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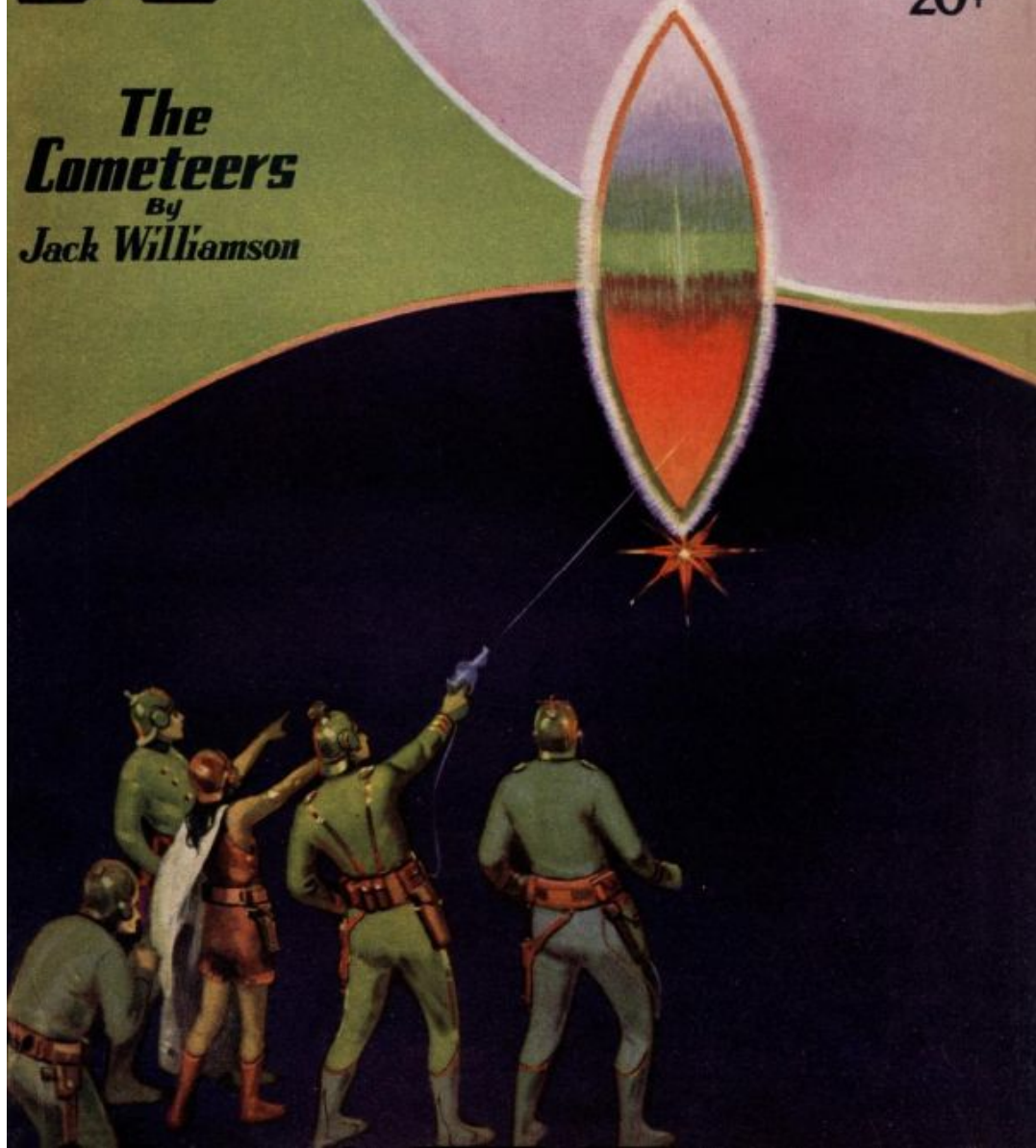
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*The
Cometeers*
By
Jack Williamson



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Mathematica Plus

The sequel to Mathematica

By

John Russell Fearn

First published *Astounding Stories*, May 1936.

I.

Pelathon, denizen of a world and universe unknown, sat in brooding calm at the rear of a dry and dusty cave, every detail of his pinched face and intellectually bulging forehead clearly illuminated by a curiously dazzling bright substance that gave forth no heat.

Upon either side of him, reluctant to disturb his profound mental researches, sat the powerful figures of Dr. Farrington and—at the risk of sounding egotistical—myself. Both of us were more godlike than any man known on the Earth, attired only in such rough garments as modesty demanded—and both of us deathless, given eternal life in a world of unknown and stupefying complexes.

Already I have written at length of our sojourn to the beginning, and of our discovery of the supreme mathematician of the universe. Together, we three had lived and died through a mad chaos of living figures and intelligent mathematics, to conclude our first experience as indivisible, eternal beings, in a world we had hoped would be our own Earth. But no! We lived now in our deathlessness not on the Earth, but on a world in a universe unknown.

Through the cave entrance, in the valley below, we could distinctly see a city, hovering as though without foundations—a city of phantasmal changes that drifted perpetually through crazy, indeterminate sequences. A city wherein nothing was solid, where the people were lines and bars that rotated and shifted in mid-air, or else moved with stupendous velocity to unknown destinations. This, then, we were faced with, unable to understand the first vaguest implications of it all——

“Well,” commented Farrington at length, breaking the long silence, “we’ve been stuck here about a week, and we don’t seem to be any nearer. That infernal city gets more mystifying the more one looks at it. We’ve just got to think up something, you know,” he concluded seriously. “We can’t sit here for all eternity.”

I nodded slowly and then turned to the silent Pelathon. “What do you think?” I asked him quietly. “You’ve been down there—stolen some of this perpetual cold-light substance, and writing materials. You found its peoples cruel and heartless, apparently—but that surely doesn’t entirely excommunicate us from them?”

Pelathon aroused himself, with some effort, from his profound meditation. His little eyes, almost concealed in that pinched face, regarded us each in turn.

“Even if I have been silent, I have not been idle,” he answered pensively. “Those people down there are, of course, quite unlike anything in existence in your kin or mine. They are far more advanced than either of our races. We find here a world resembling your Earth only in the matter of air and size: not that either of these things matters since we are quite deathless—but at least we know that the figures of Si-Lafnor, who created this universe early in the chain of universal mathematics, were correct in that one respect.

“As regards the people, I am baffled. I cannot understand what Si-Lafnor did to create a species so utterly unlike Earthlings. Allowing for the widest margin of error, which I have done during my own calculations in these last few days, I cannot by any stretch of deductive reasoning reconcile these people. They exist, as I see it, in a state that lies just between matter and thought, just as in a normal Earthling there is a condition between man and boy—adolescence.”

“And that means what?” asked Farrington quietly.

“It means that these people are masters of matter and thought at will, are products of very high mathematics. That accounts for the shifting and changing outlines, responding to their every thought change. It accounts too for their transparent city. The haze that hangs over it—the constant suggestion of unreality—is, I am now convinced, purely occasioned by the barrier line which eternally hovers between matter and mind.

“This cold-light substance is alone proof of the brilliance of these people. It is composed of a chemical foreign to our knowledge, which possesses an atomic constitution that vibrates at a steady speed. This vibration, transferred to ether, continues ceaselessly and gives rise to the sensation of light without the longer wave lengths of heat. This, you will realize, is positive proof that these creatures *are* semimaterial in that they have visual organs akin to ours. Otherwise they might construe the sensation we call light as something else——”

“True enough,” Farrington nodded, and reflected for a space. Then, “Well, what do you propose we do?”

“There is no move we can make except investigating the city,” Pelathon replied, rising to his feet. “At first I was inclined to the belief that the people are cold and cruel—now I think that that view might have been occasioned by their complete and absolute detachment from all things mundane. Whatever it may be we have got to explore. Let us go.”

He paused and waited as a rotating bar, a delicate, silvered creation of indescribable delicacy, merged suddenly out of the air and floated toward us. We realized it was one of the grotesque inhabitants of this impossible place. Yet, even so, there seemed no reason to fear danger. We were indestructible!

As we watched the object it contracted to a pin point, then changed into a square, and lastly back into a rotating bar. Gradually, upon our expectant senses, there crept a beating and, at first, unintelligible rhythm. It was a truly extraordinary sensation—a steady and unrelenting beat of heart and pulses, a throbbing of blood vessels in our brains.

Before our eyes, as the pulsating continued, the vision of the city melted and faded away. Even the light waned and was replaced by an intense and overpowering darkness. I felt an instinct to cry out, but I could not. Something was holding my mind and body in chains. I remember that I wondered briefly what had happened to Pelathon and Farrington, then, oddly enough, I ceased completely to care. They lost all interest for me.

Instead my mind was undergoing a peculiar but trenchant metamorphosis. It was as though I was *inside* something of Stygian gloom, sensing my presence from the viewpoint of somebody else, and yet accomplishing that detection purely by the constant and all-pervading rhythm! At times it changed into a pattern of cross beats, but in the main retained its ordered persistency.

Then, at last, I began to recognize in that beating—or thought I did—a formation into either thought vibrations or words. Whichever it was, information was most certainly passing into my vaguely terrified brain.

“It is indeed a rare circumstance for one of us to come across three material creatures who cannot be broken down and absorbed by our minds! To you, material beings, the process would perhaps be called digestion. With us, such a procedure is relegated to the long-dead past when pure materiality inhabited the universe. I have endeavored to mentally digest the three of you and so absorb your respective knowledges and add them to my own—but without

success. You are different, and, as such, are worthy subjects for experiment. It is the first time that uncanceled units have entered our realm. Prepare then for——”

The rhythm changed from its slow and funereal beat into one of extreme speed. There was no sense of motion—indeed no sense of anything at all save that impenetrable eldritch darkness. Being inside the intellect of the creature was something beyond my conception in any case. I waited patiently, and at last there grew out of all that blackness a sense of light, rapidly taking on form until I realized that my body had returned to me and that I was standing, Pelathon and Farrington on either side of me, beneath a titanic, almost transparent ball, supported upon massive, eight-foot thick trestles of some unknown metal.

The rhythm ceased.

“What now?” murmured Farrington, standing tense and expectant, then looking above him at the colossal, poised ball. “Where are we, anyhow? Looks like a hall of sorts. Machinery over there—nobody in sight, though——”

He relapsed into silence. The rhythm had returned.

“You are mistaken, my friend,” it commented, every tiny detail of the observation and every facet of its implication registering upon our brains. “The intellectuals are about you, ascended now into a higher plane of mathematics and thought where they are invisible to you. Know you that the chosen three thousand watch your every move, study your every reaction, know your every thought.

“For countless æons the etheric absorber, which you behold above you, has drained the knowledge from the minds populating other planets in this universe, has supplied to us a great and constant stream of accumulating knowledge. How much easier then does the absorber analyze you—— Long since we digested all material creatures, transformed them into energy and absorbed their knowledge. But with you it is different. We are puzzled, and yet interested.”

“Why?” Farrington demanded almost aggressively, looking about him in annoyance and meeting naught but emptiness.

“Clearly you are not of our universe,” the rhythm resumed. “It is an undeniable fact that within a universe every scrap of matter can exchange with energy, and energy with matter, yet with you it is different. You cannot be changed. You belong to another universe, are utterly apart from this one, unaffected by whatever happens to it. That, in itself, is, to us, a gigantic enigma. Whence come you? We seek to know.”

“I thought your precious etheric absorber read our minds for you?”

“Truly, but only the thoughts contained within your brains. How are we to know those thoughts are correct? We see in them only vague and cloudy suggestions, devoid of concrete fact.”

Farrington smiled faintly. “We have nothing to gain in withholding information from you, but before we really explain we’d like a few explanations from you.”

“What do you wish to know?”

“What is this planet? Who are you? Tell us all about yourselves.”

“Upon this planet, known as Xulon, there once existed a material race, not altogether unlike you. We, pursuers of pure intelligence, forsook our own planet when it became unsupportable for our type of life, and came here, rapidly digested the knowledge of the materials and transformed their bodies into energy, after absorbing the most valued parts of their minds, such as they were.

“For a long time we have been masters of ether control. We have means of tapping the vast radiations and powers that eternally pass through the substance of eternity. We have, by this method, drained every known planet’s population, near or distant, of all the knowledge possessed by it. That is to say, that the ball above you is basically magnetic and absorbs all the radiations of ether cosmic rays, light, and so forth. Within these various radiations there are contained the outflung thoughts of the inhabitants of other worlds, which we sift from the assortment of superfluous radiations we also obtain.

“To make it clearer to you, a thought, once expressed, travels eternally through ether, becomes indeed part of it, combines with radiations and every other known etheric peculiarity. Hence, tapping thoughts from other worlds, far or near, is a child’s problem with the correct apparatus.

“That is what we have done with our ether absorber, converters, and other machinery. Little by little we are evolving, by the knowledge we’ve attained, into pure intellectuals. As yet we still cannot entirely throw off a matter formation—hence our thoughts express themselves materially. Our city, everything you have seen, is pure thought. We understand, too, dimensions, space and time. Of space there is infinity, but of time nothing.”

“Nothing?” Farrington questioned.

“There is no such thing as time—at least, that is what we believe. Why, you may eventually learn. You appreciate now how we can become invisible or visible at will by altering our thoughts; you will appreciate too how we can digest energy as you materials digest food—and, too, you will understand that we speak by etheric rhythm.

“Our thoughts form vibration on this medium which, by the natural formation of your very materialistic brains, resolves into a normal understanding, much the same as the collapse of electrons in a star creates etheric disturbances which your eyes construe as light.

“We, the chosen three thousand, are future lords of the universe. We seek to understand what ether is, indeed if it even exists, and the purpose behind everything. Why things came into being at all, and how they will end—Can it be that you have been sent to us, obviously beings from a universe outside of this one, to aid us in our search?”

“We are seekers after information, just as you are,” said Pelathon slowly. “The information you have given us is interesting, but it proves you to be a race which is entirely self-centered and relentless. Where was your right in destroying the proper inhabitants of this world?”

“One does not question right, when in possession of superior knowledge,” came the response. “The greater will forever crush the lesser; that is inevitable. I read from the minds of the two Earthlings that upon their planet they indulge in the slaughter of animals that their carnal cravings might be appeared. Where then is the difference between their methods and ours?”

“In any case we needn’t enter into that,” said I, rather taken aback by the inhuman logic of the invisible’s observations. “You are correct in your belief that we don’t belong here. Our coming was a gigantic accident. Originally we belonged to the Earth, my friend and I.

“We found a thought-duplicating metal which, by thought, brought this man Pelathon to us from his own far distant planet and universe. He sought the beginning of creation, and with him we went down to the creator of the Earthly universe, a being named Si-Lafnor.

“He, in his turn, sought the cause of his universe, so we went down again to the supreme mathematician, creator of creators, and there found that all universes are purely a figurative formula traced on an endless background of etheric abstract—a sort of mass of multiplying figures.

“In that journey we lost our own universe, but Si-Lafnor promised to recreate it. He did so, but with defective figures, which brought us to here—a universe of which we are no part. Doubly difficult is our position because, to escape the annihilating force of the supreme mathematician, we were made uncancelable by Si-Lafnor. That is, built up of figures which will not cancel, and therefore we are immortal. That is our story. Our universe has gone—forever.”

There was silence.

Then, suddenly, the outlines of our surroundings changed completely; with the quickness of a snapping camera shutter the ether absorber vanished, and the hall of machinery. Instead we found ourselves in a black-draped room—though we had certainly not physically moved a fraction of an inch—facing an Earthly-looking man of indeterminate age. His face was strong and purposeful, his forehead well-developed and his eyes and hair jet-black. Quietly he motioned to chairs that were mysteriously behind us, and we sank into them.

“I have been chosen by the three thousand as the interpreter of their wishes,” he explained steadily. “You may call me 2816, since that is the unit of intellect I occupy in my race. My existence is that of an interpreter and, as such, I am addressing you, devoid of all personal bias and prejudice, voicing purely the wishes and thoughts of the chosen. It is better that I assume the form of an Earthling in order that we may more freely understand one another; ether rhythm, whilst being the only universal method of communication, has also certain disadvantages when there are express wishes to be made clear.”

“What are the wishes?” Farrington asked guardedly.

“The chosen have understood from your story that there is a mathematical source to this universe—indeed to all universes. They have suspected such a fact for a considerable period and, for the great truth you have brought, they tender their eternal recognition. But, they ask if you are prepared to advance science further and accomplish, by that very process, a dual move—likely to benefit the chosen and ultimately yourselves.”

“Meaning what?”

“To these figures there must be an ultimate solution. What is the *end* of it all? That is what the chosen seek to know. Listen carefully! None of the chosen, even though he possesses the knowledge of how to accomplish the feat, dare travel to the end, because if he did so he would dissolve at that end and never return to tell his story. With you it is different. Time, which does not really exist, space, matter and energy can warp and vanish into unthinkable extinction without you being affected, because you are not a part of it.

“Therefore, *you* could go to the end and bring us back the story of what you have seen. Then, and only then, will the intellectual puzzle of the chosen be complete. They know from you the beginning—but the problem is not solved until they know also the end. You understand?”

“True we are immortal, can stand the cold of space, airless conditions—everything. But how does it benefit us?”

“That will come afterward, as your reward for your services to us. Everything relies on the answer you will bring back. If the answer is what we expect, then we can probably return you to your own universe and world.”

We said nothing.

“Reflect upon the possibilities,” 2816 resumed. “You had the courage to seek the beginning, knowing full well—or at least thinking so—that it would mean the forsaking of

your own universe. Why then can you not seek the end when you have our assurance of safe return to your respective worlds?”

“Certainly we can do nothing here as we are,” Farrington admitted presently, “What do you two say?”

“I don’t quite see how we can possibly be returned to our own universe, no matter what answer we might bring back,” I remarked. “Our universe is dead.”

If 2816 had been capable of smiling he probably would have done so then.

“You heard the rhythm of the chosen; you heard the remark that time is a nonexistent thing. We shall prove to you the truth of that—that it is not a dimension, not a spatial state, not any thing. Long ago we ceased to use it in our cosmic calculations. You cannot be expected to understand the underlying truth of the observation until you have tested its efficiency for yourselves. Your universe never died, you never moved from it—but why and how is left to the chosen to explain. I merely interpret. Now, your decision? Yes or no?”

“And the alternative?” Pelathon questioned gravely, pursuing as ever deeper issues.

2816 shrugged. “What alternative can there be? We can do nothing to you—you are free to do exactly as you choose. We can inflict no punishment for refusal to obey our wishes. You will inflict that on yourselves. If you refuse this request of the chosen it will never be extended again and you will spend your immortal lives trying vainly to find the way back. The chosen believe that you will not prove so foolish.”

“The chosen are right!” Farrington declared flatly. “We accept. At least we can’t be any the worse off. What do you two say?”

Pelathon and I said nothing; we merely nodded gravely. Common sense forbade any other course of action.

II.

So we cast in our lot with the intellectuals of Xulon, and during the days that ensued were treated to a demonstration of their terrific scientific knowledge and prowess. Pelathon, genius though he undoubtedly was, found it more than he could manage to understand the construction of the infinity globe, as the chosen called the gigantic sphere in which we were to make the journey to the end and back.

In essence it operated much the same as Pelathon's own machinery, when we had originally left the Earth in search of the beginning, but in this instance the driving mechanisms added figures instead of subtracting them, utilizing the arithmetical ether as the basis upon which to work and, hence, the machine would adjust itself to the constant accrueement whilst we, denizens apart, would remain exactly the same size whilst the machine itself expanded about us to incomputable dimensions.

"Pelathon," I said aside, as one day we watched this monster in construction beneath the powers of the invisible intellectuals, "what do you make of the conception that time doesn't exist? It's all nonsense, don't you think?"

His little eyes sought my face. "That depends, friend Vernon. For the moment I was strongly inclined to disbelieve, then I remembered that these people are enormously advanced in knowledge beyond us and, as such, there may be something to their theory.

"Frankly I now lean to their view. In an unchanging universe, where matter and energy forever maintain the perfect balance, it is, in cold fact, very hard to appreciate where the time element does exist. As I see it now, enlightened by these people, time cannot exist in an unchanging universe, where nothing can be added or subtracted. Since neither of these two states are permissible of annihilation without destroying the whole, they of themselves negate the possibility of time."

"Hazy, but I gather the drift," I said. "You'll be telling Farrington and me next that we've never done anything at all during this trip! That all this is one grand, terrific illusion."

Pelathon said nothing, but I detected a peculiar expression on his little face. He turned aside to watch the assemblage of the mathematical machinery within the monstrous globe. I watched too, pondering over matters, wishing I understood more of the laws relating to space and time.

I ruminated thus through the days and nights and arrived no nearer a solution, then, at last, I was forced to relegate it to a back shelf of my mind as the day for the journey's start arrived. The monster sphere was completed.

Under 2816's directions we entered the roomy control chamber and stood in a group on the softly padded floor, 2816 himself a little way in front of us. In silence he surveyed us from head to foot.

"Without your coming, this inestimable gift to the science of the chosen would never have been possible," he said quietly. "Because the chosen read from your minds, via the ether absorber, the mathematical nature of the machine that took you to the beginning, so they were able to conceive this mathematical machine to take you to the ending, and back here again. But with one difference! This sphere is remotely controlled by the chosen. You, of yourselves, will do nothing save observe and study how the total of universal figures works out. When

that total has been achieved, the machine will automatically return here and you will bring your story. Again the chosen thank you for your service. Now you must start.”

2816 melted into thin air and vanished. Accustomed by this time to apparent miracles we strolled almost unconcernedly to the gigantic observation window of the sphere, turning our heads only once as the air lock automatically closed and sealed itself. Almost immediately afterward the amazing driving force of the globe began to function. The mathematical machines began their steady ticking and deliberate checking and rechecking; the converters throbbed with the low hum of perfect, steady-flowing energy.

In the very center of the monstrous central power plant the living brain of figures, master controller of all the sphere’s engines, began its dissipation and accrue ment of invisible figures, absorbing and transforming, creating a slow and inevitable expansion as we began to move through the figurative ether toward the infinitely remote total of all things.

Silent, absorbed, we stood by that monstrous window, gazing out on the strange world of Xulon. As we watched, and the figures comprising it naturally added up to their final solution, we saw it apparently grow old, die with amazing rapidity, and become a dark, dead world. Then, presently, even this passed away and there was left naught but a swirling cosmic dust that slowly changed into the black invisibility of space itself.

I laughed shortly as I beheld these things. “Then the chosen say there is no time!” I exclaimed derisively. “Good Lord, this proves it! This machine is moving in time—must be!”

“No, friend Vernon.” Pelathon shook his massive head very deliberately. “Not time—only change! Indeed, hardly change even. No time has passed because this universe is, in essence, the same. Truly the world of Xulon has vanished, but the exact amount of energy remaining in the universe is unaltered. A matter world has vanished and changed itself into various forms of energy. Somewhere else, too, there has probably been an interchange—a re-assemblage of the perfect balance. That, as I said before, is not time—only a change of state.”

“It’s too much for me,” I grunted disgustedly. “To me, Xulon grew old. Still, I can see dimly what you’re driving at.”

Pelathon said no more and we turned our attention to the window again. Even as we did so the width of the window grew wider; the chamber in which we stood expanded, too, with a gradual yet inevitable progression. Adding to its own total of figures as it undoubtedly was, there was, of course, no other course for it to pursue if the constant level of the universe was to be maintained. For in proportion as the figures outside mounted up and reached their totals, so the balance had to be maintained by the expansion of the machine in absolute mathematical alignment. We, excommunicated from that universe and every part of it, were in rather an awkward position, gradually becoming Lilliputians in a steadily widening wilderness.

“Say, what’s ultimately going to happen to this sphere?” I asked worriedly, looking about me. “If this is only the start of the journey, where are we going to be at the final total?”

Pelathon’s face contorted into a smile, his rabbit teeth glinted in the light.

“There, I believe, the chosen made a gigantic blunder,” he proclaimed calmly. “It was not my place to tell them, so eager were they to make this experiment—but I certainly believe that we shall never return to relate the ending. At least not by going back.”

“Meaning what?” I demanded. “What are you looking so smug about?”

“Forgive me, friend Vernon; I’ve no wish to irritate you. All the same I do believe we’re entering on something remarkable. I can’t be sure though until the journey is ended.”

“Some help you are,” I said, and turned back to my watching, my mind revolving round absolute paradoxes.

Following the disappearance of Xulon into some indeterminate form of energy, there began for us a journey that was a complete chain of unexpected things, defeating by far that almost comfortable journey to the beginning. In that instance we had been in perfect tune with the altering conditions, but here we were faced with complex and unexplainable occurrences as we progressed through an endless expansion to that final and still incomputable solution of all things.

Gradually, through that ever-widening window, we beheld what was apparently the constant birth and death of suns, galaxies and multigalaxies, and enormous nebulae, all of these so unified in their mathematical position in endless space that it was hard to detect which was which. Monstrous chasms of star dust gleamed with a luminescence all their own in the profound immensity of space; island universes, mere shadowy glows upon this blackest-black background, shone from remote corners of the limitless expanse.

All of this was normal, understandable, much the same as photographs in an astronomy textbook. Here was nothing but what could be understood. Here lay the very material birth and death of cosmic energies, birth and decay in all its stark, unshorn reality. This much we could understand.

It was later that we came to face changes that baffled us. They came at a time when we had lost all concept of our position in space, when the chamber in which we stood had become a vast emptiness, its walls hidden in remote distance, the curved ceiling incredibly high above us in an oddly malformed mass of shadows. So high was it indeed the lights within it failed to cast their glow. We stood there in silence on the gently expanding floor, Lilliputians gazing upon the farthest ramparts of changing infinity, before a window that stretched now for numberless miles.

Space now had indeed changed. The procession of birth and decay was over—a newness, something entirely unsuspected was occurring. The stars gleamed with a steady and unaltering light: nowhere was there a birth, nowhere a death, nowhere a blazing forth of unutterable brilliance to proclaim a new arrival in the celestial order of things, nowhere an extinguishment. Space seemed to have achieved one great steady level. But it did not last for long.

One by one the stars began to snuff out like candles—completely and utterly, as though an infinite circle were being drawn and closed about them, and within that circle every known energy and radiation was being obliterated. We watched, Farrington and I, open-mouthed, this slow advance of an unknown and complete annihilation. Pelathon seemed untroubled, only thoughtful, his little chin sunk on his narrow chest, brooding eyes on the strange change.

Still the infinity globe expanded, and as it did so the ever-narrowing circle decreased in width. Star after star vanished, galaxies and vast extra-galactic nebulae were swallowed up in the maw of that great and terrible darkness. Nothing seemed to withstand it, from the most brilliant incredibly hot sun to the weakest dead star. All, absolutely and completely, were being blotted out. And at last there was only one perfect circle of stars; elsewhere, so far as the eye could see, was an absolute blank in which nothing—absolutely nothing—existed.

And, at last, even that final friendly circle passed, too. Space was empty.

“There is the ending,” murmured Pelathon, turning at last, only vaguely visible to us now through the weak remote beams from our incredibly distant ceiling lights. “We have proven

the second, and not the first, law of thermodynamics to be correct. The first law, as you know, maintains an eternal, changeless state; the second holds not with the destruction of energy as regards its amount, but in the matter of its form.

“Outside here we still have all the energy we had to start with, but it can no longer change. The vast mathematical formula has almost worked itself out to final cancellation, but even yet the total is not complete. The last ergs of energy are not yet spent. Ah! Just as I expected!”

We looked up in alarm at that, Farrington and me, for simultaneously with Pelathon’s last words the infinity globe began to rock and creak mightily. The far-distant central power plant was glowing with a brilliant green light; distinctly to our ears, despite the distance away, came the ever-mounting rattle and click of the checking mechanisms.

“The darn thing’s collapsing!” I shouted hoarsely. “Pelathon! In Heaven’s name, what’s going to happen now?” I clutched his thin arm frantically in the gloom.

“Only that which I expected,” he replied coolly, maintaining his balance with some difficulty on the rocking floor. “If for a moment we consider there is such a thing as time, the material weight of this universe has changed perpetually into radiation as we have progressed forward to this penultimate point. Ignoring the time factor, which seems the most logical thing to do, the figures that formed this universe have all been absorbed by that machinery! Everything has now been added up save the machine itself, and it is inevitable law that must also now pass away to complete the issue. We will be cast adrift. There can be nothing else. We do not belong to this universe.”

“Adrift!” I gasped huskily. “In that darkness and friendless cold? Without light, heat, radiation—without anything? Alone for perhaps evermore in an eternal sea of emptiness? Lord, no! My whole being screams out against it!”

Pelathon remained unmoved; his calmness was exasperating at times.

“You forget that the three of us are indestructible, surely,” he commented. “Besides, there is no other way—no other way,” he concluded grimly, as we beheld the walls and floor of the infinity globe, dimly gray before us, begin to vaporize and reveal through their former solidity a vision of the infinite blackness outside.

“Pelathon, did you know this would happen?” I demanded of him.

“I admit that I thought it might, friend Vernon—that was why I said I believed we’d never return. A tree cannot go back to its seed—no more then could the remote control of the chosen on Xulon bring this machine back once it had reached the grand ultimate total. In space there is only forward—one way. Just as energy always flows one way——”

He broke off and stood rigid as the walls began to vaporize further. Farrington, his face grim, came to my side and looked between his feet at the vision of impenetrable darkness below.

“Well, guess this looks like the finish,” he muttered, evidently as completely unable, as I was, to realize we were deathless. “Good hunting, old man.”

I muttered some husky response, then that which we were expecting suddenly happened. The infinity globe completely dissolved. Walls, floor, ceiling, machines all merged into one gigantic spurt of unguessable energy that instantly changed back into the perfect scheme of figures. We dropped into the infinite cold and darkness, aware of our former sphere as a slowly dying spot of light in the all-embracing dark. We had reached the ending, yes, but—what now?

III.

Why we did not encounter instant death the second we found ourselves free in emptiness is still a riddle that eludes me—though the solution was, I suppose, plain enough to be understood. Yet, so utterly paradoxical was its nature, I found myself flatly refusing to believe it.

For myself I realized, with a sudden cold shock of alarm, that my body had gone! Yes, my lovely, immortal form had utterly disappeared! I had apparently become a disembodied mind alone in an endless darkness, that had no depth, no substance, no form—was naught but a colossal, stunning vacuum. And yet my mind remained perfectly clear; there was no cloudy oppression, no sense of pain, only an awful and overpowering loneliness that suddenly swept in upon me. I was afraid of this terrible dark, this graveyard of stagnant energy.

Then, when I felt I could no longer endure the profound mysticism of it all, I distinctly knew the thoughts of Pelathon were registering in my mind. Had I been possessed of vocal chords I certainly would have emitted a yell of delight—or at least its equivalent, since there was no air.

“Have no fear, friend Vernon,” his thoughts reassured me. “We are definitely proving indeed that there is no time. These occurrences are exactly as I computed to myself. We have all three of us lost our immortal bodies, which in the first place proves the very obvious fact that this spent universe is somewhere within your own body and mine. Otherwise we would not have been transformed to form the ultimate total here.”

“But how comes it that our minds are not impaired? Surely they too should pass into the infinite and silent void that surrounds us?”

“Why should they? Thoughts, as you learned long ago, are purely figures, part and parcel of the surroundings we possess now. Long ago you died and lost your own bodies, but your thoughts lived on because they were the mathematical basis of your real entities. So it is again now. A sum of figures is active so long as it is adding or totaling up. When the total is reached the figures become inactive—but they are still there. That surely is obvious enough?

“At the moment we have reached totality—all change has ceased, and yet the figures that form the emptiness itself are still there. It is inconceivable that this particular total can end here, unless indeed there really is an element of time. I believe there is not. I’m convinced of it. If that be so, then this ultimate total of figures must again change to form the basis of themselves.”

“That too is inconceivable,” came the vibrations of Farrington.

“Why is it? That figures still live even when totaled up is an indisputable fact; we have a small instance of it in the fact that even now we can exchange figures in the form of thoughts. Nowhere in this vast space can a single formation of thought figures be dead. This space is one great sea of intelligence, drifting, drifting—— To what? To a state that must forever either prove or disprove the existence of time.”

“There’s an old theory, by Earthly scientists, that, out of the heat death of a universe, new protons and electrons must form,” came Farrington’s communication. “Is that what you mean, Pelathon?”

“Not altogether, but it is a possible simile. Out of figures, if there is no time, must be born something else, otherwise the figures themselves could never have come into being in the first

place. Hence, out of this sea of intellect into which all figures have now been changed there must be born something. Do you not feel a steady movement? You cannot behold it because movement is only relative to its surroundings, and here there are no surroundings. Nevertheless, the conviction cannot surely be only my own belief?"

With that Pelathon's communication ceased and I dwelt upon the portent of his comments, gradually realizing that he had spoken truth. There was a sense of movement, a dim stirring in the eternal emptiness, a conviction of slow progress in a circular direction, as though moving toward some unguessable cosmic vortex. And, as the progress continued, I became aware of other things—of unexpected thoughts and conclusions.

Immense conceptions began to steal into the formerly locked chambers of my disembodied mind, concepts that at once both puzzled and appalled me with their immense and infinite grandeur. I was becoming, as I drew nearer to that unknown nucleus, a god—a mind dominating all others, receiving a constant and steady flow of tremendous mathematical thoughts in the midst of which I saw, crystal clear, the beginning and ending of all mental conception.

Dimensions, space, figures—they were childish; things now perfectly understood—and yet, writing now, with none of these attributes, my memory is unable to recall a single one of those colossal discoveries. At that time I was literally deified, and so, I found later, were Pelathon and Farrington.

Then into the midst of this accumulation of thoughts burst another communication from Pelathon.

"I was right! The vast thoughts that are in this universe are converging into one enormous central formation—a new arrangement of figures which must lead to——"

His communication ceased. In any case, I was not registering any more. The sense of movement was now tremendously obvious. Thoughts—ideas—problems solved even as they began. Time, space, energy, figures, rattled across my disembodied mind with bewildering reiteration.

Faster—faster, toward the vortex. Faster. Knowledge swept in one gigantic peak——

Then I was alone. Puny and tiny again—every scrap of that erudition torn and whipped from my remembrance.

I came to myself by very slow degrees, out of that impossible and cloudy darkness, a darkness blacker than death itself and filled with thoughts now beyond all concept.

The first thing that astounded me was the realization that I had a body again—a clumsy body, badly formed, and unwieldy in action. Beside me lay Farrington and Pelathon, stretched supine upon a brilliantly polished floor. I studied their changed and curiously bestial appearances in silence, watching rather dully their gradual return to consciousness. Something was knocking insistently in my mind; the dim, vague hangovers of that incredible transit from a dead universe began to clear from my mind—I was haunted by the belief that I had been here before in exactly the same circumstances. I hardly dared to look up—yet involuntarily I did so.

I saw frozen amazement on the faces of Pelathon and Farrington as they did likewise. There it was—the supreme mathematician! Artisan of creation itself!

For the second time in our numbing voyage through eternal figures we were encountering him—that astounding phenomenon of dimensions, figures and angles who flung forth—as on

our previous visit—its communications in the form of vibrations analyzed down to terms of wave length.

Utterly unable to move, too confused to understand what it all meant, we watched the parade of mathematical thoughts before us, a parade which hid the supreme mathematician temporarily from view.

“You three, crude manifestations of figures, comprise the figures of a universe yet to be created. The sum total of a universe formed me, and yet I shall form it, because there is no time.”

Of all the enigmatic observations we had come across, this, undoubtedly, was without parallel. I raised myself up to make an answer, to grapple with it, but the voice of Farrington forestalled me.

“You are the supreme mathematician. We have met before. You endeavored to form us into canceling figures, but Si-Lafnor, a scientist, saved us from destruction. Now, by some incredible twist of time, we’re back again with you. How do you explain it?”

“I repeat—time is nonexistent,” the symbols responded. “Out of the intellect of the universe from which you have come I was formed, and yet I existed before that universe because I created it. Hence, universes, myself, and all known things, never begin and never die, because there is no time.”

“You mean that out of all that vortex of intelligence, toward which we were drifting, you were born?” Farrington demanded amazedly.

“What else? And, since you did not belong to that exact universe you were formed not unnaturally as remainders of figures from the total. Had it been otherwise you would have been absorbed by me into my form. Ultimately, following immutable law, you are bound to readjust yourselves to your normal position in the vast scheme of things.

“You say you have been here before. In that observation you are including time. You have not been before; you are yet to come! The man, Si-Lafnor, who will come to your aid in the unthinkable distant totality of things, is not yet created—but he will be, because out of you I shall create him. Otherwise how could he have been born?”

My mind was completely unable to take in the infinite complexity of this paradox. I failed utterly to apprehend its meaning and so, I believe, did Farrington. Pelathon, though, was clearly deeply intrigued—and most certainly quite unafraid of the supreme mathematician. But then, I reflected, Pelathon had not seen the supreme one before; on the previous trip he had been left behind. This time things might be different.

“Am I permitted to ask the supreme mind questions?” he inquired at length.

“Proceed.”

“Firstly, since you have obviously disproved the concept of time, there is absolute proof that every known living thought, every vibration, is immovably interlocked. You came into being through the break-up of intellectual forces too vast for us to grasp. In turn, you thought of, and mathematically created, a colossal main universe, within which there would be countless millions of other universes, the figurative atoms and electrons comprising its structure. Of two of those universes we three are part, my two friends of the Earthly universe, and myself of another.

“When those figures were complete they resolved themselves back again into their original formation; out of them, therefore, you were born, to repeat again the same process.

And, throughout that process we have come and gone—and will continue to come and go until unguessable death wipes out all traces of cosmic creation.

“At an inconceivably remote period we came once before. Out of us you begot the basis of figures which created one Si-Lafnor. He in turn created an Earthly universe, to which my two friends belong, and they in their turn created my universe. But basically their conceptions were only yours, because you are the fount of all knowledge. Am I correct?”

“Perfectly,” the symbols responded. “To you it is a paradox, but as you will be forced to follow it through to the end, right up to the actual proving of a timeless state, you will comprehend better when your journey is ended.”

“But,” I said in bewilderment, “if we are to become the basis of the figures that will create Si-Lafnor, we shall have no material bodies! Then what’s going to happen?”

“On your last journey—or on the journey you will make, whichever you prefer to call it—you died on a world called Mathematica. There you lost your Earthly bodies. You will resume them when the figures comprising these bodies have gone to make up Si-Lafnor. You perceive how everything dovetails into place?”

“But how is it possible to resume bodies that are dead?”

“Since there is no time they never died. You will see. Do not make the supreme materialistic error of thinking of your bodies and your minds as the same identical set of figures. Each is independent. The figures forming a body are purely the carriers of the figures forming the mind. One can have a million matter bodies by the alteration in figures, but only one set of figures can comprise the mind.

“Conceive of it this way: Upon a piece of paper you execute an addition sum and supply its total. That, we will assume, comprises the total of your mind. Now, you execute the same addition sum on a hundred different sheets of paper. The figures which form the electrons and protons of the paper’s makeup, are all different, but the figures making the total on the papers are all the same. That cannot be changed. Hence you can use as many sheets—or bodies—as you wish, but with only the same total each time.

“Only at the destruction of a universe do all the totals converge to one final grand total—and that was exactly what happened in the universe you just left—but since you three were not actual parts of that universe you formed into independent figures, to be resolved by me back into your rightful place, or, more clearly, adjusted into your correct position in the scale.”

“And, presumably, every universe must have something as its basis of figures?” I asked quickly. “Not necessarily material bodies?”

“Not necessarily, no. Something—whatever the creative mind, working under my own computations, decides. And now, to complete the process of figures it is essential that you move onward in the creation of Si-Lafnor and his planet, Mathematica.”

“One moment!” I interrupted hastily. “I believe I detect a flaw somewhere! Pelathon was not with us on our last visit. How do you account for his presence now?”

“The normal Pelathon is not with you even now—only a motley array of figures supporting his mind. The real Pelathon, on your last visit, unwittingly placed himself in a state of suspended animation on Mathematica, during which time his mind was here, but unresolved. Is that clear?”

“Well—er—not altogether,” I answered vaguely. “Still, I’ll ask no more questions; I have not the temerity. We await your final decision, supreme one.”

“My final decision is made,” the symbols responded, and with that the abode of the supreme mathematician snapped out like the turning of a switch and we were adrift again in

the incomputable immensities of space.

IV.

This was the only occasion on which I sensed no transition through space. There was blackness certainly, but no real concept of it. My only recollection is that I opened my eyes and looked up directly into blazing ceiling lights, hurling forth a barrage of brilliance that reflected from a hall of machinery—machinery immediately familiar. I did not dare to move; very slowly I began adjusting my mind to normalcy. Gently I felt my limbs. Breeches? A rough gray shirt? I shot up with a jerk, astounded. I was in possession of the body that had formerly died! My own body! The body of Vernon Walsh, of New York, Earth. Then this must be the——

Mathematica! Planet of Si-Lafnor. Abode of the creator of the Earthly universe.

I scrambled to my feet, and beside me Pelathon and Farrington, both normal again, did likewise. Pelathon, despite the return of his normal body, seemed unworried by the change, but in the eyes of Farrington I read blank astonishment.

“Do you begin to realize——” I began dazedly—then I stopped and looked up as there began to approach us the familiar figure of Si-Lafnor himself, just like a more erudite edition of Pelathon, with his glittering metal cranium support affixed to his thin, wizened shoulders. Immediately his thought waves came to us.

“So you completed the cycle?” he asked in faint amusement. “I half expected that you would, but it was worth the experiment to prove time to be nonexistent. You appreciate, of course, that out of your former bodies I was born? And you realize that out of a certain machine—in which you imagine you traveled here—the Earthly universe will be born?”

“But it is born!” I yelled. “We’ve come from it! For Heaven’s sake, Si-Lafnor, don’t you start flinging paradoxes about!”

“I will endeavor not to,” he assured me. “But you will realize, from what the supreme mathematician told you—and I read this from your minds—that thoughts are interlocked, which negates time? Hence, you bring to me a perfect conception of what your universe is like; I, in turn, build upon those thoughts and create your universe, and you yourselves are literally the basis of it. Your thoughts are, at least.

“Truly, it appears to you as though you have come from it, which in a sense is correct to your matter-bound bodies. But the real truth is that you have both come from it and are going to it because time, being nonexistent, is akin to an endless circle without beginning and without end. Understand?”

“I’ll be damned if I do!” I almost snarled back. “It may be child’s play to you to sort out these enigmas, but we’re sick to death of the perpetual puzzles that surround us. Surely you remember us from the last time? Don’t say that we never came at all! Remember? When you made us indivisible so that we might escape the supreme mathematician’s cancellations?”

“Certainly I remember,” Si-Lafnor assented, still with that faint trace of amusement in his thoughts. “You arrived here having, as you believed, subtracted yourselves from the Earthly universe. You believed you could never return to it, because at that time you believed time to be a very actual concept.

“I perceived that out of your coming there was an excellent opportunity to juggle cosmic mathematics and prove for myself the problem of time. I always believed it did not really exist, but I had never been able to prove it because it would have entailed my own

cancellation. Hence my making you three indivisible—or eternal—gave me my opportunity. I am afraid, my wandering friends, that I played upon you a very complicated form of joke.”

“Joke!” echoed Pelathon almost indignantly. “In what way?”

“Well, in the first place I realized by the very fact that you arrived here on Mathematica that time didn’t really exist. That was proved even then by one very indisputable fact which even you, my friends, will understand. Remove one atom of energy, annihilate one atom completely and destroy its energy, and it would mean the end not only of your universe, but of every known universe—the complete and final extinction of all cosmic creation.

“And you came and tried to have me believe that you had left your universe forever behind you! That I knew was quite impossible, because had you done so creation itself would have passed away and you would never have come. I would not have been here; neither would the supreme mathematician have been in being. Therefore I realize you had never actually moved from your own universe!”

“Never moved from it!” Farrington yelled. “But that’s ridiculous! Why, we crossed infinity—down, down——”

“Wait, my friend,” Si-Lafnor intervened. “I realized that I could prove then quite clearly whether time existed or not, after I rescued you from the supreme mathematician. I promised to return you to a universe which would be an exact duplicate of your own; I promised, too, to pass you there by the foreshortening tenth dimension. I did pass you through the tenth dimension, but not to a duplicate of your universe—only to the next formation of figures existing beside those of your Earthly universe.

“Hence you arrived in a space in which you believed you had no part. Actually, mathematically, you were in your own universe, but hopelessly out of tune with its figures. Bluntly, you had been moved from the top of an addition column to the bottom. There you were on very strange ground, but, despite your position, the total remained unaffected.

“I realized that you would pass through the cycle of that other universe and come back to the starting point—if time were indeed a negligible factor. You proved that fact far beyond my expectations; you proved the beginning and the end because you saw how the interlocked thoughts of that universe brought into being the creator of all things—the supreme mathematician.

“He, in turn, created me out of your surplus bodies—again notice the action of interlocked thought; that is, the past and present thought being really one—and you resumed the bodies that had apparently died here. Hence you actually never moved at all. The only difference was that your minds shifted up and down the column. The figures comprising them were forced, by my efforts, to change places with other figures. You didn’t affect the total; hence you were bound to come back to where you began.”

“But you said a little while ago, Si-Lafnor, that we have given you the idea to create our universe. How can that be if, according to you, we’ve come from it?”

“I spoke literally to make myself clear to you. When will you realize that you have come back to the beginning again? To the time when your universe was about to be created by me, sponsored by the underlying computations of the supreme mathematician himself. Nothing can come into being without a conception of it to start with. That is logic. You have completed a cycle and know the universe you have come from. At this stage I know nothing of it, save from your thoughts—and therefore I shall create it.”

“Then you only know what happened on our last visit from our thoughts?” I asked quietly.

“Exactly.”

“Then what happens now?” Pelathon inquired. “As I see it we are now, according to a timeless state, in the position we were on our last visit. Am I right?”

“Entirely. The next process is, of course, the building of the universe from which you have come, and of which your minds will form for me the figurative basis. How my figures will build up I do not know, but that they will build correctly to the final consummation is inevitable fact, otherwise you would not be here. Now, my friends, I am ready. If you are.”

He turned to his mathematical machines, those colossal monsters defying all Earthly comprehension. Here, at least, we had evidence that Si-Lafnor was not so intelligent as the supreme mathematician, for he needed material aid to put his figures into effect; the supreme mathematician, on the other hand, accomplished it all by sheer force of mentality.

There began again a mere repetition of the miracles we had witnessed on our former visit to this incredible planet—the source of a timeless universe. Our universe! Small wonder the Earth-bound brains of Farrington and me were utterly confounded. Pelathon, though, still clung to some fragments of knowledge and stood silent, following the mathematician’s every move, listening to every change in beat of the titanic figurative monsters as they began to trace invisibly the mounting accumulation of figures that would form the Earthly universe.

“It occurs to me,” Si-Lafnor vibrated presently, turning from his tiny stool before his control board, “that on this occasion you would like to witness the material transformation begotten of my figuring. You shall do so. Watch.”

He turned to one side and shifted a lever amidst the wilderness of controls. A screen came into life, six feet square and composed of a material that once again had us guessing.

“In your world,” Si-Lafnor resumed, “you have, as I read from your minds, adding machines—tiny, insignificant offsprings of these vast monsters which I control here. These machines of yours produce, by type upon a sheet of paper, the visible proof of the figuring they have made up. Is that correct?”

“Perfectly,” said I, thinking of the machine we had in the laboratory back home.

“Very well then. Just as those adding machines produce on paper the visible form of figures, so this screen reproduces the visible change of etheric figures. You understand that to create a universe out of figures one must have a basis to start from?”

“The supreme mathematician told us that.”

“Exactly so. In this case the machine in which you came here will be the basis of the figuring! What I shall do is not to add any energy to the complete whole which forms all universes. I shall merely shuffle it about so that your original machine which came from Earth shall form the basis of your own universe. At first you will behold this shuffling via the screen, but as the process goes on you are inevitably bound to be absorbed into it, since you are part of it. When that moment comes you will leave Mathematica, and return home. Now—behold.”

The screen came into life—at least we assumed it did. It changed from meaningless gray into dead and absolute black, a blackness that was not so much darkness as complete absence of all light. We stood looking at it expectantly. My mind, for some inconceivable reason, was thinking that an ordinary black Earthly dye would be pale gray beside this utter negation of all color.

“That is part of the empty space which will become your universe,” Si-Lafnor commented, his tentaculate hands flying up and down his arithmetical keyboard. “You have understood, of

course, that not one universe but millions exist in the one perfectly circular conception of figures that welds together all creation. To create another universe it is simply a matter of exchanging the energy of one of these millions of universes without altering the sum total of the whole. What I do is to transform the figurative basis of radiant energy from one of these universes and alter it into wave lengths of less than 1.3×10^{-13} cms, which in turn, is transferred to that empty space where your universe is to be.”

“But an energy of that wave length doesn’t exist in the Earthly universe!” Farrington protested.

“Not to your knowledge, no—but in the beginning it does. Don’t you perceive that the running down of this energy, which to start with is of a higher availability than any existing afterward, will create a universe? Possessing, as it does, a temperature of approximately 2,200,000,000,000 degrees it causes crystallization which forms into electrons and protons and, finally, atoms.

“Those things you understand; I see them only as changing figures, because upon analysis ether is the abstract background upon which I work, and electrons, protons and so forth all have a certain mathematical basis. But, naturalistically speaking, that is what does take place. You can see it for yourselves there.”

We looked back at the screen and beheld gradually the changing of that ultimate blackness into a dimly swirling chaos, resembling molten lead on the boil in the depths of a soot-black caldron. Gradually, but inevitably, galactic nebulae began to form—a swirling haze of light without understandable formation.

“Why do we see all this at once?” Farrington asked. “It is the work of millions of years for a universe to form.”

“Because there is no time, and because it already exists,” Si-Lafnor responded. “It is dead, alive, and dead again simultaneously, because the total of the figures is perpetually, eternally, the same—no matter what change there is. But the moment of your own inclusion is approaching. Be ready; you will have to form part of the perfect pattern. That you are here at all is proof of that. Be prepared.”

We tensed ourselves, hardly knowing what to expect, our eyes fixed to that screen. Then, with irritating slowness the vast mathematical room began to blur as though steam were obscuring the vision. Si-Lafnor became a solitary tiny speck in the midst of droning remotenesses; the beat and rumble of his vast machinery waxed and waned in our ears as they hovered on the very edge of audible extinction.

The vision of a dividing, splitting galactic nebulae on the screen faded and vanished from sight. We were in a dense fog in which there reposed no light, no sound. And yet, through it all pulsed the steady conviction of change. Change! Change! We could feel the beat of it, and yet it did not affect us.

I uttered a strangled ejaculation, momentarily frightened, then I blinked in sheer astonishment as our surroundings gradually became clear again. I had been prepared for something unusual, but certainly for nothing so astonishing as that which I did behold.

About us reposed the familiar control room of the very space machine in which we had journeyed from our own universe—from Earth! Yes, everything was the same. There, mated to the control board, reposed the subtracting machines which Pelathon himself had fitted to the ordinary space-control mechanism—those bars, keys, rotary shafts, oil baths—all the paraphernalia.

Like a man rising from a trance I looked about me, at the closed air lock, at the rifles we had intended lifting from the wall when we had formerly reached Mathematica. Again the reiteration passed through my mind. Everything was the same.

“Good Lord!” muttered Farrington weakly, sinking down on the wall couch. “What in the name of chaos does this mean?”

“We’re moving too!” I gasped out hoarsely, staring through the window. “Look! Mathematica is receding!”

In two flying leaps Farrington and Pelathon were with me. We stared down upon a brilliantly red world, a world about which there clung the carmine haze of outflowing intelligence and figure formation. Silent, astounded, we watched the delicate ripples of unfading color that oscillated and pervaded the infinity through which we were now passing.

“I—I don’t understand,” I breathed at last, helplessly. “Our ship—our very own space ship—is now going backward. Traveling back to the source without our controlling it! Look at the machines; they’re working on their own! In the name of sanity, Pelathon, can you explain it?”

He nodded composedly. “Certainly I can. Si-Lafnor told us that the very machine in which we came from our universe—or rather yours—would prove the very basis of the figures to create your universe. Naturally the ship is working on its own since Si-Lafnor is the motivator behind the figures. Slowly, surely, we are approaching, I feel sure, the answer to the eternal riddle through which we are now passing. But what that magnificent answer is we cannot yet tell. When the journey is ended we can perceive, perhaps, the underlying truth of all cosmic creation.”

“What do you mean?” I demanded.

“Again, you remember what Si-Lafnor said? We never moved from our own respective universes? There, I believe, lies the answer. Later, we can be certain.”

V.

There began for us, thereafter, in reverse, a repetition of our journey down to Mathematica, but this time our vessel was forming the basis of the very universe from which we had originally come, a concept only possible to my mind when I realized the absence of time. Otherwise it would have been an irreconcilable paradox.

Gradually we passed from the regions of Mathematica into the blank space that evidently formed the first step in the building of new figures—figures which our very own machine was creating, backed by the remote control of Si-Lafnor. Thus, we came finally to the first of the seven series of atomic solar systems, passed through the midst of these dead and barren worlds and watched them change from visible planets into complete electrons. Multiplication upon multiplication, the exact antithesis of the subtraction we had formerly encountered.

“It becomes quite clear what is happening,” Pelathon commented, as the journey went on unhindered. “We found originally that the machine-made world of Vulcan was responsible for thought reflection in the Earthly universe. That machine-made world, we realized, was created by somebody then unknown to us. We entered it and found colossal machines within it. Between two copper pillars we found an indeterminate mist, and it was there that our journey of subtraction began.

“Now we know the truth. It is our machine that is creating those machines inside Vulcan even now, so, naturally, we are bound to pursue an exact course in reverse to our original one. You understand that at the moment, to our minds, the Earthly universe is not yet complete—where before it was quite complete and being left behind. We are now at the opposite end of the cycle—coming, not going. By the time we land back, the concept we call time will have advanced to the exact point where it was when we began. That is inevitable. Thus, as I see it, we prove time to be nonexistent. But that comes later.”

Farrington and I agreed with silent nods. We were too puzzled to argue further. We could only watch the gradual reversion of our former trip, then, as we began to behold, far ahead, an apparent duplicate of the Milky Way we realized that our journey was nearly returning to the starting point. We endeavored to check the period of the journey by the chronometer, for Farrington and I slept several times in the trip, but to our profound bafflement the chronometer needle was turning backward!

“The atomic Milky Way,” murmured Pelathon, staring out on that incomprehensible swarm of living, burning matter. “In other words the atomic formation of the mist existing between the copper pillars. Even at this moment the machines of Vulcan, outcome of Si-Lafnor’s original figuring, are building up by the progression and addition of this very machine. By the time we arrive there those machines will have formed and molded the universe—passed it on to the very second, the very instant, that we left it.”

Again Farrington and I kept silent, watching the gradual condensation of that murky, intra-atomic swirling into a common haze that had no outlines—the formation of pure mist—the second ultimate stage of figuring. Thus we began on the third set of figuring which brought us, through many lingering hours as it seemed, to an area of ever-contracting space, yet in which we did not seem to move either one way or the other, but rather the ends of space came to us. I remembered, vaguely, how on our former trip this selfsame emptiness had seemed to expand without us shifting in the least.

In this wise the mist cleared and there began to loom upon us the immense machines that reposed inside the tenth planet, Vulcan. The titanic copper pillars, from which the mist had apparently been born, loomed vast and stupendous about our expanding machine. Then, these too passed into smallness as we lifted out of the mathematical mist and gazed down once more upon the mechanized wilderness couched within this figure-built world.

We were returning! That thought dinned constantly into my mind with vivid insistence. Or was it coming? Well, coming or going it was the same to me, an Earthborn man. I was as eager as an exile as I stared through the window now, watching the ever-widening gap in the surface of Vulcan which we had originally made in order to enter the uncanny planet.

And, at last, we emerged! Our ship, just as it had done previously, came to a halt upon the twilight belt of Vulcan. We viewed again the landscape of solid, riveted metal, the glare of the homely, bisected sun, and the very-near horizon.

Quietly Farrington and I turned to look at Pelathon. He was smiling now.

"Well, we were right," he commented. "Our machine, by adding up constantly on its journey, produced the mist, the machines of Vulcan, and Vulcan itself—which in turn produced the universe by multiplication of figures born of figures. It is inevitable that we return to where we began. Ah! We're off again!"

He was correct. The same precise interval elapsed as on the previous trip, but this time we moved backward into space and left Vulcan far behind. It struck me as an odd significance that, on our return toward Earth, we passed in reverse the Earth-Mars space liner, at exactly the same split second as we had passed it on the outward journey. This incident more than anything else served to convince me that time was void, otherwise how could such a thing have happened?

The short journey from Vulcan to Earth seemed as nothing after the incredible things we had passed through. We came ultimately to beholding the friendly bulk of Earth far below, New York stirring to dim life as we approached, then becoming quiet and somber as we came even nearer. Again—reverse! When we had left New York, the populace had been rising for the day's work; now we were shooting back into the before-dawn hours. The complexity of it! I still did not understand, though from the dawning brightness in the little eyes of Pelathon I was inclined to think that he had discovered a good deal.

So we came back, settling gently in the same space hangar as that from which we had started. Then, and only then, did the mathematical machines cease to work. Dazed, utterly puzzled, I led the way out of the ship into the great hangar itself. Pelathon and Farrington beside me, we moved through the quietness of the summer early morning toward my own home and there, after Farrington and I had had a meal, we dared to try and sum things up.

"Clearly," said Farrington, his eyes on the wall calendar, "no time has passed whatever! We started off on August 6, 1981—and yet the date is still the same! Since all calendars are automatic and controlled by the Sun, they can't lie. What do you make of it? According to that, we never made the trip!"

"From the instant we started the whole business to the approaching instant when we stopped, no time at all has elapsed," commented Pelathon, in profound thought. "We pursued a complete cycle of mathematics from the total, right through the figures of the universe, to the total again—bringing us back here to the period near the commencement. By the same token, Farrington, your thoughts created my universe, out of the metal which was brought to you from Vulcan."

Farrington nodded slowly. "Correct. What's to be done now?"

"To create my universe you must have the figurative basis to begin with. Quite obviously that figurative basis in this instance will be the very machine in which I came to visit you from my own world—which will pursue a similar course to the trip we've just made, back to my own universe again. You understand?"

"Certainly I do, but since then you transferred your machines to the space ship so we could make our trip to Mathematica."

"I know." Pelathon smiled oddly. "But perhaps I didn't really? Suppose we go to your laboratory and look."

"Just as you like, but I don't see the sense in it."

Pelathon said nothing and the three of us left my home, presently gaining the New York Institute of Scientific Research, where Pelathon had originally arrived from his own universe. To the profound amazement of Farrington and me, there reposed, in the same spot as at its arrival, the ebony box in which Pelathon had come, complete with its complicated enigma of controls, as perfect as the moment of arrival.

"What the——" I began, trying to shake off a curious dizziness that was upon me. "Farrington, that box——"

"I know," he said, passing a hand over his forehead. "I feel as though—as though there are gaps somewhere, as though we've walked out of somewhere into somewhere else. We——" He paused and uttered a throaty shout. "Good Lord, Vernon, look!" he exclaimed huskily.

I followed his gaze to the automatic calendar on the wall; my heart gave a very noticeable leap. Somewhere, somehow, we'd missed a gap of two weeks—the exact period that had elapsed between our meeting Pelathon and our departure from Earth! The date now was July 23rd! I recalled my dizziness and the infinite unreality of everything, as though hovering on the verge of a faint. Now my head was clear again.

"Do you still not understand?" Pelathon asked, looking back at us after he had climbed unconcernedly into his machine.

"No," said Farrington hoarsely. "Pelathon, what in——"

"This machine, which you thought of originally when you conceived my universe, is also the basis of my universe—just the same as yours was of the Earthly universe. Time is moving backward—backward to the point where your actual moment of contact with the cycle began. That moment has not yet come—— Now I return, to fit into the perfect total from where I sprang. Good-by, my friends."

We could think of nothing to say. We gaped as Pelathon's machine became hazy. He was a shadow amidst his controls, and then the laboratory was empty. Farrington turned and looked at me.

"Then—then he never really transferred his machinery to the space ship at all?" he demanded. "Say, Vernon, I think I'm going screwy; I do really."

"It seems——" I commenced, but that was as far as I got. A vast oppression was upon my mind, weighing me down intolerably. I think I staggered, only to recover myself in what seemed an instant later. My eyes immediately focused on that confounded wall calendar. It was still July 23rd, thank Heaven! I must be suffering from the effects of the journey, or else

I ceased to think; I believe for a moment my heart stopped altogether, for I noticed that, though it was certainly July 23rd, it was in the year 1980! This time a year had mysteriously

slid away—completely and absolutely ripped from all consciousness.

I looked at Farrington helplessly, but he motioned to me to remain silent. For the first time I noticed that others were mysteriously present now in the laboratory, in particular Dawson of the spaceways, the intrepid pilot who had brought the Vulcanian metal for us to analyze.

As if in a dream, I heard him repeat the very words he'd said on that former memorable day, when the metal had first come into our possession!

"You'd better have a care! Don't think up any tigers, or anything of that sort."

In response, the reflected thought produced for an instant a tiger amidst the laboratory fittings. Densely, my mouth lolling stupidly, I watched the reenactment of moments that I'd lived over before, Heaven knew when—but certainly on that same date of July 23, 1980!

Farrington looked at the metal again. "Most extraordinary—like a mirror reflecting the image of oneself," he said. "Can it perhaps be a race of beings in a universe, or in a world unknown? Strange beings of a far higher intellect than us? Guess I'm getting flavored with the fantastic stories of the day. Next thing I know I'll be thinking up some weird creature with bulging cranium and calling him an idiotic name like Pelathon, or something of that nature."

Dawson laughed good-humoredly and lounged from the laboratory. The instant the door had closed Farrington turned and looked at me, steadily and grimly.

"Vernon, at last I think I understand," he said slowly. "We have now come back to the beginning—to the moment when, by thought, I pictured Pelathon. A year afterward he came. But actually he didn't."

"No?" I said feebly.

"Of course not. A year hasn't passed—even to-morrow isn't here. We never physically made the journey, old man. We proved time to be timeless because, in between, whilst I uttered that very sentence to Dawson, we traveled unguessable distances, saw unguessable things, traced creation from beginning to end, and returned to carry on the thread exactly where we dropped it. We were apparently away all that time—yet no time elapsed because we did not move from here."

"Then what—— You mean it was a dream?"

"Good heavens, no—it was real enough. My thoughts did reflect on this metal and bring Pelathon to us; we did see all those things. But don't you understand even now that, there being no time, we did not appear to vanish at all—to Dawson and the others, that is. Our energies were transferred into eternal mathematics and, they being eternal, the total remained the same, but we shifted up and down the scale. All that we saw was true, and must have happened in, literally, *no* time. We have a small instance of that in the tiny span of a dream in which one can live years. But now we return to the normal Earthly course, the expenditure of energy, the normal process of time."

"But, a year hence, won't Pelathon reappear, though?" I demanded.

"No, because the year in between did not actually exist in normal progress of Earthly days. You remember how we reeled through the gap up to here? That was all part and parcel of the whole."

"Then indeed we have seen the beginning and end and I begin to realize some of the queer observations in Ecclesiasticus," I murmured. "You know, about that which has been is now—— But what happens to the Vulcan metal now?"

Farrington closed the lid of the box decisively. "As I remember it, on our mathematical journey, we labeled it 'Unclassified' and relegated it to the museum. That's exactly where it's

going until, in the future, some power may unlock the underlying powers it possesses. It has shown us all creation, so, for our part at least, we have nothing more to learn.”

“True,” I said slowly, and from force of habit glanced at my watch. All that journey, all those æons, confluences of intellect, had taken exactly no time whatever. We had journeyed between Farrington’s intake of breath to utter a word, and his exhalation at the finish of it. We had never moved from the spot. And yet——

Well, I still wonder——

[The end of *Mathematica Plus* by John Russell Fearn]