet

by EPHRIAM WINIKI

A BLUE BIBRON MAGAZINE

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## EARTH ASUNDER!

An Astounding Novelette of the World's End!

By

## John Russell Fearn Writing under the pseudonym Ephriam Winiki.

First published Science Fiction, October 1939.

Rodney Dawson matches his wits with the power-mad Volan, conqueror of the world! Blindly, Dawson assists the emperor in the construction of underground cities as protection against an asteroid doom—until he learns of Volan's mad plan to split the world in two!

It was in September 2436 that the asteroid was first sighted, pursuing a steady but inevitable course towards the earth. The astronomers found it when it was still many millions of miles away; from then on the world soon knew of the impending disaster.

The voice of the chief announcer of the World-Television Hook-Up was heard in every quarter of the world, in public edifice and private apartment alike. "For the first time in history, disaster threatens this world of ours. An asteroid, about half the size of the earth, from somewhere unknown in space, is traveling inexorably towards our world. Scientists are agreed that the world cannot escape being struck. In consequence, the only safety lies underground—deep underground, and it is to this end that scientists are now working. Below we stand a chance of survival; above, none whatever."

The people agreed. They had no other alternative. They looked vainly into the night sky in an effort to behold the visitor, but only the giant reflectors of that advanced age could reveal the relatively microscopic fragment in the firmament that spelled, unless human ingenuity could overcome it, disaster for the earthly race.

It was in response to the command of Volan, the calm, inscrutable Asiatic ruler of the world, that Rodney Dawson and his partner Lance Hapacre, recognized as perhaps the two greatest subterranean engineers of the time, presented themselves at the Emergency Council, which had its headquarters in New York—for names still remained unchanged throughout the centuries.

As was usual, Volan himself presided over the meeting, occupying the centermost chair amidst his silent advisers. The Asiatic was a small man, sallow as became his race, but upon his visage was stamped all the hidden ferocity and diabolical cunning that had made him, nearly a decade before, the master of earth itself. Since that time there had been peace; none dared defy his edicts.

"You are here, my friends, to take your orders concerning the erection of underground shelters, indeed cities, as protection for the populace against the approaching asteroid," he announced steadily, addressing Dawson and Hapacre as they stood silently in the center of the enormous room. "I understand that the erection of cities two miles below the surface is not impossible."

"Not by any means, sir," Hapacre answered quietly.

"And that depth, you believe, would be sufficient to save us from damage?"

"I think so, sir—yes. We will build roofs for the cities of comparatively unbreakable steel, which in itself will form the underpinning of earth's own surface. Even so, there is the contingency that some of these cities may be smashed. It all depends upon which side of the earth the asteroid strikes; as yet, the astronomers have not determined the point."

"If the underground cities are not made, it will mean the end of all earth's peoples," Volan said grimly. "They must be built:—with all possible speed! I sent for you both because I believe that one of you is perfecting the most efficient earth-borer yet known to science, utilizing atomic energy as its basis of motivation. Is that correct?"

"I am the inventor, sir," Hapacre assented quietly.

"Very good, then. The finances of the Emergency Council are at your disposal. The instant your atomic borer is an established fact, you will get in touch with the Council; then plans for the cities, which are now being drawn up, will be handed to you for execution. Remember urgency is the element we are fighting! That is all."

"Yes, sir." The two engineers nodded and quietly left the chamber . . .

Half an hour later found them in their own experimental workshops, surrounded by the employees directly under their control, employees trained in every branch of science, all at present bending their labors to the final problem of atomic energy, working entirely to the ideas of Hapacre himself—ideas evolved through years of tireless searching into the mysteries of energy and matter.

Concisely, Hapacre made the facts clear to the waiting workers.

"You will proceed with experiments so far as possible to date," he concluded. "I expect the final solution within twenty-four hours. I am released from all other tasks—I have nothing to do but concentrate on the problem, and that I intend to do. Dawson here will assist me, and so will my sister, Miss Hapacre. That's all for the moment. Just carry on."

The men and women technicians nodded quietly and departed, leaving behind them the slim form of Elsa Hapacre, sister of the engineer, and herself a scientist. Her dark blue eyes were fixed pensively on her brother's lean face as he seated himself before his desk and began to figure industriously.

"Lance," she said quietly, "do you really think you can solve atomic energy?"

"I'm sure of it," he replied steadily, looking up. "Why?"

"Because I was thinking that, even if you do succeed, Volan is not the sort of man to let you get away with such a secret! Don't you realize, Lance, that with such knowledge you could become—become a god? A ruler? Volan's control would be shattered."

"Maybe you're right," Hapacre admitted, brooding; then he shrugged. "Still, sis, even if you are, I've got to go on; the safety of humanity depends on it no matter what my personal reward is in the affair. Forget it, Elsa! Just go straight on with your work and leave me to mine. Thanks for the tip, though."

The girl nodded and turned to her own specialized work. Side by side, Hapacre and Dawson studied in silence the formula the former was slowly building up, a formula of tremendous complexity that Dawson only half understood, involving, as it did, both the known and unknown laws of physics and electricity.

Contrary to Hapacre's optimistic expectations, he did not arrive at the solution within twenty-four hours. In all, it took him ten days of brain-flogging effort to perfect his formula, but at the end of that time he, his sister, and the employees were rewarded by the perfect control of disintegrated copper atoms, performed by a process of narrowing electron orbits until they united with the nucleus of the atoms themselves.

"The idea's good," Hapacre muttered, absorbed in watching the amazing electrical display as the released energy was transmitted to a model earth-borer. "It is almost the perfect formula —reversible, too. In a while, I'll figure out the other method—accomplish something so far unknown to science. You see, Rod, up to now we've proved that we can disintegrate matter to produce energy, but no man has yet found how to turn energy back into matter! I think I can do it—given time, that is."

Dawson nodded. "Mebbe—but our time is too limited for that, old man. In any case, what use would it be?"

"Isn't it obvious? Chasms and gaps in the earth, which are bound to occur during our work, can be sealed up by the creation of fresh matter to fill them. But as you say, it's still a tenuous theory. I'll have to work it out—"

"And in the meantime, you'd better report to Volan," commented Elsa practically. "We've lost a tremendous amount of time already."

Hapacre nodded. "Right enough. Come on, Rod, let's go."

A fast private air machine took them directly to Volan's massive domain. After the usual curriculum of attendants and guards, they were ushered into the Asiatic's presence. As was customary in his private life, he was seated at his broad desk, literally the eye of the world, whereon every detail of the planet's behavior was recorded hour by hour by various machines.

"Be seated, gentlemen," he invited gravely. "I take it that you have at last succeeded?"

"Yes, sir," Hapacre assented. "All we require now are the underground plans from you. The model borer works, so its giant contemporary will do likewise. In another week, the finished machines will be ready. They will progress at tremendous speed, under earth and water, turning both these elements into pure energy as they advance; hence, there is nothing left in their wake."

"Excellent—excellent!" Volan nodded. "You have accomplished a feat which I, in my scientific career, have sought in vain. I extend my congratulations. It is proposed to erect the underground cities in every country beneath the existing cities. As your borers progress, shields of unbreakable steel will be slid into position. You will find the full details in the plans. In six weeks, the approaching asteroid will hit the earth; in four weeks, therefore, every underground city has to be completed. That will be your task."

"It can be done, working at full pressure," Hapacre nodded.

"It will have to be done, Hapacre," Volan answered, his lips tightening. "I myself will personally review your machinery when it is in operation. I shall expect you to start simultaneous drilling in all countries exactly ten days from today. You, Dawson, will take charge in New York here; you, Hapacre, will take charge of the Adelaide, Australia, sector. Thus you are both in opposite halves of the earth and other engineers in either of those halves can communicate with one or other of you, according to which side they are on. Incidentally, Hapacre, how do you propose controling these borers of yours?"

"Remote control, by radio. It's the only way. Each borer will have its own separate control unit."

"I understand," the Asiatic nodded calmly. "Thank you, gentlemen. Ten days hence you will commence operations."

The two engineers rose and departed. For a moment, Volan sat in thought, then he summoned the chief astronomer of the city.

"Tell me, Carter, have you yet determined which side of the earth the asteroid will strike?"

"Yes, sir," the astronomer nodded. "The entire western hemisphere will be exposed to the visitor; the eastern will escape. Figures irrefutably prove it."

"That is all I wanted to know. You may go."

Again Volan pondered when the astronomer had left. Gently he spun the globe that stood poised on his desk and broodingly watched it revolve. The ghost of a smile was on his hard face.

### CHAPTER II TO CLEAVE THE WORLD!

Through the days that followed the earth-boring machines, monstrous objects resembling gigantic old-time torpedoes—save that they were fitted with specially designed tractors, were manufactured at record speed and dispatched to the various centers of activity.

Up to the very last moment, Dawson and Hapacre found themselves occupied in the supervision of their vital remote-control apparatus for the guiding of the machines.

"It's a pity we've got to part," Hapacre commented ruefully, on the last day. "Still, orders are orders. The only thing I'm worried about is that you don't know as much about this apparatus as I do. If anything goes wrong you'll have to send for me. I can be over from Adelaide in an hour, anyhow."

Dawson smiled. "Don't worry about me, Hap—nothing will go wrong. Still, I think you might give me a break and leave Elsa behind. After all, we are to be married, you know. The Council has approved it."

"That'll have to wait, I'm afraid. There are more important things on hand. And besides, I must have Elsa—she's my closest assistant."

"I know," Dawson laughed. "It was only my fun, anyhow." He turned and patted the girl's shoulder affectionately. "We'll make up for it afterwards, eh, kid?"

"If there is any afterwards," she assented somberly.

"Why, of course there will be! Then we'll really come into our own—so much so that Volan himself will be out of it. The people are already turning to us; they realize that we can give them far more than Volan—peace of mind and security in one of the biggest dangers that ever threatened the human race. Then, when all the fireworks are over, old Hap will be able to solve his energy into matter problem, and I'll be able to finish my ideas on space-travel."

"Space-travel!" Hapacre echoed cynically. "That idea's no good, old man."

"It wasn't till you found atomic force; now it's a very logical theory. I'll tell you about it when the asteroid has gone."

For a moment there was silence, then Hapacre shrugged. "Well, we'd better be moving off. Best of luck, old man—keep in touch on the teleradio. If we ever can squeeze in a minute, we'll have a chat on mutual scientific advancement—my ideas for energy-matter, and yours for—er—space-travel," he concluded dryly. "For the time being, goodby!"

"And you look after yourself!" Dawson admonished the girl, as he gently embraced her. "I want a perfectly whole woman for a wife when this stuff is done with. If Hap starts any of his crazy stuff, you come right back to me."

"I will!" she laughingly promised, then turned and followed her brother from the machineroom.

Right on schedule, ten days later, operations commenced. In every city-site in both eastern and western hemispheres, engineers were able to keep contact with their respective masterengineers. Hence the men operating in London, Leningrad, Shanghai, Cairo, Durban, and Madras were able to keep in touch with Hapacre, whilst Dawson had plenty to do in giving orders from New York to those situated in Greenland, Alaska, and South America. In New York itself, operations commenced from the vicinity of the old-time Central Park, it being intended to create underneath Manhattan Island itself the new underground city. The old-time Long Island, Brooklyn, and New Jersey no longer existed in any case—desperate air war had seen to that!

So on October 9, 2436, simultaneous boring began the world over. Volan himself duly arrived, without ostentation, and watched the preliminaries.

From the high tower of the remote-control rooms, he stood at Dawson's side, watched him make the universal signal that was the sign for simultaneous boring, then turned his gaze to the immense juggernaut as it began its amazing journey. As far as the eye could see, excepting for the mile-radius around the machine, people swayed eagerly to obtain a close look at the monster that was to provide their safety.

Tensely, Dawson threw in the power-switches; the massive machinery began to hum gently, emitting the vital transmissions. Instantly the bore released itself from its supports, dove its nose into the hard earth, and within an incredibly short space of time, completely vanished below surface, consuming the earth and turning it into energy as it went.

"At two miles' depth it will be guided to turn parallel with the surface, and then pursue a varied course of tunneling and boring," Dawson explained. "There is every reason to expect success. As fast as the results of the borer's work are transmitted automatically to the surface, men will descend and use the magnetizers for placing the supporting plates into position."

"Very good," Volan nodded, his eyes on the machines—then he turned and walked quietly between them, Dawson stayed at his post; all his attention was demanded. His eyes were glued to the meters which registered the progress of the borer. So far everything was perfect. The thing was already three-quarters of a mile down and progressing with ever-mounting speed.

When he reached the far end of the immense room Volan signaled a lean-faced engineer to him. The man promptly advanced and touched his cap in salute.

"Everything is checked, sir," he said in a low voice. "Experiments were made on the wave-lengths generated by these machines for remote control, and the correct heterodyning frequency was easy to discover. Henson worked it out and perfected it. He installed a heterodyner in your tower control-room as you requested, then . . ." The engineer stopped and smiled twistedly.

"I know," the Asiatic nodded, smiling faintly. "Poor Henson—a pity he met with so terrible an accident. Still, we must bear these blows. As for you, Bates, you had better come with me. I need you."

"Yes, sir." A sub-engineer moved up to take his place.

Volan departed silently with Bates at his side. Within fifteen minutes, they were back in the ruler's headquarters, standing side by side gazing at the squat bulk of a complicated radio heterodyning-frequency transmitter.

"You could not wish for anything better, sir," Bates said presently. "This machine radiates a heterodyning frequency sufficient to overpower the radio waves which control the New York atomic-borer. Also, it blocks all teleradio transmission and reception for an area of nearly thirty miles in all directions, with this transmitter as the center of the circle. So long as this machine is at work, there can be no atomic-borer control—and no communication. And since the borer has a motor entirely motivated by smashing atoms, which can only be stopped by radio control, it becomes obvious that, uncontroled, it might keep on going for years." "Yes, I had thought of that," Volan nodded calmly, gazing out over the city towards the scene of the boring operations.

The engineer hesitated for a moment, then asked, "Am I permitted to inquire, sir, what your plan is? Why do you desire to break the control of this particular atomic motor?"

Volan turned from the window. "You have done a lot for me, Bates—I will reward you. Here is my plan—" He pointed to the immense wall-map of the modern world, divided into two hemispheres.

"You see, in the western hemisphere, ending at approximately London, we have the entire American continent. That will be the hemisphere to receive the full force of the asteroid. The other hemisphere will probably survive easily. Now, when the New York borer is facing approximately north-east, I shall cut off the control. In consequence, it will keep on going at a terrific pace, at a two mile depth, straight out into the Atlantic Ocean, across to Iceland, through the Arctic Ocean, Europe, the Arabian Sea, Indian Ocean, the South Pacific, and so on back to New York. In other words, it will pursue a straight line—and keep on pursuing it, dividing the world into two distinct halves."

"But, sir!" The engineer stopped in amazement, then backed away as Volan came menacingly forward.

"You wonder why, eh?" the Asiatic asked bitterly. "Simple, my friend. By the time these underground cities are built, I shall have lost control—the people are already turning to Hapacre and Dawson whom they regard as their benefactors. The side that will be struck by the asteroid is this side; it is probable that the people will be annihilated. But the people on the other side, which includes Australia and all Asia, will escape scot-free, almost. I shall continue, then, to rule the eastern hemisphere, for by that time it will comprise the world! The earth will smash in two when the asteroid comes—the borer's preliminary cutting will see to that. Needless to relate, I shall not have Hapacre to worry about; I will attend to that matter and Dawson will be cut off here. For me to rule a world but half the normal size will be simple. And lastly, the people being deep underground when the rupture occurs, they will suffer little damage from the sudden transit into space."

"I-see," Bates breathed in an awed voice. "But what a terrific chance!"

"Yes, isn't it?" The Asiatic smiled grimly, then he shot out his powerful hand and seized the engineer by the lapel of his tunic. "And now that I have told you everything I am, not unnaturally, obliged to take precautions as to your silence. You may remember that Henson, poor fellow, died very mysteriously. You remember, eh?" The Asiatic grinned viciously. "Well, you're going to follow him!"

"Wait, sir!" the engineer panted. "I'm with you-all along! What are you going to do?"

"Kill you, of course. What else did you expect?" And with a sudden swift movement, Volan whipped a lethal gun from his belt. Inflexibly, he pressed the button and watched the sobbing, shaking Bates collapse gently to the floor and lie still, all life blasted out of him.

Only for a moment did Volan gaze down at him, then he seized the body by the collar and dragged it unceremoniously into his adjoining laboratory, afterwards throwing it into the bath of acid he had specially prepared for the purpose. Within seven minutes, there was no evidence that Hubert Bates, engineer, had ever been on earth at all . . .

Thoughtfully, the heinous incident forgotten, Volan returned to his own office on the floor below. Within a minute, he was in contact with the feverishly working Dawson by teleradio. His perspiring face appeared on the screen.

"Yes, sir?"

"What is the exact position of the New York borer at the moment, Dawson? How are you progressing?"

The engineer looked at his meters. "It's reached the two-mile depth, sir, and is now working on the horizontal tunneling."

"Good work, Dawson. That's all."

Volan switched off, then quietly walked upstairs again—surveyed in silence the bulk of the heterodyner, then transferred his attention to the walls and tiny door.

"Impregnable," he murmured. "Ray-proof walls, explosive-proof windows—a room which nothing can pass through except radio waves. Even if they trace this heterodyner, they'll never be able to stop it...."

He ceased soliloquizing and went over to the machine itself, checked its controls, then threw in the main switch. The motor, driven by atomic force, the motive power of which the dead Henson had deliberately stolen from Hapacre during the erection of the control-units, hummed deeply. The wires and filaments on the summit of the apparatus began to glow steadily.

The Asiatic nodded, dusted his hands, then quietly left the room. Behind him the door closed and automatically locked itself. Certainly a combination code could open it—but only Volan knew it.

Ten minutes later, he was seated within a fast air machine, piloting himself, heading for Australia....

Dawson first became aware of trouble when the face of Clements, sub-engineer in charge of the men working on the steel shafting, appeared on the teleview screen.

"Hey, Dawson!" his voice roared through the loud-speaker, and Dawson started up from a few minutes of well-earned rest. "Hey, what the hell are you doing? The damned borer's going straight on! It should have turned upwards again three minutes ago. For God's sake, do something! I've got men waiting to make contacts; the darn thing will mow them down if you don't alter the course—"

Dawson swung around and glared at his instruments. A violent start shook him as he surveyed the direction-indicator. According to his former switch movements, it should be indicating a vertical movement, but instead, it registered complete horizontal. Frantically, he swung over the massive controlling wheels, slammed switches that diverted the current, but the direction-indicator remained unchanged.

"Vacate the site!" he shouted hoarsely. "Borer's out of control! There's electrical interference somewhere. . . . I'll join you. Get an ordinary mine-comber prepared—we'll chase the borer and see if the control unit is broken. I'll be with you in five minutes."

"O. K.—but for heaven's sake hurry!"

Dawson did not hesitate a moment. Desperately, he sped from the building, raced out into the busy street, and joined the anxious Clements at the top of the shaft within the stipulated time. Together they entered the cage and dropped down the smooth, mechanically made pit at a tremendous pace.

"Any idea as to the cause?" Clements asked cryptically-and Dawson compressed his lips.

"None whatever, yet. I don't like it, Clem-it isn't a natural accident, I'll swear."

A silence fell between them, and presently they reached the base of the shaft. Here men were lounging about, almost stripped, in the glare of hastily erected electric arcs, their machinery idle, awaiting further orders. One of them moved forward quickly as the two appeared.

"The borer's two miles to the northwest, sir," he panted. "You can catch it up in the minecomber. It's all ready. Hop in."

The three of them climbed into the swift tractor device used extensively for the exploration of underground workings. The door slammed shut and in another minute the massively powerful contraption was moving at maximum speed through the newly bored tunnel, gathering tremendous speed along the semi-circular floor the borer itself had so smoothly made.

Dawson and Clements stared fixedly through the front observation windows at the onrushing emptiness, pierced by the glare of searchlights. Then at last the darkness ahead began to lighten; an immense brilliance filled the darkness. Rumblings and thunderings akin to a gathering earthquake beat on the men's ears even through the thickness of the comber's walls.

"Stop!" Dawson shouted. "Stop! Go no further!"

Instantly, the order was obeyed. He stood looking at the rapidly receding borer, surrounded by its aurora of incandescence.

"No use, Clem," he groaned at last. "We can't examine it—it isn't humanly possible. The motor must be shot to pieces—probably the sudden removal of radio control pressure created a recoil or backlash. Whatever it is, energy is escaping in all directions and the damn thing's traveling at a terrific speed, entirely without the braking effect of radio! It's as destructive, and more so, than a perpetually exploding high-powered shell. We've got to get back and contact Hap right away. Quick—there! Reverse!"

By night, the runaway borer had reached the Atlantic Ocean, pursuing its way with less resistance now, along the bed of the sea, turning the water into a boiling, death-dealing vortex as it pursued its inexorable advance towards Newfoundland. Just as it consumed matter in the form of the toughest rock, so it consumed water, hence pressure was practically a negligible factor. Everywhere it touched, everything ceased to be, an effect that was doubled with disastrous consequences by reason of its uncontrolled, incredible speed and perpetually escaping, radiating energy.

Dawson, nearly frantic with dismay, tried desperately to get in touch with Hapacre, but without success. The heterodyning wave did its work thoroughly. All transmission failed utterly; all reception resulted in whining and violent static.

"Trace that infernal heterodyne to its source!" Dawson barked out at last. "It must be deliberate! All ordinary radio transmission ceased when we began, for fear of this very thing happening. Get all the experts you can, Clem, and don't eat or sleep until you track it down. Oh, if only we had the old-fashioned telephone now! How it would help!"

Clements swiftly departed. Wearied, Dawson rose to his feet and gazed out towards the harbor. There, distinctly visible in the darkness, was the presence of the borer. Illumination, faint but still distinguishable, poured up from the blackness of the horizon. The borer was on its way, without resistance.

And overhead, just visible now to the naked eye, a solitary scrap of hurtling matter swept ever nearer towards the earth....

## CHAPTER III DISASTER AND RUIN

In the meantime, in Australia, Hapacre was pursuing his work with entirely satisfactory results. Everything was in order; all borers were working perfectly. As yet, he knew nothing of the disaster that had befallen the western hemisphere, but he certainly did wonder when his efforts to communicate with his friend received no response. Finally he decided it was a temporary defect at the American end and calmly returned to his work.

The problem of creating matter out of energy still obsessed his active mind, but it was an obsession perforce relegated to those few moments when he knew the essential boring work could proceed without his actual supervision. To his sister, on the second night of work, he explained his views in the little apartment assigned specially to their use.

The girl tried the televisor. Repeatedly, she operated the contact controls, without result. As a last effort, she tried other stations, but since all were within the radius of the American heterodyner, her efforts were futile.

"Can't figure it out at all," Hapacre muttered, frowning. "Hope nothing's gone wrong but I'm an ass for worrying! What can be wrong? Here, sis, give me a hand at working this energy formula. The sooner we get it, the better."

Elsa nodded and drew up to the table, as unaware as her brother that, on the opposite side of the world, Dawson was at his wits' end to know what move to make. His experts had worked desperately through the night with detectors, and had finally traced the source of the heterodyne, only to find, exactly as Volan had calculated, that the tower housing it was impregnable.

"You could fly to Australia within the hour and tell Hap with your own lips," Clements observed. "Is there anything wrong with that idea?"

"You know there is! I'm the only one here who understands these directional instruments. They're still functioning, and while they are, I can chart ahead where the borer will be next and so send out warnings in time by scout planes. But you could go, though! Yes, that's it! You go and tell Hap what's occurred. Get going right now."

"O. K." Dawson turned back worriedly to his instruments as Clements departed. His mind was on the gaping chasm being torn in the surface of the earth—the destruction of both land and sea. The borer had already made enormous progress, had indeed passed clean through the center of Iceland and was careening towards the Arctic Circle, blasting ocean and ice into energy as it traveled.

Reykjavik, the old-time capital of Iceland, was rent through as though with volcanic fire and afterwards hurled piecemeal into the ocean, wiping out those of the populace who had been too luckless or too obstinate to escape. The only method of warning was by fast planes from New York, but even then it was a prodigious task to advise everybody.

Norway and Sweden first became aware of the danger when a fast flier from New York alighted with the usual exodus order. Even so, the messenger could not possibly cover all the ground necessary, and his radio efforts at warning failed deploringly to convince the natives. Soon, boiling, thundering tumult passed two miles under Norway and Sweden and produced a colossal earthquake. An immense canyon was torn through the two countries, wiping out Oslo and dropping it into the depths of a vast ravine. . . . And the borer went on, advancing inexorably in a line for Europe, Persia and the Indian Ocean.

Dawson heard of these things from his scouts, and accordingly dispatched more warnings —but it came to him with grim clearness that the borer was proving too fast for him, with its speed increasing hour upon hour. He had, too, to cope with the obstinacy of various peoples who refused to believe that a mere machine could wreck a country, so little understood even then was the demoniacal power of uncontrolled atomic energy.

Day after day, Dawson waited tensely for the return of Clements from Australia. Already he was enormously overdue; scouts, too, were mysteriously disappearing. As to Clements, only the tortured gales of a battered planet could bear testimony to the fact that a tiny piece of wreckage on the frothing Atlantic gave the clue as to where Clements had gone. A defect in his machine, a nose dive, a sudden whirlwind. . . .

The waters rolled on!

"Elsa, something has got to be done!"

It was Hapacre who spoke—grimy, tired from hours of sleepless work, both physical and mental. The underground borings were proceeding perfectly; for a few hours he had relaxation of a kind.

"Elsa, you'll have to go and find him," he went on fiercely. "Something's terribly wrong— I can't forget those messages filtering in from Asia—the story of an atomic machine gone mad!—the silence of the radio bands—no word. Go to him, sis—he needs help, I'll swear it."

"And the formula for matter creation?" she asked quietly. "You've finished it. If this story of a crazy atomic machine is true, we could use a matter-forming machine to build up the gaps made by this runaway."

"Right enough—you must take the formula with you. As to stopping the runaway machine, I don't see what can be done. Uncontrolled atomic force is impossible to stop. If you can find Dawson, get him to come here at all costs; we'll try to figure out something. In the interval, he must have a matter machine to repair the damage. Every minute is precious now. Get going, sis."

The girl took the stiff roll of metal held out to her, slipped it into the zipper pocket of her overall, then went directly to the flying fields. Within five minutes, she was in the clear upper air, far above the teeming activity of the vast pit that marked the Adelaide underground workings. Faster and faster she streaked towards the Indian Ocean; within ten minutes she had gained it and was flying across its rolling expanse.

Far below, ships plied steadily on its waters. A strange unformed fear was in her mind; far ahead, in the hazy outlines that denoted mid-ocean, there lay a queer curtain of incandescence, for all the world like an illuminated waterspout, filled with blazing lightnings and energies. Already her little craft began to bob violently with atmospheric currents. Wind shrieked in the fuselage of the machine; the deep booming roar of an incredible thunder reverberated through the empty sky—an indescribable resonance that came to her clearly in the silence, for the plane motor was noiseless.

Puzzled, she veered away to the left, but the odd atmospheric mystery still moved steadily towards her, seeking to cut her off. Then, quite suddenly, her startled eyes beheld the disturbance distinctly. Far below, the sea itself was being carved in two by invisible, radiating power, carved by the machine two miles below the surface. For a moment only did she glimpse the bottomless depths occasioned by the disintegration, then the waves roared back into the gulf, thundered and cascaded in vast boiling walls into the abyss, hurling spume and brine thousands of feet into the air.

"It is a machine!" she breathed, half to herself. "An escaped machine!"

Only for a moment did she ponder, then she swung around violently and headed towards the rear of the disturbance—but here again she was beaten. The wind currents were too great for her slender machine. Helplessly, it was hurled backwards; by an enormous effort she regained control and went with the wind back towards Australia's shores. Ten minutes later, she had landed back at the flying grounds. At a run, she returned to her brother's apartment, then paused on the threshold, only stifling an outcry by enormous effort.

Within the room stood her brother and Volan, the latter with his lethal-gun leveled.

"Don't try to tell me you haven't discovered the secret of matter out of energy, Hapacre, because I've had you watched for days!" Volan snapped. "Where is it?"

Hapacre shrugged and smiled grimly. "Wouldn't you like to know?" he asked bitterly. "As it happens, the formula is on its way to New York. My sister is taking it there. There's just a chance Dawson may find it useful."

"Why should he?"

"Oh, don't try and be innocent, Volan! You know as well as I do that a machine is loose and ten to one it's the New York machine. The earth is slowly being mown in half, and only my formula can save it and rebuild the matter that has been destroyed. . . . And, don't forget, the asteroid is coming! We have enough on our plate without your outside interference!"

"Interference, eh?" Volan snarled. "What about you? You send your infernal sister with the very formula that will wreck my plans! She's got to be found—and I'll find her. As for you, I've no further use for you!"

The lethal gun flared; Hapacre smiled again, tauntingly, then he gently collapsed to the floor. Every instinct urged Elsa to hurl herself into the room, but the remembrance of the formula within her pocket stayed her movement. Blindly she turned and fled down the corridor, out into the open, towards the flying grounds.

Somehow—someway—she had got to get through the aerial disturbances, and with this resolution in mind, she took to the air again. The borer had moved on a tremendous distance in its journey—that much she discovered—but the air was still tempestuous.

Setting her teeth, she gripped the speed levers of the engine and drove with all speed into the tumult. The disturbed air in the wake of the runaway borer struck her with overwhelming force. The machine lunged and twisted mightily, swept wildly to one side, then dove downwards with dizzying speed. Far below, an isolated island stood in solitary state in the churning waves. Dazed with the speed and air-pressure, the girl operated her switches, flattened the machine out, skimmed the very top of a solitary tree, then crashed with tremendous force upon the rocks.

Immediately, the machine crumpled, but, being fireproof, did not ignite. The girl slumped unconscious in the cockpit.

Pursuing its inexorable course from the Indian Ocean, the borer continued its straight-line movement through the open sea towards Antarctica, through that world of ice, and back again into the South Pacific Ocean. The American people grew alarmed, in particular the people of New York. The borer was returning! In a little under five days, it had circumnavigated the world, furrowed it to a depth of two miles, divided the earth into two distinct hemispheres, and was now moving at enormous velocity along the same track.

There was nothing that could be done; Dawson knew that. The asteroid's steady and inevitable approach was forgotten now, except by the harassed astronomers. Everybody was fighting a menace on land—a machine that wouldn't stop—that gave warning of its approach towards New York on the fifth day by means of buried rumblings and atomic energy disruptions. Immediately, New York was evacuated, and the less-important slave cities in contact. Every man, woman, and child left the metropolis and headed for the north of America.

When they returned, they found the city carved in two as though with a knife. An enormous chasm separated them from the other hemisphere of the earth, a chasm filled with the lambent flames of volcanic upheaval, emitting poisonous and deadly fumes.

In one respect, the borer had done some good; it had smashed Volan's fool-proof tower into masonry, stopped completely the heterodyning effect. Certainly, this liberated television and radio waves, but it did not render the control of the atomic machine any nearer, for the simple reason that the unit controlling the machine—granting the machine's engine could in any case have been repaired—had been wiped out of existence.

Dawson accompanied by the little band who still stuck loyally to him, took up his headquarters in a none-too-secure building half a mile from the chasm. Grim-faced, he had the televisors connected up, tested the air-waves, then made contact with Adelaide. To his surprise, it was not the face of Hapacre that appeared on the screen, but Volan's, calm and sneering.

"Well?" he inquired coldly. "What is it, Dawson?"

"Sir, something terrible has happened! You must know of it! A machine has broken loose, is pursuing a constant line around the earth! It has made one circuit and is now on the second. We've got to stop it! We've got to!"

Volan smiled. "It is rather unfortunate, Dawson, isn't it? Earth is being divided into two sections; the chasm between is filled with poisonous fumes and deadly air currents that prevent any airplane getting through. The oceans are tremendously lowered; the chasm exists on the ocean bed as much as on land. You are, I admit, on the worst hemisphere—the side the asteroid will strike. I am on the other side, and the shelters are practically finished. I'm sorry I can't help you—I am, really. Literally, we are in two separate worlds, or will be when the asteroid comes!"

"Get me Hapacre!" Dawson demanded. "I've got to speak to him!"

"Hapacre is dead," Volan answered curtly-and switched off.

Dawson sat staring dully at the screen; his men were respectfully silent.

"Elsa," he breathed brokenly. "Elsa! Hap—dead! But Elsa—What can have happened to her?" Then, suddenly, he recovered from his lethargy, turned with frantic haste to the transmitters. Just as he did so, the communicator-bulb lit up brightly. Puzzled, he switched on. To his supreme joy, the face of Elsa appeared on the screen, white and tense. To her rear lay a blurred vision of creaming breakers against massive rocks.

"Rod!" her voice exclaimed hoarsely. "Thank heaven I located you! I had my televisor in action when you spoke just now—it intercepted my efforts to try and get aid from your side of the world. I daren't try Australia—Volan is after me."

"But where are you, kid? What on earth are you doing?"

"Trying to get through to you with Lance's formula for matter-creation. It could repair the damage done by the borer; long enough to get the thing back in control, anyhow. My plane

can't get through the disturbances existing in the chasm. I crashed—only recovered some hours ago. I must have been unconscious, off and on, for days.

"Oh, Rod, what on earth am I to do? I have the solution to your difficulties, but you can't get through to me, and I daren't ask my own side to help me. It means my finish. Volan's already had his scouts after me, but I've thrown the wreckage of my plane into the sea and hidden in a cave here, so that he can't trace me. The only things I have saved are a gas-mask and a portable televisor—and some provisions."

"What gave you the idea I couldn't get through?" Dawson demanded fiercely. "I'm coming to get you if it's the last thing I do! Hang on—I'm coming for you!"

"I'll wait. . . ." The girl's voice faded as she cut contact. Dawson leapt to his feet and seized Kemp, his most loyal supporter, by the shoulders.

"Kemp, I've got to have an assistant—" he began urgently.

"Rely on me," the laconic engineer interrupted. "Heavy plane?"

"The heaviest we've got. You others stay here and send out warnings from the borer's computed path. Come on, Kemp!"

Five minutes later, the two were at the remains of the flying grounds. Dawson clutched the chief mechanic by the arm.

"Johnson, we want a heavy plane in perfect condition-desperate mission through the death-line."

Johnson smiled coldly. "You do, eh?" He waved a grimy hand to the empty masses of the half-shattered hangars. "There's not a plane available. Every one was smashed by falling masonry in the last earthquake."

"What!" Dawson gazed with dismayed eyes around the empty, tumbled expanse. "But but I've got to have a machine!" he insisted desperately. "The safety of the world depends on it!"

"I'm not a magician, Dawson," Johnson said. "The only way is to build one. We have the materials. Under pressure, we could do it in, say, about two weeks—no, three weeks, pressing every available man into commission."

"Three weeks! Don't be idiotic! I can't wait that long!"

"After all, Dawson, you can't walk it," Kemp commented quietly. "It's the only way around the difficulty. Since this is the central depot for air machines, there certainly won't be any in the subsidiary hangars. We'll have to build. Get in touch with Miss Hapacre again and tell her."

Dawson snorted savagely and strode back to his official building. It did not take long to get Elsa back on the air and tell her of the disastrous news. She smiled very faintly.

"All right, I'll wait," she assented wearily. "I have my cave and provisions, so I guess I can hold out long enough. My gas mask will keep me safe from the volcanic fumes. But Rod, please hurry! The borer passes within twenty miles of here. The island may be wrecked in the next onslaught. Besides, the asteroid is due in a trifle over three weeks. . . ." She stopped and shrugged. "In any case, why struggle?" she asked hopelessly. "When you get the formula, it will be too late to use it, anyhow."

"Too late to use it to stop the atomic machine's wreckage, maybe, but think of its use after the asteroid has gone! I'm coming! We're going to shelter on the eastern hemisphere. Whatever happens, formula or no formula, I'm coming to get you! Now I must cut off—goodbye."

"Good-bye, Rod—but do hurry!"

## CHAPTER IV THE GREAT DIVIDE

From that moment onwards, various events built up to their ultimate crises. Dawson, all his energies concentrated on the building of the massive, high-powered fireproof plane, had little time to think of anything else.

The borer, in the interval, pursued exactly the same track as before, but delving deeper and ever deeper into the earth and sea, exposing each time fresh volcanic fires, hurling tremendous chasms of flame and death onto both hemispheres. The eastern half, in the main, escaped any hurt; Volan saw to that. The people, even though the underground cities were not fully completed, were all below surface and safe from the disturbances—and, steadily, the cities were taking shape. The dead Hapacre's sub-engineers knew enough of the general construction to proceed without him, but work was certainly delayed without his individual guiding genius.

Astronomers reported the advance of the asteroid into the Solar System. Within seventeen more days, it would strike the earth exactly as calculated—the western hemisphere.

On the Indian Ocean island, alone, fighting against terror and the exhaustion occasioned by the strict rationing of her tabloid supplies, Elsa beheld the borer's second and third visits through the ocean, felt her island shaken enormously with the upheavals; but to her relief, it stood the strain. Indeed, it seemed to rise much higher in the air in consequence; actually the ocean level dropped lower. Rain descended in torrents, typhoons screamed and roared around the little cave in which she had made her temporary home. With frightened eyes, she peered out on the tempestuosity of maddened Nature; then, with the calmer moments of the borer's passing, she beheld the vision, low down on the horizon, of the risen asteroid, outshining even Venus in brilliance....

Throughout the weeks of airplane construction, Dawson was akin to a raving madman. He refused to sleep, only ate when sheer exhaustion demanded it, then returned force work onwards at a terrific pace. As the borer made its third circuit, at an unguessable depth below the surface of the earth and sea, more of the ruined city of New York fell to pieces—the bridge between hemispheres was enormously widened. The gases became denser, filling the cloud-ridden sky and producing a dim and perpetual twilight. The workers toiled on in gas-masks, in the midst of air so hot that it registered a steady 124° F.

But the Herculean labor was not without result. The machine was finished in just under three weeks. Dawson and Kemp slept only long enough to refresh themselves, then took off into the sullen darkness of the threatened planet towards the Indian Ocean, guided only by compasses in the foggy atmosphere.

"We're headed straight for disaster, old man," Kemp muttered, hands on the controls and gaze glued to the opaque view outside. "Elsa Hapacre will never survive this!"

"Why not?" Dawson demanded grimly, turning a sweat-streaked face. "She has a gasmask. Two hours ago she was just about living, according to the televisor message. She'll live all right.... Heavens, Kemp—she must live!"

He took over the controls as he spoke. Kemp retired and tested the televisor, without results. Violent electrical disturbances rendered it useless.

"Must be hell ahead," he muttered dubiously—but Dawson took no notice. He drove on rigidly through the murk, holding the lurching monster as best he could in the tempest raging outside.

On the earth below, supreme chaos was reigning. The more fortunate ones of the eastern hemisphere, under Volan's control, were already deep underground. The asteroid was due in eight hours, according to calculation. As to the borer, it was presumably still pursuing its eternal journey.

Comparative safety embraced the eastern world, yes, but in the western, disaster strode over the land: tempests, landslides, tremendous concussions, oceans raised to the boiling point —people without shelter flying hither and thither in choking fumes, or stumbling unexpectedly into flaming pits in the shattered earth. Overhead, hidden, a brilliant orb swept ever nearer through the desolation of infinity, already adding its own equilibristic disturbances to the tottering world. Gravity was shifting; balanced planes were changing. The world was on the rack.

Deep in the Indian Ocean, the Island of Elsa still stood, surrounded by a sea that had become a boiling caldron, lashed by furious, colossal waves that slowly encroached on the land, waiting only the final tidal wave that would sink the island forever. Unconscious, overcome by exhaustion, lay Elsa, her mask mercifully on, entirely oblivious to the choking fumes that enveloped her.

"Must be somewhere near!" Kemp shouted, nearly an hour later. "Go easy, man—go easy! We're driving over that damned earth-chasm now. A bottomless pit of flame! Look at that!" He pointed in awe to a stupendous coiling mass of dense, sulphuric smoke, etched out against a hellish background of writhing fire. The air was choked with dust, cinders and volcanic matter. Invisible below, there thundered the incomprehensible fury of a sea, a world, dividing —crumbling in the last gravitational deflectings into two parts, a work already patterned by the still-exploding, detonating borer.

"We can't make it!" Kemp shouted, perspiration streaming down his face. "I tell you, Dawson-"

"Shut up! We're going through!" Dawson snarled back, slamming the lever over the maximum speed. "Elsa's out there in that hell! If she dies, we die too!"

The machine jolted and gathered speed—then there rose from the unknown dark outside a terrific vortex of air. The ship, mighty though it was, was blown upwards like a feather, heeled over, and careened through the blackest darkness.

In that second, earth split in twain, an incredible sight as the sundered lands and oceans cascaded into infinity a tremendous and instantaneous reshuffling of gravitative power! The two halves flew apart at tremendous speed, each retaining its own atmospheric envelope. It snapped into place with diabolical force, produced stunning thunder concussions that were heard even above the roar of the disintegrating landscape.

Further and further the two halves flew apart. Those on the western hemisphere reeled and fell, buried under shattering tons of brick and earth. Those on the eastern half lay buried underground, almost protected, but in places there were enormous subsidences.

And the asteroid. It swept into the position of earth's orbit to the pretimed second, but when it finally arrived, the two halves had parted company, and in consequence, it hurtled between them, without resistance, into the further depths of space. Infinity heaved; two worlds came slowly to a standstill, moved in a little towards each other, claimed a dual hold on the more distant moon and sun, then began to move in newly defined orbits—two worlds, clouded in steam and vapor, but from which the horror of a mad atomic machine and approaching asteroid had gone.

Dawson's next clear recollection was of being in a ramshackle building, stretched on a makeshift bed, with a party of grimy, tattered men beside him. Amongst the many faces, he recognized only that of Kemp. Slowly, wincing, he sat up, asked almost soundless questions.

"It's over," Kemp said very quietly. "Earth split in two. We landed in a mud plain and escaped serious hurt. You've been unconscious a long time. There are people left on this hemisphere. It can be rebuilt—"

"But, Elsa—" Dawson panted, and Kemp shrugged.

"Interplanetary radio seems to work. I managed to get into contact with Volan. They seem to be doing o. k. up there—he's ruler, of course. Elsa is alive, but hurt, and of course under Volan's control. At the time of the disaster, the Indian Ocean was drained off into space. Her island was left untouched in consequence. When she came back to consciousness she saw only a smoking wilderness and scouts picked her up."

"Then the gulf of space is between us?" Dawson breathed. "Kemp, do you begin to realize --?"

"I realize that we have to build anew," he answered steadily. "Take it calmly, old man. We may bridge space, and then . . ."

"Space!" Dawson rubbed his forehead wearily. "I once had an idea to conquer space by atomic energy. I believe I could do it, too."

"You'll have willing helpers. Everybody is against Volan—those few who are left, that is. We're in complete control."

Dawson rose shakily to his feet and stared out of the glassless window at the vision of the still imperfect globe amidst the mists of the horizon.

"Earth, born of Earth," he murmured tensely. "Kemp—space must be conquered! Elsa must be brought back, Volan overthrown."

"We know," Kemp nodded simply-and Dawson continued to gaze, untiringly.

#### THE END

[The end of Earth Asunder! by John Russell Fearn (as Ephriam Winiki)]