



**THE GIRL  
IN THE  
GOLDEN  
ATOM**

**Ray Cummings**

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

TO  
MY FRIEND AND MENTOR  
**ROBERT H. DAVIS**  
WITH GRATEFUL ACKNOWLEDGMENT OF  
HIS ENCOURAGEMENT AND PRACTICAL  
ASSISTANCE TO WHICH I OWE MY  
INITIAL SUCCESS

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**THE GIRL IN THE GOLDEN ATOM**

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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 1910, 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 1913 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 1914, I remember, just after the first declaration of war.

"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 adjusted the eyepiece.



"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 colour.

"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, abruptly, 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.

"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, in 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 seems 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, and so on."

"That is my 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 proof," said the Chemist.

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

"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.

"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 unharmed 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 basis 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, for 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 affects 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 someone lend me one of his shoes?"

The Very Young Man hastily slipped off a dancing pump.

"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 slipper. When all movement had ceased he tossed its quivering body into a corner of the room.

"Good 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 importance 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 every one 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," smiled 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 further 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 high, 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-by, gentlemen," he said, shaking hands all round. "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, steadying 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-by," 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 an 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 towards 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!"

"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.