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NOVELS MAGAZINE



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**THE GIRL
IN THE
GOLDEN ATOM**
by RAY CUMMINGS



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NOVELS MAGAZINE



Vol. 5

JUNE, 1951

No. 1

Novelettes

SPAWN OF THE COMET **Otis Adelbert Kline** 16

Silently, without warning they came, those fishermen of deep space who spread their net for man—living flying saucers the Earth must destroy—yet who multiplied by dying!

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THE GIRL IN THE GOLDEN ATOM **Ray Cummings** 40

Lovely beyond all dreaming was she—and unobtainable as the farthest sun, unless he could bridge the terrible chasm between his universe and hers—which he held in the palm of his hand.

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THE SONG OF THE SIRENS **Edward Lucas White** 72

Woe to the hapless sailor man who stumbles on the Sirens' rock!

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THE SHADOWY THIRD **Ellen Glasgow** 88

Nothing on earth was forgotten in his web of hate—but something of heaven was. . . .

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WAR GOD'S GAMBLE **Harry Walton** 94

He had to take a mad gamble with destiny, with the world in the balance!

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M. Ludington Cain

Cover by Lawrence. Inside illustrations by Finlay, Lawrence and Bok.

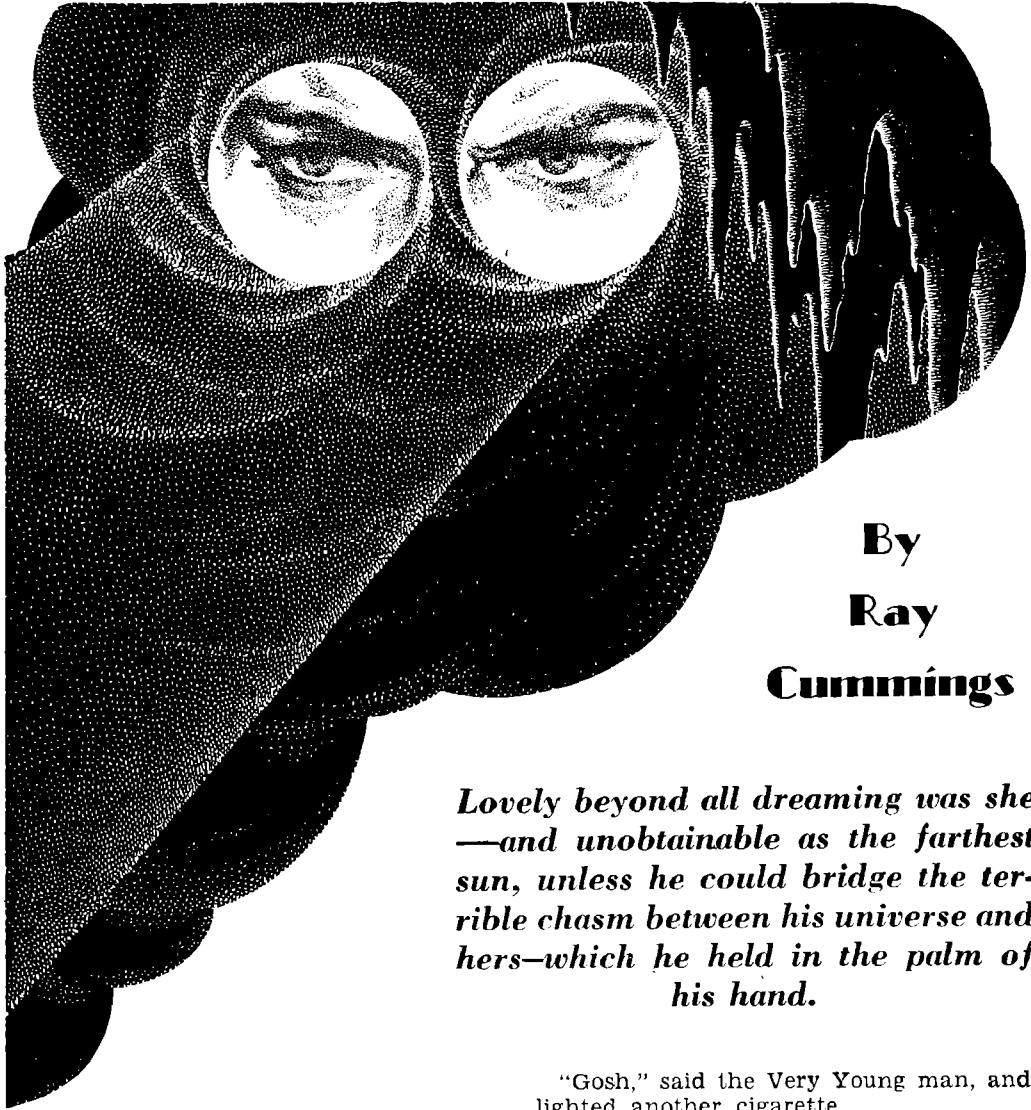
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THE GIRL IN THE GOLDEN ATOM



She danced with the wild
grace of a wood nymph....

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By
Ray
Cummings

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CHAPTER I

A UNIVERSE IN AN ATOM

“THEN you mean to say there is no such thing as the *smallest* particle of matter?” asked the Doctor. “You can put it that way if you like,” the Chemist replied. “In other words, what I believe is that things can be infinitely small just as well as they can be infinitely large. Astronomers tell us of the immensity of space. I have tried to imagine space as finite. It is impossible. How can you conceive the edge of space? Something must be beyond—something or nothing, and even that would be more space, wouldn’t it?”

“Gosh,” said the Very Young man, and lighted another cigarette.

The Chemist resumed, smiling a little. “Now, if it seems probable that there is no limit to the immensity of space, why should we make its smallness finite? How can you say that the atom cannot be divided? As a matter of fact, it already has been. The most powerful microscope will show you realms of smallness to which you can penetrate no other way. Multiply that power a thousand times, or ten thousand times, and who shall say what you will see?”

The Chemist paused, and looked at the intent little group around him.

He was a youngish man, with large features and horn-rimmed glasses, his rough English-cut clothes hanging loosely over his broad, spare frame. The Banker

drained his glass and rang for the waiter. "Very interesting," he remarked.

"Don't be an ass, George," said the Big Business Man. "Just because you don't understand, doesn't mean there is no sense to it."

"What I don't get clearly—" began the Doctor.

"None of it's clear to me," said the Very Young Man.

The Doctor crossed under the light and took an easier chair. "You intimated you had discovered something unusual in these realms of the infinitely small," he suggested, sinking back luxuriously. "Will you tell us about it?"

"Yes, if you like," said the Chemist, turning from one to the other. A nod of assent followed his glance, as each settled himself more comfortably.

"Well, gentlemen, when you say I have discovered something unusual in another world—in the world of the infinitely small—you are right in a way. I have seen something and lost it. You won't believe me, probably." He glanced at the Banker an instant. "But that is not important. I am going to tell you the facts, just as they happened."

The Big Business Man filled up the glasses all around, and the Chemist resumed:

"It was in nineteen ten that this problem first came to interest me. I had never gone in for microscopic work very much, but now I let it absorb all my attention. I secured larger, more powerful instruments—I spent most of my money"—he smiled ruefully—"but never could I come to the end of the space into which I was looking. Something was always hidden beyond—something I could almost, but not quite, distinguish.

"Then I realized that I was on the wrong track. My instrument was not merely of insufficient power, it was not one thousandth the power I needed.

"So I began to study the laws of optics and lenses. In nineteen thirteen I went abroad, and with one of the most famous lens-makers of Europe I produced a lens of an entirely different quality, a lens that I hoped would give me what I wanted. So I returned here and fitted up my microscope that I knew would prove vastly more powerful than any yet constructed.

"It was finally completed and set up in my laboratory, and one night I went in alone to look through it for the first time. It was in the fall of nineteen fourteen, I remember,

"I can recall now my feelings at that moment. I was about to see into another world, to behold what no man had ever looked on before. What would I see? What new realms was I, first of all our human race, to enter? With furiously beating heart, I sat down before the huge instrument and carefully adjusted the eye-piece.

"Then I glanced around for some object to examine. On my finger I had a ring, my mother's wedding ring, and I decided to use that. I have it here." He took a plain gold band from his little finger and laid it on the table.

"You will see a slight mark on the outside. That is the place into which I looked."

His friends crowded around the table and examined a scratch on one side of the band.

"What did you see?" asked the Very Young Man eagerly.

GENTLEMEN," resumed the Chemist, "what I saw staggered even my own imagination. With trembling hands I put the ring in place, looking directly down into that scratch. For a moment I saw nothing. I was like a person coming suddenly out of the sunlight into a darkened room. I knew there was something visible in my view, but my eyes did not seem able to receive the impressions. I realize now they were not yet adjusted to the new form of light. Gradually, as I looked, objects of definite shape began to emerge from the blackness.

"Gentlemen, I want to make clear to you now—as clear as I can—the peculiar aspect of everything that I saw under this microscope. I seemed to be inside an immense cave. One side, near at hand, I could now make out quite clearly. The walls were extraordinarily rough and indented, with a peculiar phosphorescent light on the projections and blackness in the hollows. I say phosphorescent light, for that is the nearest word I can find to describe it—a curious radiation, quite different from the reflected light to which we are accustomed.

"I said that the hollows inside of the cave were blackness. But not blackness—the absence of light—as we know it. It was a blackness that seemed also to radiate light, if you can imagine such a condition; a blackness that seemed not empty, but merely withholding its contents just beyond my vision.

"Except for a dim suggestion of roof

over the cave, and its floor, I could distinguish nothing. After a moment this floor became clearer. It seemed to be—well, perhaps I might call it black marble—smooth, glossy, yet somewhat translucent. In the foreground the floor was apparently liquid. In no way did it differ in appearance from the solid part, except that its surface seemed to be in motion.

"Another curious thing was the outlines of all the shapes in view. I noticed that no outline held steady when I looked at it directly; it seemed to quiver. You see something like it when looking at an object through water—only, of course, there was no distortion. It was also like looking at something with the radiation of heat between.

"Of the back and other side of the cave, I could see nothing, except in one place, where a narrow effulgence of light drifted out into the immensity of the distance behind.

"I do not know how long I sat looking at this scene; it may have been several hours. Although I was obviously in a cave, I never felt shut in—never got the impression of being in a narrow, confined space.

"On the contrary, after a time I seemed to feel the vast immensity of the blackness before me. I think perhaps it may have been that path of light stretching out into the distance. As I looked, it seemed like the reversed tail of a comet, or the dim glow of the Milky Way, and penetrating to equally remote realms of space.

"Perhaps I fell asleep, or at least there was an interval of time during which I was so absorbed in my own thoughts I was hardly conscious of the scene before me.

"Then I became aware of a dim shape in the foreground—a shape merged with the outlines surrounding it. And as I looked, it gradually assumed form, and I

saw it was the figure of a young girl, sitting beside the liquid pool. Except for the same waviness of outline and phosphorescent glow, she had quite the normal aspect of a human being of our own world. She was beautiful, according to our own standards of beauty; her long braided hair a glowing black, her face, delicate of feature and winsome in expression. Her lips were a deep red, although I felt rather than saw the color.

"She was dressed only in a short tunic of a substance I might describe as gray opaque glass, and the pearly whiteness of her skin gleamed with iridescence.

"She seemed to be singing, although I heard no sound. Once she bent over the pool and plunged her hand into it, laughing gaily.

"Gentlemen, I cannot make you appreciate my emotions, when all at once I remembered I was looking through a microscope. I had forgotten entirely my situation, absorbed in the scene before me. And then, all at once, a great realization came upon me—the realization that everything I saw was inside that ring. I was unnerved for the moment at the importance of my discovery.

"When I looked again, after the few moments my eye took to become accustomed to the new form of light, the scene showed itself as before, except that the girl had gone.

"For over a week, each night at the same time I watched that cave. The girl came always, and sat by the pool as I had first seen her. Once she danced with the wild grace of a wood nymph, whirling in and out the shadows, and falling at last in a little heap beside the pool.

"It was on the tenth night after I had first seen her that the accident happened. I had been watching, I remember, an unusually long time before she appeared, gliding out of the shadows. She

seemed in a different mood, pensive and sad, as she bent down over the pool, staring into it intently. Suddenly there was a tremendous cracking sound, sharp as an explosion, and I was thrown backward upon the floor.

“WHEN I recovered consciousness—I must have struck my head on something—I found the microscope in ruins. Upon examination I saw that its larger lens had exploded—flown into fragments scattered around the room. Why I was not killed I do not understand. The ring I picked up from the floor; it was unharmed and unchanged in any way.

“Can I make you understand how I felt at this loss? Because of the war in Europe I knew I could never replace my lens—for many years, at any rate. And then, gentlemen, came the most terrible feeling of all; I knew at last that the scientific achievement I had made and lost counted for little with me. It was the girl. I realized then that the only being I ever could care for was living out her life with her world, and, indeed, her whole universe, inside an atom of that ring.”

The Chemist stopped talking and looked from one to the other of the tense faces of his companions.

“It’s almost too big an idea to grasp,” murmured the Doctor.

“What caused the explosion?” asked the Very Young Man.

“I do not know.” The Chemist addressed his reply to the Doctor, as the most understanding of the group. “I can appreciate, though, that through that lens I was magnifying tremendously those peculiar light-radiations that I have described. I believe the molecules of the lens were shattered by them—I had exposed it longer to them that evening than any of the others.”

The Doctor nodded his comprehension of this theory.

Impressed in spite of himself, the Banker took another drink and leaned forward in his chair. “Then you really think that there is a girl now inside the gold of that ring?” he asked.

“He didn’t say that necessarily,” interrupted the Big Business Man.

“Yes, he did.”

“As a matter of fact, I do believe that to be the case,” said the Chemist earnestly. “I believe that every particle of matter in our universe contains within it an

equally complex and complete a universe, which to its inhabitants seem as large as ours. I think, also, that the whole realm of our interplanetary space, our solar system and all the remote stars of the heavens are contained within the atom of some other universe as gigantic to us as we are to the universe in that ring.”

“Gosh!” said the Very Young Man.

“It doesn’t make one feel very important in the scheme of things, does it?” remarked the Big Business Man dryly.

The Chemist smiled. “The existence of no individual, no nation, no world, nor any one universe is of the least importance.”

“Then it would be possible,” said the Doctor, “for this gigantic universe that contains us in one of its atoms, to be itself contained within the atom of another universe, still more gigantic than it is, and so on.”

“That is my own theory,” said the Chemist.

“And in each of the atoms of the rocks of that cave there may be other worlds proportionately minute?”

“I can see no reason to doubt it.”

“Well, there is no proof, anyway,” said the Banker. “We might as well believe it.”

“I intend to get the proof,” said the Chemist.

“Do you believe all these innumerable universes, both larger and smaller than ours, are inhabited?” the Doctor asked him.

“I should think probably most of them are. The existence of life, I believe, is as fundamental as the existence of matter without life.”

“How do you suppose that girl got in there?” asked the Very Young Man, coming out of a brown study.

“What puzzled me,” resumed the Chemist, ignoring the question, “is why the girl should so resemble our own race. I have thought about it a good deal, and I have reached the conclusion that the inhabitants of any universe in the next smaller or larger plane to ours probably resemble us fairly closely. That ring, you see, is in the same—shall we say—environment as ourselves. The same forces control it that control us. Now, if the ring had been created on Mars, for instance, I believe that the universes within its atoms would be inhabited by beings like the Martians—if Mars has any inhabitants. Of course, in planes beyond those next to ours, either smaller or larger, changes would probably

occur, becoming greater as you go in or out from our own universe."

"Good Lord! It makes one dizzy to think of it," said the Big Business Man excitedly.

"I wish I knew how that girl got in there," sighed the Very Young Man, looking at the ring.

"She probably didn't," retorted the Doctor. "Very likely she was created there, the same as you were here."

"I think that is probably so," said the Chemist. "And yet, sometimes I am not at all sure. She was very human." The Very Young Man looked at him sympathetically.

"How are you going to prove your theories?" asked the Banker, in his most irritatingly practical way.

The Chemist picked up the ring and put it on his finger. "Gentlemen," he said, "I have tried to tell you facts, not theories. What I saw through that ultramicroscope was not an unproven theory, but a fact. My theories you have brought out by your questions."

"You are quite right," said the Doctor, "but you did mention yourself, that you hoped to provide proof."

The Chemist hesitated a moment, then made his decision. "I will tell you the rest," he said.

"After the destruction of the microscope, I was quite at a loss how to proceed. I thought about the problem for many weeks. Finally I decided to work along another altogether different line—a theory about which I am surprised you have not already questioned me."

He paused, but no one spoke.

"I am hardly ready with proof to-night," he resumed after a moment. "Will you all take dinner with me here at the club one week from to-night?" He read affirmation in the glance of each.

"Good. That's settled," he said rising. "At seven, then."

"But what was the theory you expected us to question you about?" asked the Very Young Man.

The Chemist leaned on the back of his chair.

"The only solution I could see to the problem," he said slowly, "was to find some way of making myself sufficiently small to be able to enter that other universe. I have found such a way, and one week from to-night, gentlemen, with your assistance, I am going to enter the surface of that ring at the point where it is scratched!"

CHAPTER II

INTO THE RING

THE cigars were lighted and dinner over before the Doctor broached the subject uppermost in the minds of every member of the party.

"A toast, gentlemen," he said, raising his glass. "To the greatest research Chemist in the world. May he be successful in his adventure to-night."

The Chemist bowed his acknowledgment.

"You have not heard me yet," he said smiling.

"But we want to," said the Very Young Man impulsively.

"And you shall." He settled himself more comfortably in his chair. "Gentlemen, I am going to tell you, first, as simply as possible, just what I have done in the past two years. You must draw your own conclusions from the evidence I give you.

"You will remember that I told you last week of my dilemma after the destruction of the microscope. Its loss and the impossibility of replacing it, led me into still bolder plans than merely the visual examination of this minute world. I reasoned, as I have told you, that because of its physical proximity, its similar environment, so to speak, this outer world should be capable of supporting life identical with our own.

"By no process of reasoning can I find adequate refutation of this theory. Then, again, I had the evidence of my own eyes to prove that a being I could not tell from one of my own kind was living there. That this girl, other than in size, differs radically from those of our race, I cannot believe.

"I saw then but one obstacle standing between me and this other world—the discrepancy of size. The distance separating our world from this other, is infinitely great or infinitely small, according to the viewpoint. In my present size it is only a few feet from here to the ring on that plate. But to an inhabitant of that other world, we are as remote as the faintest stars of the heavens, diminished a thousand times."

He paused a moment, signing the waiter to leave the room.

"This reduction of bodily size, great as it is, involves no deeper principle than does a light contraction of tissue, except that it must be carried further. The problem, then, was to find a chemical,

sufficiently unharful to life, that would so act upon the body cells as to cause a reduction in bulk, without changing their shape. I had to secure a uniform and also a proportionate rate of contraction of each cell, in order not to have the body shape altered.

"After a comparatively small amount of research work, I encountered an apparently insurmountable obstacle. As you know, gentlemen, our living human bodies are held together by the power of the central intelligence we call the mind. Every instant during your lifetime your subconscious mind is commanding and directing the individual life of each cell that makes up your body. At death this power is withdrawn; each cell is thrown under its own individual command, and dissolution of the body takes place.

"I found, therefore, that I could not act upon the cells separately, so long as they were under control of the mind. On the other hand, I could not withdraw this power of the subconscious mind without causing death.

"I progressed no further than this for several months. Then came the solution. I reasoned that after death the body does not immediately disintegrate; far more time elapses than I expected to need for the cell-contraction. I devoted my time, then, to finding a chemical that would temporarily withhold, during the period of cell-contraction, the power of the subconscious mind, just as the power of the conscious mind is withheld by hypnotism.

"I AM not going to weary you by trying to lead you through the maze of chemical experiments into which I plunged. Only one of you"—he indicated the Doctor—"has the technical bases of knowledge to follow me. No one had been before me along the path I traversed. I pursued the method of pure theoretical deduction, drawing my conclusions from the practical results obtained.

"I worked on rabbits almost exclusively. After a few weeks I succeeded in completely suspending animation in one of them for several hours. There was no life apparently existing during that period. It was not a trance or coma, but the complete simulation of death. No harmful results followed the revivifying of the animal. The contraction of the cells was far more difficult to accomplish; I finished my last experiment less than six months ago."

"Then you really have been able to

make an animal infinitely small?" asked the Big Business Man.

The Chemist smiled. "I sent four rabbits into the unknown last week," he said.

"What did they look like going?" asked the Very Young Man. The Chemist signed him to be patient.

"The quantity of diminution to be obtained bothered me considerably. Exactly how small that other universe is, I had no means of knowing, except by the computations I made of the magnifying power of my lens. These figures, I know, must necessarily be very inaccurate. Then, again, I have no means of judging by the visual rate of diminution of these rabbits, whether this contraction is at a uniform rate or accelerated. Nor can I tell how long it is prolonged, or the quantity of drug administered, as only a fraction of the diminution has taken place when the animal passes beyond the range of any microscope I now possess."

"These questions were overshadowed, however, by a far more serious problem that encompassed them all.

"As I was planning to project myself into this unknown universe and to reach the exact size proportionate to it, I soon realized such a result could not be obtained were I in an unconscious state. Only by successive doses of the drug, or its retardant about which I will tell you later, could I hope to reach the proper size. Another necessity is that I place myself on the exact spot on that ring where I wish to enter and to climb down among its atoms when I have become sufficiently small to do so. Obviously, this would be impossible to one not possessing all his faculties and physical strength."

"And did you solve that problem, too?" asked the Banker. "I'd like to see it done," he added, reading his answer in the other's confident smile.

The Chemist produced two small paper packages from his wallet. "These drugs are the result of my research," he said. "One of them causes contraction, and the other expansion, by an exact reversal of the process. Taken together, they produce no effect, and a lesser amount of one retards the action of the other." He opened the papers, showing two small vials. "I have made them as you see, in the form of tiny pills, each containing a minute quantity of the drug. It is by taking them successively in unequal amounts that I expect to reach the desired size."

"There's one point that you do not

mention," said the Doctor. "Those vials and their contents will have to change size as you do. How are you going to manage that?"

"By experimentation I have found," answered the Chemist, "that any object held in close physical contact with the living body being contracted is contracted itself at an equal rate. I believe that my clothes will be affected also. These vials I will carry strapped under my armpits."

"Suppose you should die, or be killed, would the contraction cease?" asked the Doctor.

"Yes, almost immediately," replied the Chemist. "Apparently, though I am acting through the subconscious mind while its power is held in abeyance, when this power is permanently withdrawn by death, the drug no longer effects the individual cells. The contraction or expansion ceases almost at once."

The Chemist cleared a space before him on the table. "In a well-managed club like this," he said, "there should be no flies, but I see several around. Do you suppose we can catch one of them?"

"I can," said the Very Young Man, and forthwith he did.

The Chemist moistened a lump of sugar and laid it on the table before him. Then, selecting one of the smallest of the pills, he ground it to powder with the back of a spoon and sprinkled this powder on the sugar.

"Will you give me the fly, please?"

The Very Young Man gingerly did so. The Chemist held the insect by its wings over the sugar. "Will some one lend me one of his shoes?"

The Very Young Man hastily slipped off one of his shoes.

"Thank you," said the Chemist, placing it on the table with a quizzical smile.

The rest of the company rose from their chairs and gathered around, watching with interested faces what was about to happen.

"I hope he is hungry," remarked the Chemist, and placed the fly gently down on the sugar, still holding it by the wings. The insect, after a moment, ate a little.

Silence fell upon the group as each watched intently. For a few moments nothing happened. Then, almost imperceptibly at first, the fly became larger. In another minute it was the size of a large horse-fly, struggling to release its wings from the Chemist's grasp. A minute more and it was the size of a beetle. No one spoke. The Banker moistened his lips, drained his glass hurriedly and moved slightly farther away. Still the insect grew; now it was the size of a small chicken, the multiple lens of its eyes presenting a most terrifying aspect, while its ferocious droning reverberated through the room. Then suddenly the Chemist threw it upon the table, covered it with a napkin, and beat it violently with the shoe. When all movement had ceased he tossed its quivering body into a corner of the room.

"**G**OOD God!" ejaculated the Banker, as the white-faced men stared at each other. The quiet voice of the Chemist brought them back to themselves. "That, gentlemen, you must understand, was only a fraction of the very first stage of growth. As you may have noticed, it was constantly accelerated. This acceleration attains a speed of possibly fifty thousand times that you observed. Beyond that, it is my theory, the change is at a uniform rate." He looked at the body of the fly, lying inert on the floor. "You can appreciate now, gentlemen, the im-

portance of having this growth cease after death."

"Good Lord, I should say so!" murmured the Big Business Man, mopping his forehead. The Chemist took the lump of sugar and threw it into the open fire.

"Gosh!" said the Very Young Man. "Suppose when we were not looking, another fly had—"

"Shut up!" growled the Banker.

"Not so skeptical now, eh, George?" said the Big Business Man.

"Can you catch me another fly?" asked the Chemist. The Very young Man hastened to do so. "The second demonstration, gentlemen," said the Chemist, "is less spectacular, but far more pertinent than the one you have just witnessed." He took the fly by the wings, and prepared another lump of sugar, sprinkling a crushed pill from the other vial upon it.

"When he is small enough I am going to try to put him on the ring, if he will stay still," said the Chemist.

The Doctor pulled the plate containing the ring forward until it was directly under the light, and everyone crowded closer to watch; already the fly was almost too small to be held. The Chemist tried to set it on the ring, but could not; so with his other hand he brushed it lightly into the plate, where it lay, a tiny black speck against the gleaming whiteness of the china.

"Watch it carefully, gentlemen," he said as they bent closer.

"It's gone," said the Big Business Man.

"No, I can still see it," said the Doctor. Then he raised the plate closer to his face. "Now it's gone," he said.

The Chemist sat down in his chair. "It's probably still there, only too small for you to see. In a few minutes, if it took a sufficient amount of the drug, it will be small enough to fall between the molecules of the plate."

"Do you suppose it will find another inhabited universe down there?" asked the Very Young Man.

"Who knows," said the Chemist. "Very possibly it will. But the one we are interested in is here," he added, touching the ring.

"Is it your intention to take this stuff yourself, to-night?" asked the Big Business Man.

"If you will give me your help, I think so, yes. I have made all arrangements. The club has given us this room in absolute privacy for forty-eight hours. Your meals will be served here when you want

them, and I am going to ask you, gentlemen, to take turns watching and guarding the ring during that time. Will you do it?"

"I should say we would!" cried the Doctor, and the others nodded assent.

"It is because I wanted you to be convinced of my entire sincerity that I have taken you so thoroughly into my confidence. Are those doors locked?" The Very Young Man locked them.

"Thank you," said the Chemist, starting to disrobe. In a moment he stood before them attired in a woolen bathing-suit of pure white. Over his shoulders was strapped tightly a narrow leather harness, supporting two silken pockets, one under each armpit. Into each of these he placed one of the vials, first laying four pills from one of them upon the table.

At this point the Banker rose from his chair and selected another in the farther corner of the room. He sank into it a crumpled heap and wiped the beads of perspiration from his face with a shaking hand.

"I have every expectation," said the Chemist, "that this suit and harness will contract in size uniformly with me. If the harness should not, then I shall have to hold the vials in my hand."

On the table, directly under the light, he spread a large silk handkerchief, upon which he placed the ring. He then produced a teaspoon, which he handed to the Doctor.

"Please listen carefully," he said, "for perhaps the whole success of my adventure, and my life itself, may depend upon your actions during the next few minutes. You will realize, of course, that when I am still large enough to be visible to you, I shall be so small that my voice may be inaudible. Therefore, I want you to know, now, just what to expect.

"When I am something under a foot high, I shall step upon that handkerchief, where you will see my white suit plainly against its black surface. When I become less than an inch in height, I shall run over to the ring and stand beside it. When I have diminished to about a quarter of an inch, I shall climb upon it, and, as I get smaller, will follow its surface until I come to the scratch.

"I WANT you to watch me very closely. I may miscalculate the time and wait until I am too small to climb upon the ring. Or I may fall off. In either case, you will place that spoon beside me and I

will climb into it. You will then do your best to help me get on the ring. Is all this quite clear?"

The Doctor nodded assent.

"Very well, watch me as long as I remain visible. If I have an accident, I shall take the other drug and endeavor to return to you at once. This you must expect at any moment during the next forty-eight hours. Under all circumstances, if I am alive, I shall return at the expiration of that time."

"And, gentlemen, let me caution you most solemnly, do not allow that ring to be touched until that length of time has expired. Can I depend on you?"

"Yes," they answered breathlessly.

"After I have taken the pills," the Chemist continued, "I shall not speak unless it is absolutely necessary. I do not know what my sensations will be, and I want to follow them as closely as possible." He then turned out all the lights in the room with the exception of the center electrolier, that shone down directly on the handkerchief and ring.

The Chemist looked about him. "Good-bye, gentlemen," he said, shaking hands all around. "Wish me luck." And without hesitation he placed the four pills in his mouth and washed them down with a swallow of water.

Silence fell on the group as the Chemist seated himself and covered his face with his hands. For perhaps two minutes the tenseness of the silence was unbroken, save by the heavy breathing of the Banker as he lay huddled in his chair.

"Oh, my God! He is growing smaller!" whispered the Big Business Man in a horrified tone to the Doctor. The Chemist raised his head and smiled at them. Then he stood up, steadyng himself against a chair. He was less than four feet high. Steadily he grew smaller before their horrified eyes. Once he made as if to speak, and the Doctor knelt down beside him. "It's all right, good-bye," he said in a tiny voice.

Then he stepped upon the handkerchief. The Doctor knelt on the floor beside it, the wooden spoon ready in his hand, while the others, except the Banker, stood behind him. The figure of the Chemist, standing motionless near the edge of the handkerchief, seemed now like a little white wooden toy, hardly more than one inch in height.

Waving his hand and smiling, he suddenly started to walk and then ran swiftly over to the ring. By the time he reached

it, somewhat out of breath, he was little more than twice as high as the width of its band. Without pausing, he leaped up, and sat astraddle, leaning over and holding to it tightly with his hands. In another moment he was on his feet, on the upper edge of the ring, walking carefully along its circumference toward the scratch.

The Big Business Man touched the Doctor on the shoulder and tried to smile. "He's making it," he whispered. As if in answer the little figure turned and waved its arms. They could just distinguish its white outline against the gold surface underneath.

"I don't see him," said the Very Young Man in a scared voice.

"He's right near the scratch," answered the Doctor, bending closer. Then, after a moment, "He's gone." He rose to his feet. "Good Lord! Why haven't we a microscope!" he added.

"I never thought of that," said the Big Business Man. "We could have watched him for a long time yet."

"Well, he's gone now," returned the Doctor, "and there is nothing for us to do but wait."

"I hope he finds that girl," sighed the Very Young Man, as he sat chin in hand beside the handkerchief.

THE Banker snored stertorously from his mattress in a corner of the room. In an easy-chair near by, with his feet on the table, lay the Very Young Man, sleeping also.

The Doctor and the Big Business Man sat by the handkerchief conversing in low tones.

"How long has it been now?" asked the latter.

"Just forty hours," answered the Doctor, "and he said that forty-eight hours was the limit. He should come back at about ten to-night."

"I wonder if he *will* come back," questioned the Big Business Man nervously. "Lord, I wish he wouldn't snore so loud," he added irritably, nodding in the direction of the Banker.

They were silent for a moment, and then he went on: "You'd better try to sleep awhile," he said to the Doctor. "You're worn out. I'll watch here."

"I suppose I should," answered the Doctor wearily. "Wake up that kid; he's sleeping most of the time."

"No, I'll watch," repeated the Big Business Man; "you lie down over there."

The Doctor did so while the other settled himself more comfortably on a cushion beside the handkerchief, and prepared for his lonely watching.

The Doctor apparently dropped off to sleep at once, for he did not speak again. The Big Business Man sat staring steadily at the ring, bending nearer to it occasionally. Every ten or fifteen minutes he looked at his watch.

Perhaps an hour passed in this way, when the Very Young Man suddenly sat up and yawned. "Haven't they come back yet?" he asked in a sleepy voice.

The Big Business Man answered in a much lower tone. "What do you mean—they?" he said.

"I dreamed that he brought the girl back with him," said the Very Young Man.

"Well, if he did, they have not arrived," answered the Big Business Man. "You'd better go back to sleep. We've got six or seven hours yet."

The Very Young Man rose and crossed the room. "No, I'll watch awhile," he said, seating himself on the floor. "What time is it?"

"Quarter of three."

"He said he'd be back by ten to-night. I'm crazy to see that girl."

The Big Business Man rose and went over to a dinner-tray, standing near the door. "Lord, I'm hungry. I must have forgotten to eat to-day." He lifted up one of the silver covers. What he saw evidently encouraged him, for he drew up a chair and began his lunch.

The Very Young Man lighted a cigarette. "It will be the tragedy of my life," he said, "if he never comes back."

The Big Business Man smiled. "How about *his* life?" he answered, but the Very Young man had fallen into a reverie and did not reply.

The Big Business Man finished his lunch in silence and was just about to light a cigar when a sharp exclamation brought him hastily to his feet.

"Come here, quick, I see something." The Very Young Man had his face close to the ring and was trembling violently.

The other pushed him back. "Let me see. Where?"

"There by the scratch; he's lying there; I can see him."

The Big Business Man looked and then hurriedly woke the Doctor.

"He's come back," he said briefly; "you can see him there." The Doctor bent down over the ring while the others woke up the Banker.

"He doesn't seem to be getting any bigger," said the Very Young Man; "he's just lying there. Maybe he's dead."

"What shall we do?" asked the Big Business Man, and made as if to pick up the ring. The Doctor shoved him away. "Don't do that!" he said sharply. "Do you want to kill him?"

"He's sitting up," cried the Very Young Man. "He's all right."

"He must have fainted," said the Doctor. "Probably he's taking more of the drug now."

"He's much larger," said the Very Young Man; "look at him!"

The tiny figure was sitting sidewise on the ring, with its feet hanging over the outer edge. It was growing perceptibly larger each instant, and in a moment it slipped down off the ring and sank in a heap on the handkerchief.

"Good Heavens! Look at him!" cried the Big Business Man. "He's all covered with blood."

The little figure presented a ghastly sight. As it steadily grew larger they could see and recognize the Chemist's haggard face, his cheek and neck stained with blood, and his white suit covered with dirt.

"Look at his feet," whispered the Big Business Man. They were horribly cut and bruised and greatly swollen.

The Doctor bent over and whispered gently, "What can I do to help you?" The Chemist shook his head. His body, lying prone upon the handkerchief, had torn it apart in growing. When he was about twelve inches in length he raised his head. The Doctor bent closer. "Some brandy, please," said a wraith of the Chemist's voice. It was barely audible.

"He wants some brandy," called the Doctor. The Very Young Man looked hastily around, then opened the door and dashed madly out of the room. When he returned, the Chemist had grown to nearly four feet. He was sitting on the floor with his back against the Doctor's knees. The Big Business Man was wiping the blood off his face with a damp napkin.

"Here!" cried the Very Young Man, thrusting forth the brandy. The Chemist drank a little of it. Then he sat up, evidently somewhat revived.

"I seem to have stopped growing," he said. "Let's finish it up now. God! How I want to be the right size again," he added fervently.

The Doctor helped him extract the vials from under his arm, and the Chemist

touched one of the pills to his tongue. Then he sank back, closing his eyes. "I think that should be about enough," he murmured.

NO ONE spoke for nearly ten minutes. Gradually the Chemist's body grew, the Doctor shifting his position several times as it became larger. It seemed finally to have stopped growing, and was apparently nearly its former size.

"Is he asleep?" whispered the Very Young Man.

The Chemist opened his eyes.

"No," he answered. "I'm all right now, I think." He rose to his feet, the Doctor and the Big Business Man supporting him on either side.

"Sit down and tell us about it," said the Very Young Man. "Did you find the girl?"

The Chemist smiled wearily.

"Gentlemen, I cannot talk now. Let me have a bath and some dinner. Then I will tell you all about it."

The Doctor rang for an attendant, and led the Chemist to the door, throwing a blanket around him as he did so. In the doorway the Chemist paused and looked back, with a wan smile, over the wreck of the room.

"Give me an hour," he said. "And eat something yourselves while I am gone." Then he left, closing the door after him.

When he returned, fully dressed in clothes that were ludicrously large for him, the room had been straightened up, and his four friends were finishing their meal. He took his place among them quietly and lighted a cigar.

"Well, gentlemen, I suppose that you are interested to hear what happened to me," he began. The Very Young Man asked his usual question.

"Let him alone," said the Doctor.

"Was it all as you expected?" asked the Bunker.

It was his first remark since the Chemist returned.

"To a great extent, yes," answered the Chemist. "But I had better tell you just what happened." The Very Young Man nodded his eager agreement.

"When I took those first four pills," began the Chemist in a quiet, even tone, "my immediate sensation was a sudden reeling of the senses, combined with an extreme nausea. This latter feeling passed after a moment.

"You will remember that I seated myself upon the floor and closed my eyes. When I opened them my head had steadied itself somewhat, but I was oppressed by a curious feeling of drowsiness, impossible to shake off.

"My first mental impression was one of wonderment when I saw you all begin to increase in size. I remember standing up beside the chair, which was then half again its normal size, and you"—indicating the Doctor—"towered beside me as a giant of nine or ten feet high.

"Steadily upward, with a curious crawling motion, grew the room and all its contents. Except for the feeling of sleep that oppressed me, I felt quite my usual self. No change appeared happening to me, but everything else seemed growing to gigantic and terrifying proportions.

"Can you imagine a human being a hundred feet high? That is how you looked to me as I stepped upon that huge expanse of black silk and shouted my last good-by to you!"

"Over to my left lay the ring, apparently fifteen or twenty feet away. I started to walk toward it, but although it grew rapidly larger, the distance separating me from it seemed to increase rather than

lessen. Then I ran, and by the time I arrived it stood higher than my waist—a beautiful, shaggy, golden pit.

"I jumped upon its rim and clung to it tightly. I could feel it growing beneath me as I sat. After a moment I climbed upon its top surface and started to walk toward the point where I knew the scratch to be.

"I found myself now, as I looked about, walking upon a narrow, though ever broadening, curved path. The ground beneath my feet appeared to be a rough, yellowish quartz. This path grew rougher as I advanced. Below the bulging edges of the path, on both sides, lay a shining black plain, ridged and indented, and with a sunlike sheen on the higher portions of the ridges. On the one hand this black plain stretched in an unbroken expanse to the horizon. On the other, it appeared as a circular valley, enclosed by a shining yellow wall.

"The way had now become extraordinarily rough. I bore to the left as I advanced, keeping close to outer edge. The other edge of the path I could not see. I clambered along hastily, and after a few moments was confronted by a row of rocks and boulders lying directly across my line of progress. I followed their course for a short distance, and finally found a space through which I could pass.

"This transverse ridge was perhaps a hundred feet deep. Behind it and extending in a parallel direction lay a tremendous valley. I knew then I had reached my first objective.

"I sat down upon the brink of the precipice and watched the cavern growing ever wider and deeper. Then I realized that I must begin my descent if ever I was to reach the bottom. For perhaps six hours I climbed steadily downward. It was a fairly easy descent after the first little while, for the ground seemed to open up before me as I advanced, changing its contour so constantly that I was never at a loss for an easy downward path.

"My feet suffered cruelly from the shaggy, metallic ground, and I soon had to stop and rig a sort of protection for the soles from a portion of the harness over my shoulder. According to the stature I was when I reached the bottom, I had descended perhaps twelve thousand feet during this time.

"The latter part of this journey found me nearing the bottom of the cañon. Objects around me no longer seemed to

increase in size, as had been constantly the case before, and I reasoned that probably my stature was remaining constant.

"I noticed, too, as I advanced, a curious alteration in the form of light around me. The glare from above (the sky showed only a narrow dull ribbon of blue) barely penetrated to the depths of the cañon's floor. But all about me there was a soft radiance, seeming to emanate from the rocks themselves.

"**T**HE SIDES of the cañon were shaggy and rough, beyond anything I had ever seen. Huge boulders, hundreds of feet in diameter, were imbedded in them. The bottom also was strewn with similar gigantic rocks.

"I surveyed this lonely waste for some time in dismay, not knowing in what direction lay my goal. I knew that I was at the bottom of the scratch, and by the comparison of its size I realized I was well started on my journey.

"I have not told you, gentlemen, that at the time I marked the ring I made a deeper indentation in one portion of the scratch and focused the microscope upon that. This indentation I now searched for. Luckily I found it, less than half a mile away—an almost circular pit, perhaps five miles in diameter, with shining walls extending downward into blackness. There seemed no possible way of descending into it, so I sat down near its edge to think out my plan of action.

"I realized now that I was faint and hungry, and whatever I did must be done quickly. I could turn back to you, or I could go on. I decided to risk the latter course, and took twelve more of the pills—three times my original dose."

The Chemist paused for a moment, but his auditors were much too intent to question him. Then he resumed in his former matter-of-fact tone.

"After my vertigo had passed somewhat—it was much more severe this time—I looked up and found my surroundings growing at a far more rapid rate than before. I staggered to the edge of the pit. It was opening up and widening out at an astounding rate. Already its sides were becoming rough and broken, and I saw many places where a descent would be possible.

"The feeling of sleep that had formerly merely oppressed me, combined now with my physical fatigue and the larger dose of the drug I had taken, became almost

intolerable. I yielded to it for a moment, lying down on a crag near the edge of the pit. I must have became almost immediately unconscious, and remained so for a considerable time. I can remember a horrible sensation of sliding headlong for what seemed like hours. I felt that I was sliding or falling downward. I tried to rouse but could not. Then came absolute oblivion.

"When I recovered my senses I was lying partly covered by a mass of smooth, shining pebbles. I was bruised and battered from head to foot—in a far worse condition than you first saw me in when I returned.

"I sat up and looked around. Beside me, sloped upward at an apparently increasing angle, a tremendous glossy plane. This extended, as far as I could see, both to the right and left and upward into the blackness of the sky overhead. It was this plane that had evidently broken my fall, and I had been sliding down it, bringing with me a considerable mass of rocks and boulders.

"As my senses became clearer I saw I was lying on a fairly level floor. I could see perhaps two miles in each direction. Beyond that there was only darkness. The sky overhead was unbroken by stars or light of any kind. I should have been in total darkness except, as I have told you before, that everything, even the blackness itself, seemed to be self-luminous.

"The incline down which I had fallen was composed of some smooth substance suggesting black marble. The floor underfoot was quite different—more of a metallic quality with a curious corrugation. Before me, in the dim distance, I could just make out a tiny range of hills.

"I rose, after a time, and started weakly to walk toward these hills. Though I was faint and dizzy from my fall and the lack of food, I walked for perhaps half an hour, following closely the edge of the incline. No change in my visual surroundings occurred, except that I seemed gradually to be approaching the line of hills. My situation at this time, as I turned it over in my mind, appeared hopelessly desperate, and I admit I neither expected to reach my destination nor to be able to return to my own world.

"A sudden change in the feeling of the ground underfoot brought me to myself; I bent down and found I was treading on vegetation—a tiny forest extending for quite a distance in front and to the side of me. A few steps ahead a little silver

ribbon threaded its way through the trees. This I judged to be water.

"New hope possessed me at this discovery. I sat down at once and took a portion of another of the pills.

"I must again have fallen asleep. When I awoke, somewhat refreshed, I found myself lying beside the huge trunk of a fallen tree. I was in what had evidently once been a deep forest, but which now was almost utterly desolated. Only here and there were the trees left standing. For the most part they were lying in a crushed and tangled mass, many of them partially embedded in the ground.

"I cannot express adequately to you, gentlemen, what an evidence of tremendous superhuman power this scene presented. No storm, no lightning, nor any attack of the elements could have produced more than a fraction of the destruction I saw all around me.

"I climbed cautiously upon the fallen tree-trunk, and from this elevation had a much better view of my surroundings. I appeared to be near one end of the desolated area, which extended in a path about half a mile wide and several miles deep. In front, a thousand feet away, perhaps, lay the unbroken forest.

"Descending from the tree-trunk I walked in this direction, reaching the edge of the woods after possibly an hour of the most arduous traveling of my whole journey.

"During this time almost my only thought was the necessity of obtaining food. I looked about me as I advanced, and on one of the fallen tree-trunks I found a sort of vine growing. This vine bore a profusion of small gray berries, much like our huckleberries. They proved similar in taste, and I sat down and ate a quantity.

"When I reached the edge of the forest I felt somewhat stronger. I had seen up to this time no sign of animal life whatever. Now, as I stood silent, I could hear around me all the multitudinous tiny voices of the woods. Insect life stirred underfoot, and in the trees above an occasional bird flitted to and fro.

"Perhaps I am giving you a picture of our own world. I do not mean to do so. You must remember that above me there was no sky, just blackness. And yet so much light illuminated the scene that I could not believe it was other than what we would call daytime. Objects in the forest were as well lighted—better probably than they would be under similar

circumstances in our own familiar world.

"The trees were of huge size compared to my present stature: straight, upstanding trunks, with no branches until very near the top. They were bluish-gray in color, and many of them well covered with the berry-vine I have mentioned. The leaves overhead seemed to be blue—in fact the predominating color of all the vegetation was blue, just as in our world it is green. The ground was covered with dead leaves, mold, and a sort of a gray moss. Fungus of a similar color appeared, but of this I did not eat.

"I had penetrated perhaps two miles into the forest when I came unexpectedly to the bank of a broad, smooth-flowing river, its silver surface seeming to radiate waves of the characteristic phosphorescent light. I found it cold, pure-tasting water, and I drank long and deeply. Then I remember lying down upon the mossy bank, and in a moment, utterly worn out, I again fell asleep."

CHAPTER III

LYLDA

"I WAS awakened by the feel of soft hands upon my head and face. With a start I sat up abruptly; I rubbed my eyes confusedly for a moment, not knowing where I was. When I collected my wits I found myself staring into the face of a girl, who was kneeling on the ground before me. I recognized her at once—she was the girl of the microscope.

"To say I was startled would be to put it mildly, but I read no fear in her expression, only wonderment at my springing so suddenly into life. She was dressed very much as I had seen her before. Her fragile beauty was the same, and at this closer view infinitely more appealing, but I was puzzled to account for her older, more mature look. She seemed to have aged several years since the last evening I had seen her through the microscope. Yet, undeniably, it was the same girl.

"For some moments we sat looking at each other in wonderment. Then she smiled and held out her hand, palm up, speaking a few words as she did so. Her voice was soft and musical, and the words of a peculiar quality that we generally describe as liquid, for want of a better term. What she said was wholly unintelligible, but whether the words were strange or the intonation different from anything I knew, I could not tell.

"Afterward, during my stay in this other world, I found that the language of its people resembled English quite closely, so far as the words themselves went. But the intonation with which they were given, and the gestures accompanying them, differed so widely from our own that they conveyed no meaning.

"The gap separating us, however, was very much less than you would imagine. Strangely enough, though, it was not I who learned to speak her tongue, but she who mastered mine."

The Very Young Man sighed contentedly.

"We became quite friendly after this greeting," resumed the Chemist, "and it was apparent from her manner that she had already conceived her own idea of who and what I was.

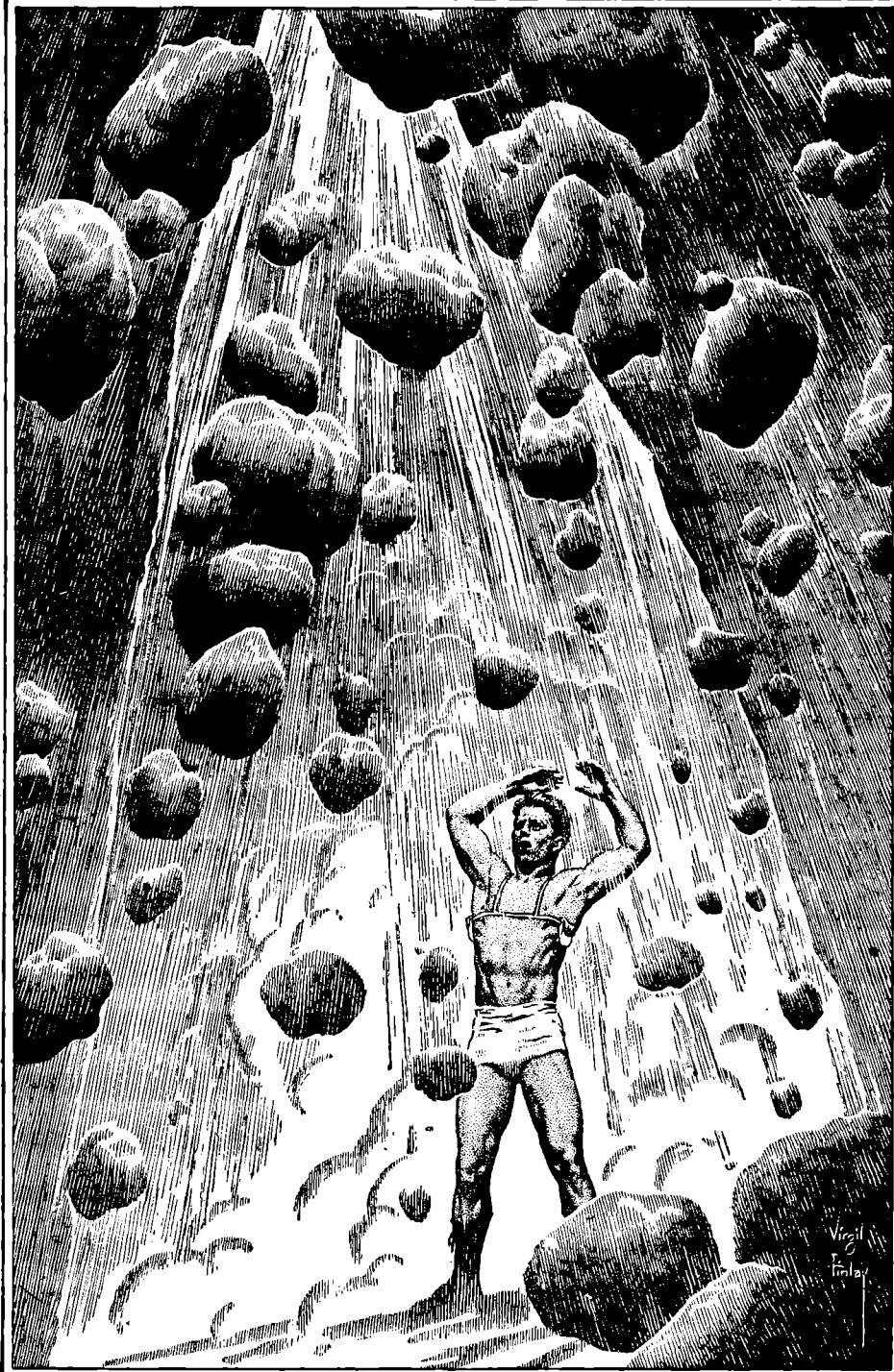
"For some time we sat and tried to communicate with each other. My words seemed almost as unintelligible to her as hers to me, except that occasionally she would divine my meaning, clapping her hands in childish delight. I made out that she lived at a considerable distance, and that her name was Lylda. Finally she pulled me by the hand and led me away with a proprietary air that amused, and, I must admit to you, pleased me tremendously.

"We had progressed through the woods in this way, hardly more than a few hundred yards, when suddenly I found that she was taking me into the mouth of a cave or passageway, sloping downward at an angle of perhaps twenty degrees. I noticed now, more graphically than ever before, a truth that had been gradually forcing itself upon me. Darkness was impossible in this new world. We were now shut in between narrow walls of crystalline rock, with a roof hardly more than fifty feet above.

"No artificial light of any kind was in evidence, yet the scene was lighted quite brightly. This, I have explained, was caused by the phosphorescent radiation that apparently emanated from every particle of mineral matter in this universe.

"As we advanced, many other tunnels crossed the one we were traveling. And now, occasionally, we passed other people, the men dressed similarly to Lylda, but wearing their hair chopped off just above the shoulder line.

"Later, I found that the men were generally about five and a half feet in stature: lean, muscular, and with a grayer,



In every direction towered this rocky wall,
inexorably swaying in to crush me.

harder look to their skin than the iridescent quality that characterized the women.

"They were fine-looking chaps these we encountered. All of them stared curiously at me, and several times we were held up by chattering groups. The intense whiteness of my skin, for it looked in this light the color of chalk, seemed to both awe and amuse them. But they treated me with great deference and respect, which I afterward learned was because of Lylda herself, and also what she told them about me.

"At several of the intersections of the tunnels there were wide open spaces. One of these we now approached. It was a vast amphitheater, so broad its opposite wall was invisible, and it seemed crowded with people. At the side, on a rocky niche in the wall, a speaker harangued the crowd.

"We skirted the edge of this crowd and plunged into another passageway, sloping downward still more steeply. I was so much interested in the strange scenes opening before me that I remarked little of the distance we traveled. Nor did I question Lylda very often. I was absorbed in the complete similarity between this and my own world in these general characteristics, and yet its complete strangeness in details.

"I felt not the slightest fear. Indeed the sincerity and kindness of these people seemed absolutely genuine, and the friendly, naive manner of my little guide put me wholly at my ease. Toward me Lylda's manner was one of childish delight at a new-found possession. Toward those of her own people with whom we talked, I found she preserved a dignity they profoundly respected.

"We had hardly more than entered this last tunnel when I heard the sound of drums and a weird sort of piping music, followed by shouts and cheers. Figures from behind us scurried past, hastening toward the sound. Lylda's clasp on my hand tightened, and she pulled me forward eagerly. As we advanced the crowd became denser, pushing and shoving us about and paying little attention to me.

"In close contact with these people I soon found I was stronger than they, and for a time I had no difficulty in shoving them aside and opening a path for us. They took my rough handling all in good part; in fact, never have I met a more even-tempered, good-natured people than these.

"**A**FTER a time the crowd became so dense we could advance no more. At this Lylda signed me to bear to the side. As we approached the wall of the cavern she suddenly clasped her hands high over her head and shouted something in a clear, commanding voice. Instantly the crowd fell back, and in a moment I found myself being pulled up a narrow flight of stone steps in the wall and out upon a level space some twenty feet above the heads of the people.

"Several dignitaries occupied this platform. Lylda greeted them quietly, and they made place for us beside the parapet. I could see now that we were at the intersection of a transverse passageway, much broader than the one we had been traversing. And now I received the greatest surprise I had had in this new world, for down this latter tunnel was passing a broad line of men who obviously were soldiers.

"The uniformly straight lines they held; the glint of light on the spears they carried upright before them; the weird, but rhythmic, music that passed at intervals, with which they kept step; and, above all, the cheering enthusiasm of the crowd, all seemed like an echo of my own great world above.

"This martial ardor and what it implied came as a distinct shock. All I had seen before showed the gentle kindness of a people whose life seemed far removed from the struggle for existence to which our race is subjected. I had come gradually to feel that this new world, at least, had attained the golden age of security, and that fear, hate, and wrong-doing had long since passed away, or had never been born.

"Yet here, before my very eyes, made wholesome by the fires of patriotism, stalked the grim God of War. Knowing nothing yet of the motives that inspired these people, I could feel no enthusiasm, but only disillusionment at this discovery of the omnipotence of strife.

"For some time I must have stood in silence. Lylda, too, seemed to divine my thoughts, for she did not applaud, but pensively watched the cheering throng below. All at once, with an impulsively appealing movement, she pulled me down toward her, and pressed her pretty cheek to mine. It seemed almost as if she was asking me to help.

"The line of marching men seemed now to have passed, and the crowd surged over into the open space and began to disperse. As the men upon the platform

with us prepared to leave, Lylda led me over to one of them. He was nearly as tall as I, and dressed in the characteristic tunic that seemed universally worn by both sexes. The upper part of his body was hung with beads, and across his chest was a thin, slightly convex stone plate.

"After a few words of explanation from Lylda, he laid his hands on my shoulders near the base of the neck, smiling with his words of greeting. Then he held one hand before me, palm up, as Lylda had done, and I laid mine in it, which seemed the correct thing to do.

"I repeated this performance with two others who joined us, and then Lylda pulled me away. We descended the steps and turned into the broader tunnel, finding near at hand a sort of sleigh, which Lylda signed me to enter. It was constructed evidently of wood, with a pile of leaves, or similar dead vegetation, for cushions. It was balanced upon a single runner of polished stone, about two feet broad, with a narrow, slightly shorter outrider on each side.

"Harnessed to the shaft were two animals, more resembling our reindeers than anything else, except that they were gray in color and had no horns. An attendant greeted Lylda respectfully as we approached, and mounted a seat in front of us when we were comfortably settled.

"We drove in this curious vehicle for over an hour. The floor of the tunnel was quite smooth, and we glided down its incline with little effort and at a good rate. Our driver preserved the balance of the sleigh by shifting his body from side to side so that only at rare intervals did the side-runners touch the ground.

"Finally, we emerged into the open, and I found myself viewing a scene of almost normal, earthly aspect. We were near the shore of a smooth, shining lake. At the side a broad stretch of rolling country, dotted here and there with trees, was visible. Near at hand, on the lake shore, I saw a collection of houses, most of them low and flat, with one much larger on a promontory near the lake.

"Overhead arched a gray-blue, cloudless sky, faintly star-studded, and reflected in the lake before me I saw that familiar, gleaming trail of star-dust, hanging like a huge straightened rainbow overhead, and ending at my feet."

THE CHEMIST paused and relighted his cigar. "Perhaps you have some questions," he suggested.

The Doctor shifted in his chair.

"Did you have any theory at this time"—he wanted to know—"about the physical conformation of this world? What I mean is, when you came out of this tunnel, were you on the inside or the outside of the world?"

"Was it the same sky you saw overhead when you were in the forest?" asked the Big Business Man.

"No, it was what he saw in the microscope, wasn't it?" said the Very Young Man.

"One at a time, gentlemen." The Chemist laughed. "No, I had no particular theory at this time—I had too many other things to think of. But I do remember noticing one thing which gave me the clue to a fairly complete understanding of this universe. From it I formed a definite explanation, which I found was the belief held by the people themselves."

"What was that?" asked the Very Young Man.

"I noticed, as I stood looking over this broad expanse of country before me, one vital thing that made it different from any similar scene I had ever beheld. If you will stop and think a moment, gentle-

men, you will realize that in our world here the horizon is caused by a curvature of the earth below the straight line of vision. We are on a convex surface. But as I gazed over this landscape—and even with no appreciable light from the sky, I could see a distance of several miles—I saw at once that quite the reverse was true. I seemed to be standing in the center of a vast shallow bowl. The ground curved upward into the distance. There was no distinct horizon line, only the gradual fading into shadow of the visual landscape. I was standing, obviously, on a concave surface, on the inside, not the outside of the world.

"The situation, as I now understand it, was this: According to the smallest stature I reached, and calling my height at that time roughly six feet, I had descended into the ring at the time I met Lylda several thousand miles, at least. By the way, where is the ring?"

"Here it is," said the Very Young Man, handing it to him. The Chemist replaced it on his finger. "It's pretty important to me now," he said, smiling.

"You bet!" agreed the Very Young Man.

"You can readily understand how I descended such a distance, if you consider the comparative immensity of my stature during the first few hours I was in the ring. It is my understanding that this country through which I passed is a barren waste—merely the atoms of the mineral we call gold.

"Beyond that I entered the hitherto unexplored regions within the atom. The country at that point where I found the forest, I was told later, is habitable for several hundred miles. Around it on all sides lies a desert, across which no one has ever penetrated.

"This surface is the outside of the Oroid world, for so they call their earth. At this point the shell between the outer and inner surface is only a few miles in thickness. The two surfaces do not parallel each other here, so that in descending these tunnels we turned hardly more than an eighth of a complete circle.

"At the city of Arite, where Lylda first took me, and where I had my first view of the inner surface, the curvature is slightly greater than that of our own earth, although, as I have said, in the opposite direction."

"And the space within this curvature—the heavens you have mentioned—how great do you estimate it to be?" asked the Doctor.

"Based on the curvature at Arite it would be about six thousand miles in diameter."

"Has this entire inner surface been explored?" asked the Big Business Man.

"No, only a small portion. The Oroids are not an adventurous people. There are only two nations, less than twelve million people altogether, on a surface nearly as extensive as our own."

"How about those stars?" suggested the Very Young Man.

"I believe they comprise a complete universe similar to our solar system. There is a central sun-star, around which many of the others revolve. You must understand, though, that these other worlds are infinitely tiny compared to the Oroids, and, if inhabited, support beings nearly as much smaller than the Oroids, as they are smaller than you."

"Great Caesar!" ejaculated the Banker. "Don't let's go into that any deeper!"

"Tell us more about Lylda," prompted the Very Young Man.

"You are insatiable on that point," said the Chemist, laughing. "Well, when we left the sleigh, Lylda took me directly into the city of Arite. I found it an orderly collection of low houses, seemingly built of uniformly cut, highly polished gray blocks. As we passed through the streets, some of which were paved with similar blocks, I was reminded of nothing so much as the old jingles of Spotless Town. Everything was immaculately, inordinately clean. Indeed, the whole city seemed built of some curious form of opaque glass, newly scrubbed and polished.

"Children crowded from the doorways as we advanced; but Lylda dispersed them with a gentle, though firm, command. As we approached the sort of castle I have mentioned, the reason for Lylda's authoritative manner dawned upon me. She was, I soon learned, daughter of one of the most learned men of the nation and was—hand-maiden, do you call it?—to the queen."

"So it was a monarchy?" interrupted the Big Business Man. "I should never have thought that."

"Lylda called their leader a king. In reality he was the president, chosen by the people, for a period of about what we would term twenty years; I learned something about this republic during my stay, but not as much as I would have liked. Politics was not Lylda's strong point, and I had to get it all from her, you know."

“FOR SEVERAL days I was housed royally in the castle. Food was served me by an attendant who evidently was assigned solely to look after my needs. At first I was terribly confused by the constant, uniform light, but when I found certain hours set aside for sleep, just as we have them, when I began to eat regularly, I soon fell into the routine of this new life.

“The food was not greatly different from our own, although I found not a single article I could identify. It consisted principally of vegetables and fruits, the latter of an apparently inexhaustible variety.

“Lylda visited me at intervals, and I learned I was awaiting an audience with the king. During these days she made rapid progress with my language—so rapid that I shortly gave up the idea of mastering hers.

“And now, with the growing intimacy between us and our ability to communicate more readily, I learned the simple, tragic story of her race—new details, of course, but the old, old tale of might against right, and the tragedy of a trusting, kindly people, blindly thinking others as just as themselves.

“For thousands of years, since the master life-giver had come from one of the stars to populate the world, the Oroid nation had dwelt in peace and security. These people cared nothing for adventure. No restless thirst for knowledge led them to explore deeply the limitless land surrounding them. Even from the earliest times no struggle for existence, no doctrine of the survival of the fittest, hung over them as with us. No wild animals harassed them; no savages menaced them. A fertile boundless land, a perfect climate, nurtured them tenderly.

“Under such conditions they developed only the softer, gentler qualities of nature. Many laws among them were unnecessary, for life was so simple, so pleasant to live, and the attainment of all the commonly accepted standards of wealth so easy, that the incentive to wrongdoing was almost non-existent.

“Strangely enough, and fortunately, too, no individuals rose among them with the desire for power. Those in command were respected and loved as true workers for the people, and they accepted their authority in the same spirit with which it was given. Indolence, in its highest sense the wonderful art of doing nothing gracefully, played the greatest part in their life.

“Then, after centuries of ease and

peaceful security, came the awakening. Almost without warning another nation had come out of the unknown to attack them.

“With the hurt feeling that comes to a child unjustly treated, they all but succumbed to this first onslaught. The abduction of numbers of their women, for such seemed the principal purpose of the invaders, aroused them sufficiently to repel this first crude attack. Their manhood challenged, their anger as a nation awakened for the first time, they sprang as one man into the horror we call war.

“With the defeat of the Malites came another period of ease and security. They had learned no lesson, but went their indolent way, playing through life like the kindly children they were. During this last period some intercourse between them and the Malites took place. The latter people, whose origin was probably nearly opposite them on the inner surface, had by degrees pushed their frontiers closer and closer to the Oroids. Trade between the two was carried on to some extent, but the character of the Malites, their instinctive desire for power, for its own sake, their consideration for themselves as superior beings, caused them to be distrusted and feared by their more simple-minded companion nation.

“You can almost guess the rest, gentlemen. Lylda told me little about the Malites, but the loathing disgust of her manner, her hesitancy even to bring herself to mention them, spoke more eloquently than words.

“Four years ago, as they measure time, came the second attack, and now, in a huge arc, only a few hundred miles from Arite, hung the opposing armies.”

The Chemist paused. “That’s the condition I found, gentlemen,” he said. “Not a strikingly original or unfamiliar situation, was it?”

“By Jove!” remarked the Doctor thoughtfully. “What a curious thing that the environment of our earth should so effect that world inside the ring. It does make you stop and think, doesn’t it, to realize how those infinitesimal creatures are actuated now by the identical motives that inspire us?”

“Yet it does seem very reasonable, I should say,” the Big Business Man put in.

“Let’s have another round of drinks,” suggested the Banker. “This is dry work!”

“As a scientist you’d make a magnificent plumber, George!” retorted the Big Business Man. “You’re about as helpful

In this little gathering as—as an oyster!"

The Very Young Man rang for a waiter. "I've been thinking—" began the Banker, and stopped at the smile of his companion. "Shut up!" he finished. "That's cheap wit, you know!"

"Go on, George," encouraged the other, "you've been thinking—"

"I've been tremendously interested in this extraordinary story"—he addressed himself to the Chemist—"but there's one point I don't get at all. How many days were you in that ring do you make out?"

"I believe about seven, all told," returned the Chemist.

"But you were only away from us some forty hours. I ought to know, I've been right here." He looked at his crumpled clothes somewhat ruefully.

"The change of time-progress was one of the surprises of my adventure," said the Chemist. "It is easily explained in a general way, although I cannot even attempt a scientific theory of its cause. But I must confess that before I started, the possibility of such a thing never even occurred to me.

"To get a conception of this change you must analyze definitely what time is. We measure and mark it by years, months, and so forth, down to minutes and seconds, all based upon the movements of our earth around its sun. But that is the measurement of time, not time itself. How would you describe time?"

The Big Business Man smiled. "Time," he said, "is what keeps everything from happening at once."

"Very clever," said the Chemist, laughing.

THE DOCTOR leaned forward earnestly. "I should say," he began, "that time is the rate at which we live—the speed at which we successively pass through our existence from birth to death. It's very hard to put intelligibly, but I think I know what I mean," he finished somewhat lamely.

"Exactly so. Time is a rate of life-progress, different for every individual, and only made standard because we take the time-duration of the earth's revolution around the sun, which is constant, and arbitrarily say: 'That is thirty-one million five hundred and thirty-six thousand seconds.'"

"Is time different for every individual?" asked the Banker argumentatively.

"Think a moment," returned the Chemist. "Suppose your brain were to work

twice as fast as mine. Suppose your heart beat twice as fast, and all the functions of your body were accelerated in a like manner. What we call a second would certainly seem to you twice as long. Further than that, it actually would be twice as long, so far as you were concerned. Your digestion, instead of taking perhaps four hours, would take two. You would eat twice as often. The desire for sleep would overtake you every twelve hours instead of twenty-four, and you would be satisfied with four hours of unconsciousness instead of eight. In short, you would soon be living a cycle of two days every twenty-four hours. Time then, as we measure it, for you at least would have doubled—you would be progressing through life at twice the rate that I am through mine."

"That may be theoretically true," the Big Business Man put in. "Practically, though, it has never happened to anyone."

"Of course not, to such a great degree as the instance I put. No one, except in disease, has ever doubled our average rate of life-progress, and lived it out as a balanced, otherwise normal existence. But there is no question that to some much smaller degree we all of us differ one from the other. The difference, however, is so comparatively slight, that we can each one reconcile it to the standard measurement of time. And so, outwardly, time is the same for all of us. But inwardly, why, we none of us conceive a minute or an hour to be the same. How do you know how long a minute is to me? More than that, time is not constant even in the same individual. How many hours are shorter to you than others? How many days have been almost interminable? No, instead of being constant, there is nothing more inconstant than time."

"Haven't you confused two different issues?" suggested the Big Business Man. "Granted what you say about the slightly different rate at which different individuals live, isn't it quite another thing, how long time seems to you? A day when you have nothing to do seems long, or, on the other hand, if you are very busy it seems short. But mind, it only *seems* short or long, according to the preoccupation of your mind. That has nothing to do with the speed of your progress through life."

"Ah, but I think it has!" cried the Chemist. "You forget that we none of us have all of the one thing to the exclusion of the other. Time seems short; it seems

long, and in the end it all averages up, and makes our rate of progress what it is. Now if any of us were to go through life in a calm, deliberate way, making time seem as long as possible, he would live more years, as we measure them, than if he rushed headlong through the days, accomplishing always as much as possible. I mean in neither case to go to the extremes, but only so far as would be consistent with the maintenance of a normal standard of health. How about it?" He turned to the Doctor. "You ought to have an opinion on that."

"I rather think you are right," said the latter thoughtfully, "although I doubt very much if the man who took it easy would do as much during his longer life as the other with his energy would accomplish in the lesser time that had been allotted to him."

"Probably he wouldn't," said the Chemist; "but that does not alter the point we are discussing."

"How does this apply to the world in the ring?" ventured the Very Young Man, somewhat timidly.

"I believe there is a very close relationship between the dimensions of length, breadth, and thickness, and time. Just what connection with them it has, I have no idea. Yet, when size changes, time-rate changes; you have only to look at our own universe to discover that circumstance."

"How do you mean?" asked the Very Young Man.

"Why, all life on our earth, in a general way, illustrates the fundamental fact that the larger a thing is, the slower its time-progress is. An elephant, for example, lives more years than we humans. Yet a fly is born, matured, and aged in a few months. There are exceptions, of course; but in a majority of cases it is true."

"So fundamental is this fact that the same condition holds with the heavenly bodies. Mercury, smallest of the planets, travels the fastest. Venus, slower, but faster than the earth, and so on throughout the solar system."

"So I believe that as I diminished in stature, my time-progress became faster and faster. I am seven days older than when I left you day before yesterday. I have lived those seven days, gentlemen, there is no way of getting around that fact."

"This is all tremendously interesting," sighed the Big Business Man; "but not very comprehensible."

CHAPTER IV

STRATEGY AND KISSES

"**I**T WAS the morning of my third day in the castle," began the Chemist again, "that I was taken by Lylda before the king. We found him seated alone in a little anteroom, overlooking a large courtyard, which we could see was crowded with an expectant, waiting throng. I must explain to you now, that I was considered by Lylda somewhat in the light of a Messiah, come to save her nation from the destruction that threatened it.

"She believed me a supernatural being, which, indeed, if you come to think of it, gentlemen, is exactly what I was. I tried to tell her something of myself and the world I had come from, but the difficulties of language and her smiling insistence and faith in her own conception of me, soon caused me to desist. Thereafter I let her have her own way, and did not attempt any explanation again for some time.

"For several weeks before Lylda found me sleeping by the river's edge, she had made almost a daily pilgrimage to that vicinity. A maidenly premonition, a feeling that had first come to her several years before, told her of my coming, and her father's knowledge and scientific beliefs had led her to the outer surface of the world as the direction in which to look. A curious circumstance, gentlemen, lies in the fact that Lylda clearly remembered the occasion when this first premonition came to her. And in the telling, she described graphically the scene in the cave, where I saw her through the microscope." The Chemist paused an instant and then resumed.

"When we entered the presence of the king, he greeted me quietly, and made me sit by his side, while Lylda knelt on the floor at our feet. The king impressed me as a man about fifty years of age. He was smooth-shaven, with black, wavy hair, reaching his shoulders. He was dressed in the usual tunic, the upper part of his body covered by a quite similar garment, ornamented with a variety of metal objects. His feet were protected with a sort of buckskin; at his side hung a crude-looking metal spear.

"The conversation that followed my entrance, lasted perhaps fifteen minutes. Lylda interpreted for us as well as she could, though I must confess we were all

three at times completely at a loss. But Lylda's bright, intelligent little face, and the resourcefulness of her gestures, always managed somehow to convey her meaning. The charm and grace of her manner, all during the talk, her winsomeness, and the almost spiritual kindness and tenderness that characterized her, made me feel that she embodied all those qualities with which we of this earth idealize our own womanhood.

"I found myself falling steadily under the spell of her beauty, until—well, gentlemen, it's childish for me to enlarge upon this side of my adventure, you know; but—Lylda means everything to me now, and I'm going back for her just as soon as I possibly can."

"Good for you!" cried the Very Young Man. "Why didn't you bring her with you this time?"

"Let him tell it his own way," remonstrated the Doctor. The Very Young Man subsided with a sigh.

"During our talk," resumed the Chemist, "I learned from the king that Lylda had promised him my assistance in overcoming the enemies that threatened his country. He smilingly told me that our charming little interpreter had assured him I would be able to do this. Lylda's blushing face, as she conveyed this meaning to me, was so thoroughly captivating, that before I knew it, and quite without meaning to, I pulled her up toward me and kissed her."

"The king was more surprised by far than Lylda, at this extraordinary behavior. Obviously neither of them had understood what a kiss meant, although Lylda, by her manner, evidently comprehended pretty thoroughly.

"I told them then, as simply as possible to enable Lylda to get my meaning, that I could, and would gladly aid in their war. I explained, then, that I had the power to change my stature, and could make myself grow very large or very small in a short space of time.

"This, as Lylda evidently told it to him, seemed quite beyond the king's understanding. He comprehended finally, or at least he agreed to believe my statement.

"This led to the consideration of practical questions of how I was to proceed in their war. I had not considered any details before, but now they appeared of the utmost simplicity. All I had to do was to make myself a hundred or two hundred feet high, walk out to the battle lines, and scatter the opposing army like toys."

"What a quaint idea!" said the Banker. "A modern *Gulliver*."

The Chemist did not heed this interruption.

"Then like three children we plunged into a discussion of exactly how I was to perform these wonders, the king laughing heartily as we pictured the attack on my tiny enemies.

"He then asked me how I expected to accomplish this change of size, and I very briefly told him of our larger world, and the manner in which I had come from it into his. Then I showed the drugs that I still carried carefully strapped to me. This seemed definitely to convince the king of my sincerity. He rose abruptly to his feet, and strode through a doorway onto a small balcony overlooking the courtyard below.

"As he stepped out into the view of the people, a great cheer arose. He waited quietly for them to stop, and then raised his hand and began speaking. Lylda and I stood hand in hand in the shadow of the doorway, out of sight of the crowd, but with it and the entire courtyard plainly in our view.

"It was a quadrangular enclosure, formed by the four sides of the palace, perhaps three hundred feet across, packed solidly now with people of both sexes, the gleaming whiteness of the upper parts of their bodies, and their upturned faces, making a striking picture.

"For perhaps ten minutes the king spoke steadily, save when he was interrupted by applause. Then he stopped abruptly, and turning, pulled Lylda and me out upon the balcony. The enthusiasm of the crowd doubled at our appearance. I was pushed forward to the balcony rail, where I bowed repeatedly to the cheering throng.

"Just after I left the king's balcony, I met Lylda's father. He was a kindly-faced old gentleman, and took a great interest in me and my story. He it was who told me about the physical conformation of his world, and he seemed to comprehend my explanation of mine.

"That night it rained—a heavy, torrential downpour, such as we have in the tropics. Lylda and I had been talking for some time, and, I must confess, I had been making love to her ardently. I broached now the principal object of my entrance into her world, and, with an eloquence I did not believe I possessed, I pictured the wonders of our own great earth above, begging her to come back with me and

live out her life with mine in my world. "Much of what I said, she probably did not understand, but the main facts were intelligible without question. She listened quietly. When I had finished, and waited for her decision, she reached slowly out and clutched my shoulders, awkwardly making as if to kiss me. In an instant she was in my arms, with a low, happy little cry.

"THE clattering fall of rain brought us to ourselves. Rising to her feet, Lylda pulled me over to the window-opening, and together we stood and looked out into the night. The scene before us was beautiful, with a weirdness almost impossible to describe. It was as bright as I had ever seen this world, for even though very heavy clouds hung overhead, the light from the stars was never more than a negligible quantity.

"We were facing the lake—a shining expanse of silver radiation, its surface shifting and crawling, as though a great undulating blanket of silver mist lay upon it. And coming down to meet it from the sky were innumerable lines of silver—a vast curtain of silver cords that broke apart into great strings of pearls when I followed their downward course.

"And then, as I turned to Lylda, I was struck with the extraordinary weirdness of her beauty as never before. The reflected light from the rain had something the quality of our moonlight. Shining on Lylda's body, it tremendously enhanced the iridescence of her skin. And her face, turned to mine, bore an expression of radiant happiness and peace such as I had never seen before in a woman's countenance."

The Chemist paused, his voice dying away into silence as he sat lost in thought. Then he pulled himself together with a start. "It was a sight, gentlemen, the memory of which I shall cherish all my life.

"The next day was that set for my entrance into the war. Lylda and I had talked nearly all night, and had decided that she was to return with me to my world. By morning the rain had stopped, and we sat together in the window-opening, silenced with the thrill of the wonderful new joy that had come into our hearts.

"The country before us, under the cloudy, starry sky, stretched gray-blue and beautiful into the quivering obscurity of distance. At our feet lay the city,

just awakening into life. Beyond, over the rolling meadows and fields, wound the road that led out to the battle-front, and coming back over it now, we could see an endless line of vehicles. These, as they passed through the street beneath our window, I found were loaded with soldiers, wounded and dying. I shuddered at the sight of one cart in particular, and Lylda pressed closer to me, pleading with her eyes for my help for her stricken people.

"My exit from the castle was made quite a ceremony. A band of music and a guard of several hundred soldiers ushered me forth, walking beside the king, with Lylda a few paces behind. As we passed through the streets of the city, heading for the open country beyond, we were cheered continually by the people who thronged the streets and crowded upon the rooftops to watch us pass.

"Outside Arite I was taken perhaps a mile, where a wide stretch of country gave me the necessary space for my growth. We were standing upon a slight hill, below which, in a vast semicircle, fully a hundred thousand people were watching.

"And now, for the first time, fear overtook me. I realized my situation—saw

myself in a detached sort of way—a stranger in this extraordinary world, with only the power of my drug to raise me out of it. This drug you must remember, I had not as yet taken. Suppose it were not to act? Or were to act wrongly?

"I glanced around. The king stood before me, quietly waiting my pleasure. Then I turned to Lylda. One glance at her proud, happy little face, and my fear left me as suddenly as it had come. I took her in my arms and kissed her there before that multitude. Then I set her down, and signified to the king I was ready.

"I took a minute quantity of one of the drugs, and as I had done before, sat down with my eyes covered. My sensations were fairly similar to those I have already described. When I looked up after a moment, I found the landscape dwindling to tiny proportions in quite as astonishing a way as it had grown before. The king and Lylda stood now hardly above my ankle.

"A great cry arose from the people—a cry wherein horror, fear, and applause seemed equally mixed. I looked down and saw thousands of them running away in terror.

"Still smaller grew everything within my vision, and then, after a moment, the landscape seemed at rest. I kneeled now upon the ground, carefully, to avoid treading on any of the people around me. I located Lylda and the king after a moment; tiny little creatures less than an inch in height. I was then, I estimated, from their viewpoint, about four hundred feet tall.

"I put my hand flat upon the ground near Lylda, and after a moment she climbed into it, two soldiers lifting her up the side of my thumb as it lay upon the ground. In the hollow of my palm, she lay quite securely, and very carefully I raised her up toward my face. Then, seeing that she was frightened, I set her down again.

"At my feet, hardly more than a few steps away, lay the tiny city of Arite and the lake. I could see all around the latter now, and could make out clearly a line of hills on the other side. Off to the left the road wound up out of sight in the distance. As far as I could see, a line of soldiers was passing out along this road—marching four abreast, with carts at intervals, loaded evidently with supplies; only occasionally, now, vehicles passed in the other direction. Can I make it plain to you, gentlemen, my sensations in changing stature? I felt at first as though I

were tremendously high in the air, looking down as from a balloon upon the familiar territory beneath me.

"That feeling passed after a few moments, and I found that my point of view had changed. I no longer felt that I was looking down from a balloon, but felt as a normal person feels. And again I conceived myself but six feet tall, standing above a dainty little toy world. It is all in the viewpoint, of course, and never, during all my changes, was I for more than a moment able to feel of a different stature than I am at this present instant. It was always everything else that changed.

"**A**CCORDING to the directions I had received from the king, I started now to follow the course of the road. I found it difficult walking, for the country was dotted with houses, trees, and cultivated fields, and each footstep was a separate problem.

"I progressed in this manner perhaps two miles, covering what the day before I would have called about a hundred and thirty or forty miles. The country became wilder as I advanced, and now was in places crowded with separate collections of troops.

"I have not mentioned the commotion I made in this walk over the country. My coming must have been told widely by couriers the night before, to soldiers and peasantry alike, or the sight of me would have caused utter demoralization. As it was, I must have been terrifying to a tremendous degree. I think the careful way in which I picked my course, stepping in the open as much as possible, helped reassure the people. Behind me, whenever I turned, they seemed rather more curious than fearful, and once or twice when I stopped for a few moments they approached my feet closely. One athletic young soldier caught the loose end of the string of one of my buskins, as it hung over my instep close to the ground, and pulled himself up hand over hand, amid the enthusiastic cheers of his admiring comrades.

"I had walked nearly another mile, when almost in front of me, and perhaps a hundred yards away, I saw a remarkable sight that I did not at first understand. The country here was crossed by a winding river running in a general way at right angles to my line of progress. At the right, near at hand, and on the nearer bank of the river, lay a little city, per-

haps half the size of Arite, with its back up against a hill.

"What first attracted my attention was that, from a dark patch across the river which seemed to be woods, pebbles appeared to pop up at intervals, traversing a little arc perhaps as high as my knees, and falling into the city. I watched for a moment and then I understood. There was a siege in progress, and the catapults of the Malites were bombarding the city with rocks.

"I went up a few steps closer, and the pebbles stopped coming. I stood now beside the city, and as I bent over it, I could see by the battered houses the havoc the bombardment had caused. Inert little figures lay in the streets, and I bent lower and inserted my thumb and forefinger between a row of houses and picked one up. It was the body of a woman, partly mashed. I set it down again hastily.

"Then as I stood up, I felt a sting on my leg. A pebble had hit me on the shin and dropped at my feet. I picked it up. It was the size of a small walnut—a huge boulder six feet or more in diameter it would have been in Lylda's eyes. At the thought of her I was struck with a sudden fit of anger. I flung the pebble violently down into the wooded patch and leaped over the river in one bound, landing squarely on both feet in the woods. It was like jumping into a patch of ferns.

"I stamped about me for a moment until a large part of the woods was crushed down. Then I bent over and poked around with my finger. Underneath the tangled wreckage of tiny tree trunks, lay numbers of the Malites. I must have trodden upon a thousand or more, as one would stamp upon insects.

"The sight sickened me at first, for after all, I could not look upon them as other than men, even though they were only the length of my thumb-nail. I walked a few steps forward, and in all directions I could see swarms of the little creatures running. Then the memory of my coming departure from the world with Lylda, and my promise to the king to rid his land once and for all from these people, made me feel again that they, like vermin, were to be destroyed.

"Without looking directly down, I spent the next two hours stamping over this entire vicinity. Then I ran two or three miles directly toward the country of the Malites, and returning I stamped along the course of the river for a mile or so in both directions. Then I walked back to

Arite, again picking my way carefully among crowds of the Oroids, who now feared me so little that I had difficulty in moving around without stepping upon them.

"When I had regained my former size, which needed two successive doses of the drug, I found myself surrounded by a crowd of the Oroids, pushing and shoving each other in an effort to get close to me. The news of my success over their enemy had been divined by them, evidently. Lord knows it must have been obvious enough what I was going to do, when they saw me stride away, a being four hundred feet tall.

"Their enthusiasm and thankfulness now was so mixed with awe and reverent worship of me as a divine being, that when I advanced toward Arite they opened a path immediately. The king, accompanied by Lylda, met me at the edge of the city. The latter threw herself into my arms at once, crying with relief to find me the proper size for her world once more.

"I need not go into details of the ceremonies of rejoicing that took place this afternoon. These people seemed little given to pomp and public demonstration. The king made a speech from his balcony, telling them all I had done, and the city was given over to festivities and preparations to receive suitably the returning soldiers."

The Chemist pushed his chair back from the table, and moistened his dry lips with a swallow of water. "I tell you, gentlemen," he continued, "I felt pretty happy that day. It's a wonderful feeling to find yourself the actual savior of a nation."

At that the Doctor jumped to his feet, overturning his chair, and striking the table a blow with his fist that made the glasses dance.

"By God!" he fairly shouted. "That's just what you can be here to us."

The Banker looked startled, while the Very Young Man pulled the Chemist by the coat in his eagerness to be heard. "A few of those pills," he said in a voice that quivered with excitement, "when you are standing near enemy country, and you can kick the houses apart with the toe of your boot."

"Why not?" said the Big Business Man, and silence fell on the group as they stared at each other, awed by the possibilities that suddenly opened up before them.

CHAPTER V

"I MUST GO BACK!"

THE TREMENDOUS plan for the salvation of their own suffering world through the Chemist's discovery occupied the five friends for some time. Then laying aside this subject, that now had become of the most vital importance to them all, the Chemist resumed his narrative.

"My last evening in the world of the ring, I spent with Lylda, discussing our future, and making plans for the journey. I must tell you now, gentlemen, that never for a moment during my stay in Arite was I once free from an awful dread of this return trip. I tried to conceive what it would be like, and the more I thought about it, the more hazardous it seemed.

"You must realize, when I was growing smaller, coming in, I was able to climb down, or fall or slide down, into the spaces as they opened up. Going back, I could only imagine the world as closing in upon me, crushing me to death unless I could find a larger space immediately above into which I could climb.

"And as I talked with Lylda about this and tried to make her understand what I hardly understood myself, I gradually was brought to realize the full gravity of the danger confronting us. If only I had made the trip out once before, I could have ventured it with her. But as I looked at her fragile little body, to expose it to the terrible possibilities of such a journey was unthinkable.

"There was another question, too, that troubled me. I had been gone from you nearly a week, and you were only to wait for me two days. I believed firmly that I was living at a faster rate, and that probably my time with you had not expired. But I did not know. And suppose, when I had come out on to the surface of the ring, one of you had had it on his finger walking along the street? No, I did not want Lylda with me in that event.

"And so I told her—made her understand—that she must stay behind, and that I would come back for her. She did not protest. She said nothing—just looked up into my face with wide, staring eyes and a little quiver of her lips. Then she clutched my hand and fell into a low, sobbing cry.

"I held her in my arms for a few moments, so little, so delicate, so human in her sorrow, and yet almost superhuman

in her radiant beauty. Soon she stopped crying and smiled up at me bravely.

"Next morning I left. Lylda took me through the tunnels and back into the forest by the river's edge where I had first met her. There we parted. I can see, now, her pathetic, drooping little figure as she trudged back to the tunnel.

"When she had disappeared, I sat down to plan out my journey. I resolved now to reverse as nearly as possible the steps I had taken coming in. Acting on this decision, I started back to that portion of the forest where I had trampled it down.

"I found the place without difficulty, stopping once on the way to eat a few berries, and some of the food I carried with me. Then I took a small amount of one of the drugs, and in a few moments the forest-trees had dwindled into tiny twigs beneath my feet.

"I started now to find the huge incline down which I had fallen, and when I reached it, after some hours of wandering, I followed its bottom edge to where a pile of rocks and dirt marked my former landing place. The rocks were much larger than I remembered them, and so I knew I was not so large, now, as when I was here before.

"Remembering the amount of the drug I had taken coming down, I took now twelve of the pills. Then, in a sudden panic, I hastily took two of the others. The result made my head swim most horribly. I sat or lay down, I forgot which. When I looked up I saw the hills beyond the river and forest coming toward me, yet dwindling away beneath my feet as they approached. The incline seemed folding up upon itself, like a telescope. As I watched, its upper edge came into view, a curved, luminous line against the blackness above. Every instant it crawled down closer, more sharply curved, and its inclined surface grew steeper.

"All this time, as I stood still, the ground beneath my feet seemed to be moving. It was crawling toward me, and folding up underneath where I was standing. Frequently I had to move to avoid rocks that came at me and passed under my feet into nothingness.

"Then, all at once, I realized that I had been stepping constantly backward, to avoid the incline wall as it shoved itself toward me. I turned to see what was behind, and horror made my flesh creep at what I saw. A black, forbidding wall, much like the incline in front, entirely encircled me. It was hardly more than

half a mile away, and towered four or five thousand feet overhead.

"And as I stared in terror, I could see it closing in, the line of its upper edge coming steadily closer and lower. I looked wildly around with an overpowering impulse to run. In every direction towered this rocky wall, inexorably swaying in to crush me.

"I think I fainted. When I came to myself the scene had not greatly changed. I was lying at the bottom and against one wall of a circular pit, now about a thousand feet in diameter and nearly twice as deep. The wall all around I could see was almost perpendicular, and it seemed impossible to ascend its smooth, shining sides. The action of the drug had evidently worn off, for everything was quite still.

"My fear had now left me, for I remembered this circular pit quite well. I walked over to its center, and looking around and up to its top, I estimated distance carefully. Then I took two more of the pills.

"Immediately the familiar, sickening, crawling sensation began again. As the walls closed in upon me, I kept carefully in the center of the pit. Steadily they crept in. Now only a few hundred feet away! Now only a few paces—and then I reached out and touched both sides at once with my hands.

"I tell you, gentlemen, it was a terrifying sensation to stand in that well (as it now seemed) and feel its walls closing up with irresistible force. But now

the upper edge was within reach of my fingers. I leaped upward and hung for a moment, then pulled myself up and scrambled out, tumbling in a heap on the ground above. As I recovered myself, I looked again at the hole out of which I had escaped; it was hardly big enough to contain my fist.

"I knew, now, I was at the bottom of the scratch. But how different it looked than before. It seemed this time a long, narrow cañon, hardly more than sixty feet across. I glanced up and saw the blue sky overhead that I knew was the space of this room above the ring.

"The problem now was quite a different one than getting out of the pit, for I saw that the scratch was so deep in proportion to its width that if I let myself get too big, I would be crushed by its walls before I could jump out. It would be necessary, therefore, to stay comparatively small and climb up its side.

"I selected what appeared to be an especially rough section, and took a portion of another of the pills. Then I started to climb. After an hour the buskins on my feet were torn to fragments, and I was bruised and battered as you saw me. I see, now, how I could have made both the descent into the ring, and my journey back, with comparatively little effort, but I did the best I knew at the time.

"WHEN THE cañon was about ten feet in width, and I had been climbing arduously for several hours, I

found myself hardly more than fifteen or twenty feet above its bottom. And I was still almost that far from the top. With the stature I had then attained, I could have climbed the remaining distance easily, but for the fact that the wall above had grown too smooth to afford foothold. The effects of the drug had again worn off, and I sat down and prepared to take another dose. I did so—the smallest amount I could—and held ready in my hand a pill of the other kind in case of emergency. Steadily the walls closed in.

"A terrible feeling of dizziness now came over me. I clutched the rock beside which I was sitting, and it seemed to melt like ice beneath my grasp. Then I remembered seeing the edge of the cañon within reach above my head, and with my last remaining strength, I pulled myself up, and fell upon the surface of the ring. You know the rest. I took another dose of the powder, and in a few minutes was back among you."

The Chemist stopped speaking, and looked at his friends. "Well," he said, "you've heard it all. What do you think of it?"

"It is a terrible thing to me," sighed the Very Young Man, "that you did not bring Lylda with you."

"It would have been a terrible thing if I had brought her. But I am going back for her."

"When do you plan to go back?" asked the Doctor after a moment.

"As soon as I can—in a day or two," answered the Chemist.

"Before you do your work here? You must not," remonstrated the Big Business Man. "Our war here needs you, our nation, the whole cause of liberty and freedom needs you. You cannot go."

"Lylda needs me, too," returned the Chemist. "I have an obligation toward her now, you know, quite apart from my own feelings. Understand me, gentlemen," he continued earnestly, "I do not mean to place myself and mine before the great fight for democracy and justice being waged in this world. That would be absurd. But it is not quite that way, actually; I can go back for Lylda and return here in a week. That week will make little difference to the war. On the other hand, if I go to Europe first, it may take me a good many months to complete my task, and during that time Lylda will be using up her life several times faster than I do. No, gentlemen, I am going to her first."

Two days later the company met again

in the privacy of the club-room. When they had finished dinner, the Chemist began in his usual quiet way:

"I am going to ask you this time, gentlemen, to give me a full week. There are four of you—six hours a day of watching for each. It need not be too great a hardship. You see," he continued, as they nodded in agreement, "I want to spend a longer period in the ring world this time. I may never go back, and I want to learn, in the interest of science, as much about it as I can. I was there such a short time before, and it was all so strange and remarkable, I confess I learned practically nothing."

"I told you all I could of its history. But of its art, its science, and all its sociological and economic questions, I got hardly more than a glimpse. It is a world and a people far less advanced than ours, yet with something we have not, and probably never will have—the universally distributed milk of human kindness. Yes, gentlemen, it is a world well worth studying."

THE BANKER came out of a brown study. "How about your formulas for these drugs?" he asked abruptly; "where are they?" The Chemist tapped his forehead smilingly. "Well, hadn't you better leave them with us?" the Banker pursued. "The hazards of your trip—you can't tell, you know—"

"Don't misunderstand me, gentlemen," broke in the Chemist. "I wouldn't give you those formulas if my life and even Lylda's depended on it. There again you do not differentiate between the individual and the race. These drugs are the most powerful thing for good in the world to-day. But they are equally as powerful for evil. I would stake my life on what you would do, but I will not stake the life of a nation."

"I know what I'd do if I had the formulas," began the Very Young Man.

"Yes, but I don't know what you'd do," laughed the Chemist. "Don't you see I'm right?"

They admitted they did, though the Banker acquiesced very grudgingly.

"The time of my departure is at hand. Is there anything else, gentlemen, before I leave you?" asked the Chemist, beginning to disrobe.

"Please tell Lylda I want very much to meet her," said the Very Young Man earnestly, and they all laughed.

When the room was cleared, and the

handkerchief and ring in place once more, the Chemist turned to them again. "Good-by, my friends," he said, holding out his hands. "One week from to-night, at most." Then he took the pills.

No unusual incident marked his departure. The last they saw of him he was sitting on the ring near the scratch.

Then passed the slow days of watching, each taking his turn for the allotted six hours.

By the fifth day, they began hourly to expect the Chemist, but it passed through its weary length, and he did not come. The sixth day dragged by, and then came the last—the day he had promised would end their watching. Still he did not come, and in the evening they gathered, and all four watched together, each unwilling to miss the return of the adventurer and his woman from another world.

But the minutes lengthened into hours, and midnight found the white-faced little group, hopeful yet hopeless, with fear tugging at their hearts. A second week passed, and still they watched, explaining with an optimism they could none of them feel, the non-appearance of their friend. At the end of the second week they met again to talk the situation over, a dull feeling of fear and horror possessing them. The Doctor was the first to voice what now each of them was forced to believe. "I guess it's all useless," he said. "He's not coming back."

"I don't hardly dare give him up," said the Big Business Man.

"Me, too," agreed the Very Young Man sadly.

The Doctor sat for some time in silence, thoughtfully regarding the ring. "My friends," he began finally, "this is too big a thing to deal with in any but the most careful way. I can't imagine what is going on inside that ring, but I do know what is happening in our world, and what our friend's return means to civilization here. Under the circumstances, therefore, I cannot, I will not give him up.

"I am going to put that ring in a museum and pay for having it watched indefinitely. Will you join me?" He turned to the Big Business Man as he spoke.

"Make it a threesome," said the Banker gruffly. "What do you take me for?" and the Very Young Man sighed with the tragedy of youth.

* * *

And so to-day, if you like, you may go and see the ring. It lies in the Museum of the American Society for Biological Research. You will find it near the center of the third gallery, lying on its black silk handkerchief, and covered by a glass bell. The air in the bell is renewed constantly, and near at hand sit two armed guards, watching day and night. And as you stand before it, thinking of the wonderful world within its atoms, you well may shudder at your infinite unimportance as an individual and yet glow with pride at your divine omnipotence as a fragment of human life.