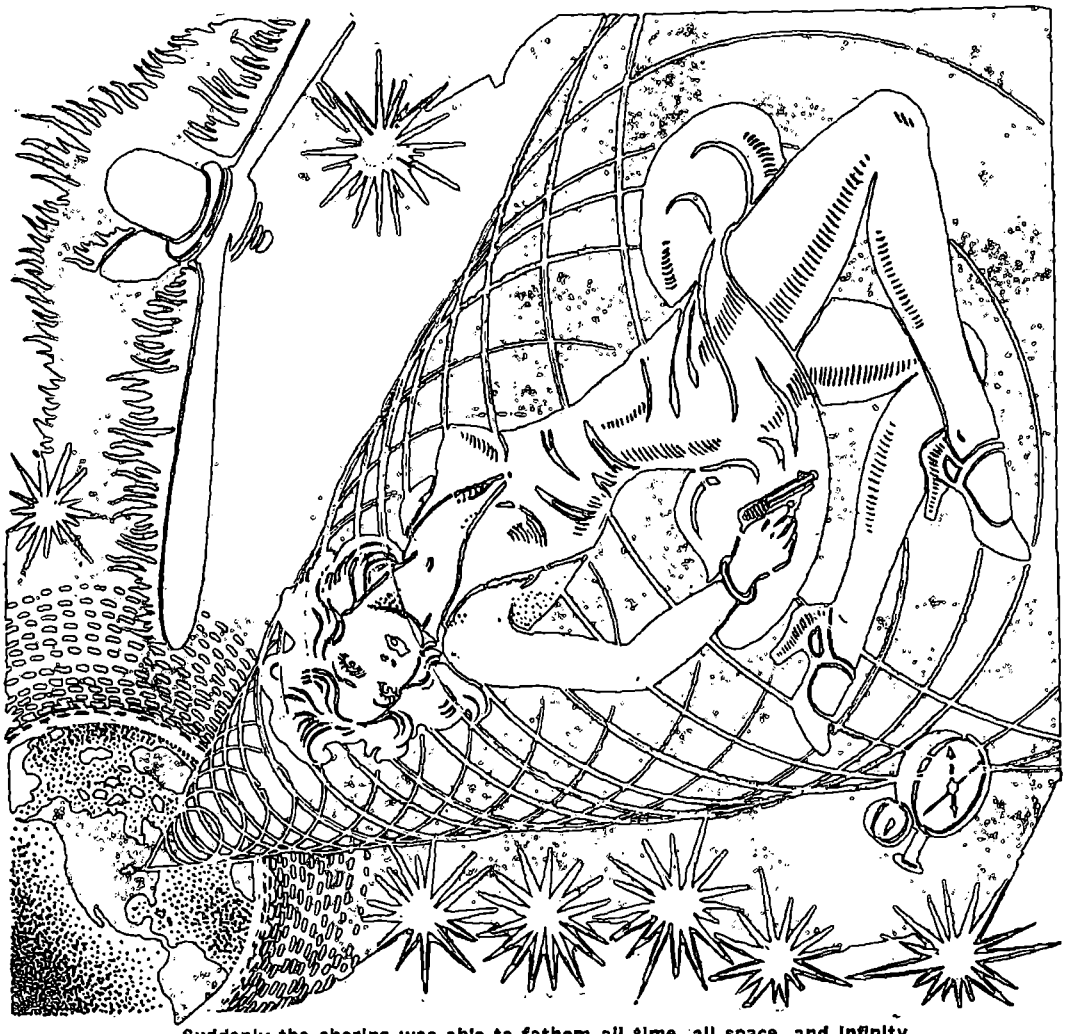

Suddenly the chorine was able to fathom all time, all space, and infinity

THE ULTIMATE ANALYSIS

By JOHN RUSSELL FEARN

Just as Ruthless Invaders from a Far-Off Cosmic Frontier Are Poised to Invade the Earth, Out of a Curious Experimental Machine Darts the Perfect Mathematical Equation, Loaded with Potential Destruction!

THE two scientists were arguing vehemently. Not that this was anything new. For the forty years of their academic lives from the days when they had mixed odors of test tubes together in the college laboratory, they had argued. The point of significance was that Dr. Enrod was usually proven correct. He had greater vision but less brilliance than his friend Professor Coltham.

Right now they stood in the Professor's private laboratory, an isolated low-roofed building well separated from the house. Coltham, brooding like a bird of prey over his smaller friend, jabbed an acid-stained finger at him.

"Your trouble, Enrod, is limitation!" he asserted. "You have always been the same —always ready to pull my experiments to pieces."

"For which very reason you have improved them." Enrod smiled, and remained unabashed. "Nor am I limited. My imagination, but not my inventive faculty, completely transcends yours!"

"Hmmm. Maybe."

"No doubt of it. And I'm telling you right now, Coltham, that if you go on with this latest invention of yours you are likely to stir up a scientific hornet's nest!"

"Supposing I do? Have not men stirred up hornet's nests before when finding new paths in science? Frankly, I don't think you have grasped the essentials, Enrod."

Because he was so sure of the fact, Coltham started to elucidate again.

"Several years ago Jeans worked out the space-time-matter conception in relation to mathematics. He was practically alone in his theory in those days, fifty years ago—practically alone in his belief that everything is in reality a mathematical abstraction, that the build-up of atoms, protons, neutrons, and so forth are just so many mathematical computations, sponsored perhaps by some creator who is mathematical to an infinite degree. Right?"

"I know," Enrod observed mildly. "You have told me all that."

"But you don't seem to have grasped it! I said that for twenty years I have worked on this theory of Jeans'. What is more, I have proved that he was right. Jeans himself said, and we of today admit it freely, that it is no longer possible to assess Nature from the engineering or chemical standpoint. Mathematics alone can completely analyze the Universe and its myriad forces. We can only progress with any benefit by knowing the mathematical changes in a substance which cause it to be possessed of progressive entropy. Our Universe, because of the Theory of Relativity, is finite—and yet unbounded. It is finite because geometrics limit it. It is infinite when understood through mathematics. Separate the mathematics from the geometry and then—then we shall understand the Universe for what it really is!"

ENROD shook his head. "I do not agree even now," he insisted. "To get to the root of mathematics is like—like trying to catch the east wind in a bottle. It just isn't there. It's a mental conception."

"There you have it!" Coltham boomed. "A mental conception! The intricate workings of mathematics are planted deep in our subconscious minds. Jeans said that, too. Because of this—because of our inability really to penetrate the subconscious mind—I have spent these years in devising a machine to do it for us, a machine which will analyze any known substance, organic or inorganic, down to the absolute mathematical basis."

Enrod shook his bald head impatiently. "You're still up a gum tree, Coltham! A mathematical formula can never tell us what a thing is—only how it behaves. It can only specify an object through its properties."

"If only the external mathematics of a thing—such as mass, width, depth, and so on—are analyzed, yes. But an absolute analysis can alone explain the mysteries of dimensions, the electron waves of probability, the Fitzgerald limit of light—endless things like that. If we have an exact analysis of everything that goes to make up the universe as we know it, a task which I reckon would take about ten years, we have also the key to infinity itself. The basic universe-forms needed are not numerous. Most of the things we know are off-shoots of an original formation—such as steel is a form of iron."

Enrod shrugged. "You intend to solve why things are? That it?"

Coltham pulled the mackintosh cover from an instrument standing in the center of the laboratory floor. It reminded Enrod of a huge glass pear, stem downward. Inside its near-vacuum were queerly fashioned filaments, electrodes, and banks of tubes. Round the bottom edge of the globe, where its neck began, was a complete row of gray objects like the hammers of a piano. They formed a circle around the globe neck, and each one was carefully wired to lead to a matrix immediately under the strange contrivance.

"Remarkable!" Enrod said, studying it. "Only a man of your brilliance could have invented such a thing!" Then as Coltham remained proud and silent, Enrod added naively, "What is it?"

"A mathematical analyzer. It is composed of what I call metallic variants. You see those teeth round the inside of the globe neck? They all look alike, yet each one is specially prepared on its external surface to receive light or energy photons from anything placed in the matrix beneath. There are thirty metallic variants, each one capable of a different task. They analyze, in turn the mathematical outflow of whatever is in the matrix. Radiation, energy, light—all those different conditions have a mathematical sense which so far has escaped detection.

Nothing on earth can be without some form of energy dissipation and, therefore, capable of analysis. Only in the absolute zero of space is it possible to find a body utterly at rest, and probably not even there.

"So, the metallic variants analyze the color, the mass, the height, the depth—everything—of whatever is in the matrix. This thirty-toned key system here"—Coltham indicated an array of tiny pipes of odd crystalline substance which looked like a baby organ—"responds to the metallic variants' vibrations and proceeds to perform the mathematical conceptions necessary to the analysis. From here the movement continues to what is really a glorified adding machine, sealed inside this massive box here. A result is finally arrived at—a one hundred percent anlysis of anything. You see?"

"Partly," Enrod mused. "How is the key system able to convert vibration into mathematics?"

"That," Coltham sighed, "is nearly as hard to explain as east wind in a bottle. I don't just know how the vibrations are converted into mathematics. I only know it is so—just as we know that an electron is somewhere within a probability wave. I know from experiment that the crystalline used in the key system is sensitive to the vibrations of the variants. Maybe it is something inherent in the alloy I have used, something to do with the mathematical basis of the metal itself. Like many scientists, I understand what the alloy does but do not know what it is. However, suppose I demonstrate?"

He threw a switch and the globe came to life. The various tubes glowed. Then as Coltham pulled a pencil out of his pocket and tossed it into the queerly fashioned matrix, clamping down the lid, the globe really jumped into activity.

He and Enrod stood watching as mystic, unexplainable ripplings of color started to play along the circle of metallic variants. Some of these saw-teeth shone vividly, others only glowed. The weird crystalline substance of the key system was shot through now with unholy light.

ENROD was convinced, as he watched, that some of the colors were not in the visible spectrum at all. He felt rather than saw them. A vague unease settled upon him. Little gusts of conception—fragments of amazing thoughts—twisted through his brain. Once he fancied he really understood the infinite calculus in its entirety for the first time. Then just as quickly the breathtaking conviction was gone.

"You feel the mathematical vibrations?" Coltham asked dryly, eyeing him.

"Is that it?" Enrod surveyed the globe intently. "Yes—I feel them."

"But they're as vague as waves of probability," Coltham sighed. "Vibrations from which the very universe was fashioned, no doubt. It is so hard to understand the functions of pure mathematics. Ah! I believe we are ready!"

He studied a dial for a moment, then shut off the power. The main mathematical machine continued working. The subsidiary calculator clicked suddenly and thrust out a sheet of stiff paper into Coltham's waiting hand. He smiled triumphantly, but Enrod blinked as he peered at it.

"Great heavens, it even analyzes the composition of the graphite and the basic constituents of the timber used for the pencil! Coltham, do you realize what this brain-child of yours is doing? It roots out elements that are not even in our Periodic Table! Look here—it says there is a mathematical percentage of Element 85. That is one of our blanks, but where does it fit into a common pencil?"

Coltham shrugged. "What did I tell you? Somewhere in the graphite—among these multitudinous other elements that go to create graphite—is Element Eighty-five, at a percentage of seven-eighths. This, my doubting friend, is pure mathematical analysis! We see from this formula our common, or garden pencil, is made up of no fewer than seventy-five different elements! The graphite, timber, and paint are analyzed exactly into seventy-two elements, and the precise atomic formation and weight and mass of each is given." His eyes sparkled. "Now we see what a field is opened up. We might find it possible to go on analyzing down and down, to the end and the beginning of atomic energy itself—right into the microcosm—"

Coltham stopped, slightly astounded by the magnitude and depth of the thing he had plumbed. This was the first time he had given the machine a complete test. That it was successful there was no shadow of doubt.

"At least I am convinced now I am right," Enrod breathed. "I said before that you were playing with fire—and that was when I had only heard the theory. Since I have seen this thing in practice I—I tell you the device is dangerous! Suppose you were to

put radium in the matrix, or something highly complicated such as that? Think of the vast number of interlocked equations and mathematical variants this thing would form. It might even turn into a thinking machine all on its own!"

"Absurd," Coltham smiled. "This machine of mine is simply a vastly improved version of the mechanical brains in use in various universities today for solving difficult problems too abstruse for tired human minds to grapple with. A thinking machine! Rubbish! No thinking machine can be made by man."

"But in the case I am stating it wouldn't be made by man," Enrod cried. "If mathematical vibrations are the basic form of the universe, what is to prevent a complex mass from forming their own thoughts and playing the devil with our known laws?"

"Since you put it that way, nothing," Coltham admitted. He frowned, then laughed off a momentary twinge of anxiety. "I'm a scientist, not a pessimist," he said. "Your imagination is going to trip you up one day, my friend. Here—you try the device. Anything you like."

Enrod elected to analyze his cigarette case, and he thought a few things about the man that had sold it to him for solid gold when he saw the equational formula. Thereafter he forgot his cold calculating prescience in sheer interest.

In fact both men became fascinated. They analyzed glass, chromium, sand, soil—got dizzying results that ran into almost incomprehensible equations and deep mathematics.

"We're worse than two kids," Coltham exclaimed at last. He was flushed with triumph. "But at least we've got something no scientists ever got before. Here, I figure we ought to finish off with a chunk of common iron. After all, it's the commonest element of the universe, if not the basis of the universe itself. Let's see what it's really composed of."

HE tossed it into the matrix, closed the lid, and waited.

"Just what is the matrix made of?" Enrod asked, looking at it more closely.

"Tungsten alloy mainly, coated on the inside with my crystalline to facilitate the mathematical vibrations. Time's up!"

But this time there was no click from the calculator. And even when Coltham cut off the power the globe went on glowing steadily with some inner power of its own.

Coltham glanced uneasily at his friend and opened the lid of the matrix. A start shook him. Enrod gazed too, and it required all of his common sense to believe it.

The chunk of iron had vanished completely! The matrix was empty.

Fanny Reardon, star leg attraction in Maybury's Cafe chorus, was massaging a silk stocking onto her shapely limb when the door of her dressing room opened abruptly. A man with dark eyes, well dressed, and with heavily brilliantined hair, entered. He quickly locked the door behind him.

"You're a no class heel, Nick," Fanny observed pleasantly, continuing her dressing. "I know you ain't a gentleman, so I won't ask you why you didn't knock."

"Hush!"

Nick Blake came over to her and the urgency in his dark eyes made her glance at him in surprise.

"Well, what's steaming you up?" she asked. "You look as though the cops are right on your tail."

"They soon may be," he said, keeping his voice low. "I got him, Fanny—Spike Munro. He's deader than last night's kiss, and here's the turnover." He flashed a bundle of notes. "Fifty thousand!" he said eagerly. "Right out of his safe. Everything fixed, just like I told you it would be. I've planned it so that Boyd Amos will take the rap. We're getting out quick—to Florida!"

Fanny added more lipstick to her already heavily painted lips.

"And I get twenty-five thousand out of it?" she asked. "You had better keep to your bargain, Nick. Now you've told me this much I could tip the cops off in double-quick time."

"Everything to be as we fixed it," Nick Blake said earnestly. "We have fifty thousand between us and nothing to worry about—except getting married. The plane is all set to go from that field at the back of Logan's Auto Wrecking Dump. Meet me there in a half an hour. Now I've got to go. Remember—half an hour!"

He gripped her plump arm in farewell, then hurried over to the door. For a moment or two, after he had slipped out, Fanny Reardon sat before the mirror with its horseshoe of globes, looking at her attractive reflection.

"Twenty-five thousand and Nick, a murderer, for my ball-and-chain?" she mused, "or should I take fifty thousand and remain here to catch a better fish? And stay clear of a murder rap, too!" She fluffed her blonde hair daintily. "Mrs. Reardon's little girl wasn't born yesterday. No, sir. . . ."

On the seventh floor of the Barlow Building, Joseph Barlow faced his Board of Directors—every one of them hand-picked and most of them having said "Yes!" to the big fellow more times than they could remember.

"Gentlemen!" Barlow got to his feet, tall and commanding. "I called you together especially to hear the result of our plans for the Grayham Dam. As all of you know—or should know if you have kept abreast of politics—this Corporation of ours stands to receive a great impetus in building and constructional tenders if only I can become a Senator."

There was a general nodding of heads.

"I have always had to play second fiddle to 'Honest' Adam Grayham, as they call him. Were he out of the way there would be nothing to stop me." Barlow paused and cleared his throat. "To eliminate him in the usual way—by murder, if you want it plainly—would be too risky. There remains only one alternative, to discredit him. At last the chance is ours! As you are aware he has done a lot of political campaigning to get his bill passed authorizing the Grayham Dam project. Now he has managed it, and I have used my not inconsiderable influence to get the contract for it."

Barlow looked around the faces, then slammed his fist on the shiny table.

"Gentlemen, that dam will be built, but it will not stand up to what Grayham expects. It will, as well, smash, irrevocably and utterly, his reputation! We shall not be implicated. I have things too well planned for that. Only Grayham and his faulty engineering theories will be involved. Inevitably I will become Senator Joseph Barlow in his stead. In due course, my power will increase."

The big fellow smiled at the rosy speculations racing through his mind

IN HIS penthouse-de-luxe, atop a towering apartment building, J. Clayton Withers stood facing another man across a broad desk. Withers himself, six feet of prosperous well-being, with the face of a prize bulldog, was immaculate as usual. But the other man, his secretary, was not so well dressed. In fact, he had only one thing in common with his boss—he was angry.

"I am not going to do it, Mr. Withers!" he declared flatly. "I've never refused to obey orders before, but this time I have a personal reason. If you corner Amalgamated Copper, as you intend, hundreds of small-time investors are going to lose every cent they've got—including my brother and several of my friends. No, I won't do it!"

J. Clayton Withers' eyes glinted in the fat encircling them.

"I cannot believe, Mason, that you are such an idiot as to prefer to go to jail just because you won't handle this negotiation in the usual way. For you will. I'll see to that!"

There was silence in the great room for a moment, the stock market tycoon grinning sardonically and Mason staring at him fixedly. At last Mason again shook his head firmly.

"No, sir, I won't do it. I am not going to encompass the ruin of innocent people. Get on with it yourself."

Withers reflected for a moment. Then, to Mason's surprise, he took an automatic from the desk drawer and leveled it.

"On second thought," he said slowly, "it will not suit my purpose to have you leave here. You can talk quite a lot before I get you clamped in jail. One word from you about Amalgamated Copper, and the game would be up. That being so I'm afraid our association has got to come to an end, rather abruptly. And, of course, I shall see to it that it is—suicide. . . ."

Ten thousand million miles away in space a cruiser of the void moved with easy velocity. For nearly three years now it had been pursuing its leisurely trip from the vast reaches near Alpha Centauri.

Within its monstrous, radiation-proofed depths was almost an entire city, complete with every need—strange needs indeed, for the denizens of the space cruiser were as unlike Earthlings as anything imaginable.

In appearance the travelers were insectile, with massive chitinous bodies and saucerlike faceted eyes. Only the delicate way in which they handled machinery gave the clue to the high reasoning power motivating them. Of them all, Dath Rasor was the cleverest, a scientist infinitely superior to anything ever produced on Earth. What was more, Dath Rasor believed in defeating the cruel edicts of Nature if there was any possible way to do it.

Behind, he and his fellows had left a world suddenly overtaken by a poisonous gas outflow from Alpha Centauri, their sun. There had barely been time for them to get away. Now it meant another world on which to live, a conquest by force if need be.

A faraway pinprick of reflected light, third planet from a C-type dwarf star, looked promising enough through their enormously powerful telescopes. It was, obviously, a

fresh and still youthful world, not very much unlike their own, and possessed, too, of an oxygen-hydrogen-nitrogen atmosphere. That was the thing. The life on it was not particularly advanced, could soon be destroyed.

Now that Dath Rasor came to inspect the little planet at this nearer distance he was clearly pleased. He spoke in his flutelike voice.

"Within a very short time, my friends, if we increase speed—possibly even before that distant world has even turned once more on its axis—we shall be within range of it. The animate life on it is very ordinary, composed apparently of hair-topped bipeds. Their greatest achievements, so far, seem to be television and air flight. They know nothing of bending space, of warping gravitation, of unlocking energy, all of which forces we can project from this cruiser. Within a few hours we can volatilize all the life there and prepare the place for our landing."

To Dath Rasor there did not seem to be anything ruthless about his plan. He regarded the life on distant Earth as a man might regard a horde of dangerous insects, as something to be stamped out in order to gain absolute security.

Dath Rasor's fellows glanced at each other with their huge eyes, nodded complacently, then looked back to the mirror. It was a lovely world, so young and promising, so worthy of the trivial expenditure of spacial energy necessary to feed the destructive projectors.

Soon, within hours perhaps, this eternal wearying journey through infinite space would be at an end.

PROFESSOR COLTHAM took another stiff drink, poured out a second one for Enrod. Then they looked at each other over the empty glasses.

"You went too far." Enrod had been saying this for nearly an hour now. "I warned you, Coltham! The iron just couldn't vanish. It must have been transmuted into something else. It's—it's the law of Nature. Matter—energy. Energy—matter."

Coltham put his glass down rather unsteadily.

"I can't understand it," he muttered. "For over an hour now that machine has been working with the power off. I suppose we ought to take another look," he ventured. "Time's getting on, nearly twelve-thirty already. Come on! If we don't we'll be worrying all night. No use running away from science. Let's face it."

Resolute, thanks to the whisky, they returned to the laboratory for the third time since the iron had vanished. They stood wide-eyed and baffled. The matrix was still empty, but by now not only the globe but the entire machine was glowing weirdly. The metallic variants were flaming with inexplicable colors and vibrations, while the crystalline keys had become blurred, ethereal, in outline. It was as though part of the apparatus had veered into another dimension.

"What the devil's happened to it?" Enrod asked unsteadily—then all of a sudden he knew what had happened to it. It was as though somebody invisible started telling him, as though a superwisdomed being was pouring information into his dazed brain.

"It is because—" he started to say, but Coltham cut him short, clearly under the same influence. His pedantic voice boomed forth.

"Because we used basic iron! That's it! The machine did the very thing I conjectured—only I said it jestingly. It analyzed down to the edge of nothing. It analyzed the iron down and down into its final atomic, subatomic, sub-subatomic constituents, down into its eternally locked core. And because iron is the basic factor of the universe as we know it, the material universe anyway, the machine had there a mass of equations forming the basis of universe-stuff. I can't call it anything else."

Coltham drew a deep breath, appalled by the possibilities.

"Only one thing can come out of it—a new mathematical setup entirely! The iron has been converted into mathematics by the very mathematics which make it up, even as some elements are converted into a new element because they give off radiations which, when striking a catalyst, change them into the nature of the catalyst. A mathematical catalyst. What a discovery!"

Enrod was not impressed. Silent, doubtful, he prowled round the glowing machine. In fact he and Coltham both did. They argued the thing back and forth for over an hour.

"Coltham, you blasted fool, you've put your foot in it this time," Enrod cried, when his conclusions were complete. "In this infernal machine of yours you have spawned an equation or something which also probably existed when the universe began, out of which even the universe was possibly formed. Suppose this equation, or probability wave, or whatever it is, travels outward? Do you realize what might happen?"

"One could imagine it moving in a straight line, regardless of gravity," Coltham theorized. "In such a case it would be unlikely to hit above six or seven people. It is law that a straight line, even driven through a mass, can only hit about six individual units straight on. The rest are hit diagonally. Hence the difficulty that is experienced in hitting atoms—"

"Confound your theories, man! Don't you realize, that with the equation of iron in its makeup, this thing might attempt to wrest the mathematical setup of all iron? It could bring the world down round our ears! Everything has iron to some extent."

Enrod broke off and mopped his face. "Heavens, this is getting too much for me! This globe is alive and I'm getting out."

He swung for the door, but it was at that moment that the lambent, inexplicable fires in the globe seemed to build up into concrete form. A half material, half ethereal beam stabbed suddenly out of it, went right through the departing scientist and left a hole in him, flashed without a sound through the wall and left a perfect circle there, too.

Coltham twirled round, staring like a man face to face with Lucifer.

As for Enrod, his thoughts were suddenly beyond his control. This sudden change into a god was something he could not fathom. His brain reeled under an onslaught of crazy mathematical shufflings when the beam drove through him, a shuffling in which geometry and mathematics were interlocked. He realized he was in the grip of a mad probability, which at any second might yield to another probability and snuff him out of existence.

FOR a brief instant space seemed to roll out in front of his mental vision—time, space, matter and energy were there in complete mathematical unity, and he understood it! That was the odd thing. The probability changed, and with it all consciousness of his mortal entity. He winged, uncontrollably, through infinity—fell into a blank void.

Coltham, behind the machine, failed to get that ray—but he realized the danger the instant he saw Enrod fall with half his body cleanly removed. Whirling around, he snatched up the nearest chair and hurled it into the midst of the mathematical monster —and in so doing sealed his own doom.

The globe exploded and the beam vanished, though it had doubtless done plenty in its few moments of life. The mystical spawned equations seized on everything metallic around them, seized on everything that had an iron content, and that included Coltham. To his dazed eyes the walls and machinery turned pale blue under the invisible influence. He tripped and staggered, was caught up in the mad metamorphosis.

For him the mathematical probability-wave had of course a totally different position in space and time, hence his consciousness was briefly thrust into a setup different from that of Enrod. He was amidst gigantic palms and fat-boled trees, moving under a sky leaden with scudding, steamy clouds. Here and there flashed a strange bird—a pterodactyl, perhaps. He had slipped somehow into the early days of Earth!

The mathematical probability changed again as it tried to take from him the basic iron equations it needed. In consequence, Coltham's consciousness reeled in the opposite direction, the unknowably distant future.

Here, cities climbed into the skies, stood proud and herculean by the shores of an unknown sea of pure blue. There were people basking in the golden sunshine. Sand sparkled with the whiteness of salt. It was a vision of transcendent loveliness that whizzed and vanished like a lightning flash through Coltham's mind.

As it had been for Enrod, so it was for Coltham. His body was no longer with him. Even his consciousness was failing. He was the helpless tool of mathematical probability which was solely concerned with using his basic iron mathematics and discarding the rest. Somehow, the mathematics had to strike a balanced whole and so form into a complete unit, just as atoms, systems, and universes must balance.

Enrod and Coltham were gone, but the original beam from the globe, the richer for the equations it had derived, flashed on in a straight line at an angle of nearly forty-five degrees.

The devotees of Joseph Barlow never saw it coming. The big fellow had just turned toward the door in the corner of the huge boardroom when the hurtling straight-line ascension of Professor Coltham's equational beam arrived. To the industrialist's Yes-men it was the most amazing sight.

The corner of the room where Barlow was standing suddenly glowed with a magnificent display of spectrum colors. It was as though rainbows were interwoven with each other as those unfathomable transfigurations sought for the iron in their path.

Across a corner of the costly carpet, on the

paneled rectangle forming the doorway and side wall loomed, in truth, the beginning and end of all mathematics—so brief, so overwhelming, it had gone before the Yes-men could grasp it. Gone, indeed! The beam swept with it a great corner of the building, clean cut as though with a knife.

Barlow, stunned and incredulous, actually spun like a top in a luminescent haze. All thoughts of becoming senator, of altering the basic construction of the Grayham Dam, had gone right out of his mind. Instead he was permitted a view of himself as a mathematical integration fitting flawlessly into the pattern of the universe.

It only lasted a few seconds maybe, then he was conscious of himself again, hurtling away over New York's streets at a speed beyond comprehension. He marveled that he did not need to breathe or count his heart beats!

Ahead of him he saw a vastly looming apartment building, then came a strange overwhelming pressure and for him the universe burst into myriad points of light.

SECRETARY MASON stood staring at Withers' gun as it leveled at him. He knew his life was forfeit and he was prepared to die—but instead he was treated to the most unexpected vision. It was so incredible that he wondered, for a moment, if he were not already dead. There seemed to be no other way of accounting for this.

There were three J. Clayton Withers! Each one identical, even to the clothing and the gun. Yet they were not in any way reversed as though mirrors were responsible.

Mason blinked, and at the same moment the most astounded expression settled on the tycoon's face. He caught sight of his two images, dropped his gun—and they did likewise! There were three separate and distinct thuds on the carpet.

"What the devil!" three mouths shouted. Then J. Clayton Withers became conscious of the impossible. He was in three places simultaneously, and even more extraordinary was the fact that he was able to think, for a split second or so only, in three different brains at once, and keep each one distinct. He had been going to kill a man—he had unraveled the cosmical calculus—he could see into a future time—all at once!

Then the terrific tension gave way. He fell to the floor, utterly paralyzed, and at the same instant his twins vanished. But his body, before Mason's eyes, split into a myriad microscopical images of J. Clayton Withers and went hurtling toward the outer wall of the room. Clean through it—matter through matter! Then whatever it was had gone and the room was silent.

Mason felt life surge back to him. He gave one mighty scream and fled for the door. Tearing it open, he went down the corridor shouting with a hysteria that bordered on insanity . .

Fanny Reardon arrived at Logan's Auto Dump on time to find Nick Blake impatiently awaiting her. Within ten minutes they were both in the plane, climbing rapidly over Long Island in the first lap of their trip to Florida.

"You got sense, kid," Nick Blake murmured, glancing at her as she sat beside him with her fur coat up to her chin. "We can skip to Florida until the heat's off. Don't forget that we're absolutely safe. Boyd Amos will take the rap for this lot, believe you me. Then we can celebrate right."

"Not we—me!" Fanny Reardon retorted. She turned suddenly as she spoke, her painted face grimly determined. Blake glanced down, and started slightly at the sight of the automatic in her hand.

"What's the idea?" he snapped. "Don't forget that I'm driving this plane. If you try anything funny, it'll be too bad for us both!"

"You're not the only person who can pilot a plane, Nick! My main thought at the moment is that you're carrying fifty-thousand dollars, and that money can be mighty useful to me. I've had enough of you, Nick. You're a cheap, no-account murderer, and a girl's got to look to her future. If you drop in the Atlantic from twenty thousand feet up it won't improve your appearance. Anyway you'll be dead by then—I'll see to that. Who's to know how you got in the sea?"

Blake laughed uneasily. "Quit clowning, can't you? You and me are too close for you to have such ideas."

He stopped as the gun stuck in his ribs.

"I want that money, Nick. Hand it out!"

Because he knew Fanny Reardon well he slowly pulled out his wallet, retaining control with his free hand.

"Serves me right for trusting a cheap dame," he sneered. "Here you—are!" He slammed up his wallet hand furiously on the last word but he missed for the simple reason that Fanny was expecting his move and had jerked her head back sharply. Her gun fired three times to make sure. Not a flicker of emotion passed over her painted features as Blake fell over the controls.

In a moment she had bundled his body

onto the floor, righted the plane, then felt with her free hand through the wallet he had dropped. Her fingers ploughed gleefully through the bills.

"Another mile and I can drop him," she mused, staring through the window. "Let's see. I'm over Long Island, three thousand feet up."

She glanced about her, puzzled. There was a pale blue light outside the observation window, even inside the cabin itself. It was as though a blue searchlight had turned on somewheres.

"What is this?" she whispered, her lips suddenly dry.

As she turned in her seat she realized that for once in her hard-boiled life she was frightened. The dead body of Nick Blake was glowing, even through his clothes. Even the blood in the cabin floor flamed like phosphorous. Fanny just sat there, stunned, hardly conscious of the plane's wild lungings.

"You're a ghost!" she breathed, her eyes starting. "Mebbe there ain't such things, but you're one! Don't you dare touch me!"

SUDDENLY Nick Blake was no longer there. Fanny had no idea what happened to him. It seemed as though his corpse turned into a swirl of gas, and twisted like a cyclone. Then it disappeared.

She gulped, corrected the plane, stared outside. Something was wrong out there. A moment ago she had been heading over Long Island. Now there were little points of light all about her.

Stars! Stars by the million! And a beam cleaving toward them!

And even as she realized it her breath froze solid on the window. A cold such as she had never known bit through her fur coat into her very marrow. The motors went dead. Air had vanished.

Her mind, utterly untrained to science, grappled helplessly with this sudden retribution. Those stars meant nothing. Otherwise she would have known that the equational beam was streaking through the autumn night towards Pleiades, across the center of the Milky Way, slightly south of Procyon, and across the upper half of the bent rectangle of the star group Monoceros. Nor could she guess that pin-pointed in the angle of these groups, a space ship hovered.

She got to her feet, turned a slow somersault and, demoralized with terror, found herself upside down. Gravity had gone. What attraction remained, was in the center of the cabin.

Air was vanishing fast. There were icicles round the airlock door where the void was sucking it out.

Fanny Reardon kicked savagely and turned right way up again. She clutched the window and stared out. There was still blueness everywhere, bathing the whole plane, coming from a source, way below behind Long Island somewhere. This was impossible, utterly ridiculous. Now that she came to look there was no Long Island—in fact, nothing recognizable at all.

Suddenly she screamed as she felt something like a white-hot shuttle hurtle back and forth through her body. At the same instant the plane vanished, its iron makeup converted. Fanny's body followed it but a brief second later. For two seconds of time the cheap, unscrupulous chorine was a goddess, able to fathom all time, space, and infinity. Then the iron in her makeup was resolved into its mathematical necessities and her entity ceased to be. . .

Dath Rasor looked up, with a start, from the space-mirror and sought the insectile faces of his comrades. Though they could not register much expression there was no denying their uneasiness.

"What has happened to that third world?" Rasor demanded. "Just look at it! Shattered by a V-shaped scar! Inexplicable chaos appears to be reigning. How strange! How annoying! Just when we had made all our preparations!"

He paused and turned as an alarm bell rang throughout the ship. The master pilot turned instantly to his instruments and gave a cry of alarm.

"Master, something has been projected from that third world! It seems to be—" the flutish voice was incredulous—"it seems to be a ball of—of mathematical probabilities!"

"A what?" Dath Rasor stared. Then his tone grew sharp. "Where is it now?"

"About three million miles distant. Fortunately it is not in our direct path. We can observe it."

Immediately the scientists all turned to the scanning screens and watched in thoughtful silence as the incredibly fast ball of blue fled past them at the speed of light. Never had they seen so perfect a circle. It was flawless.

The scanning screens adjusted themselves automatically, kept the enigma in perfect focus as it fled toward the furthermost reaches

of the cosmos. As it went, its speed increased even beyond that of light, seeming to show that it had no ordinary laws to govern it. The fact was doubly proved since the light waves from it were still visible, marking its course. In every way it defied understanding.

It passed through immense gravitational fields without any sign of divergence. It went through the core of the hottest stars, and only revealed that it had a sentient intelligence when it started to slow down. Nothing but intelligence could account for its stopping as there were no gravitational fields in the island emptiness where it finally elected to halt.

The Centaurian scientists looked at each other in amazement, and waited.

To gaze on the thing—about the size of Earth's moon—was to become conscious of things beyond imagination. Even to the highly sensitive minds of the superscientists it was suggestive of something supernal, of seeing the beginning and end of all space and time. Strange, puzzling thoughts passed through their minds—and faded.

WAS it a world? A sun? Nothing was certain about it. It had no gravitation. It had no heat. Nor, according to the instruments, had it any light. And yet it could be seen.

Nothing of the scientists' devising, masters of the cosmos though they were, could get the slightest reaction out of the Thing. It was the greatest X in their vast experience. And to come up against the unknown in these primitive parts of the Cosmos was a severe setback to Dath Rasor.

He turned back suddenly to the instruments and went to work with grim vigor, ordering the ship to be halted so he could have absolute steadiness. He was clearly bewildered when at last his studies were at an end.

"I do not understand," he breathed. "Out there is something that obviously started as a basic mathematical probability, has expanded outward with immense velocity and converted everything in its path into fresh mathematical balances—until now we see a complete whole, a perfect sublime unity of figures living on itself, within itself. An alien, thinking world in a universe of coarse matter and energy. It gives off energy, but absorbs none. It is the unknown quantity.

"I do not know what gave it birth. Maybe it sprang from some basic universal equation. Only centuries of evolution, even by us, would be able to explain it."

"Is it dangerous?" asked the master-navigator.

"I think not. That world is an equation—it has nothing more it needs. Basically we are all figures, but we are outside that Thing now because it has stabilized itself."

There was a long silence in the ship, then the master-navigator gravely asked another question.

"Do we continue to the third world?"

Dath Rasor shook his head.

"No! I am thinking that we may have been mistaken, that on that world there may be scientists far cleverer than we. Perhaps they created this mathematical figment to warn us to keep away. No, set the course at right angles."

Dath Rasor fell silent, looking into the scanner on that blue, distant thing. Then he closed the switch which blanked the screen. That unknown quantity was too enigmatic for material eyes even to look upon!