

STORIES

WARRIORS OF MARSby Arthur R. Tofte Like mad fools the Martians battled, and a peaceful Earth scientist became most warlike of all.	6
WORLD BENEATH ICE	8:
THE MAN WHO WALKED THROUGH MIRRORSby Robert Bloch 5 Editor Stanhope rejected the story—now here was the machine, challenging his editorial dictum.	2
WIVES IN DUPLICATE	2
MYSTERY OF THE COLLAPSING SKYSCRAPERSby Harl Vincent 7 When the skyscraper trembled, Rothery knew Collins had to be found. But that wasn't so easy to do!	4
JOHN HALE'S HOLLYWOOD MYSTERYby Ed Earl Repp10 Only the actors were on the set. But when the film was run off an unearthly form was seen—and hear)6 d!

FEATURES

The Observatory	Science Quiz128
Riddles of Science 27	Discussions129
Perpetual Calendar105	Correspondence Corner140
A Machine That Measures Your Emotions 122	Contest Announcement141
Questions & Answers123	Cities of Tomorrow
Meet the Authors124	Fantastic Adventures144
Coming Next Month127	Monthly Merit Award145

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The Man Who Walked



"Look at the mirror, through the machine!" commanded Clerk, grasping Stanhope tightly around the neck

Through Mirrors



DITOR STANHOPE gazed at his mild, round face in the mirror. He noted the redness of his eyes, the tight lines around his usually placid mouth, the dishevelment of his ordinarily orderly blond hair. He looked like the devil.

Ordinarily, the editor enjoyed receiving visitors. Some of the magazine authors were old friends of his; some of the fans were welcome guests in the office. But today had brought out the screwballs.

Stanhope sighed. Running a science-

fiction magazine had its drawbacks. There were eccentrics interested in the field, and at times they got *ideas*. One day a man had come up to the office with a perpetual motion machine, made out of rubber bands.

Another visit produced a wild-eyed little fellow with an egg-beater attached to an electric motor. He had set the contraption up in the editorial office and insisted that Stanhope look into the revolving blades of the egg-beater and see the Fourth Dimension. It was exasperating. Today he had been visited by no less than three of these ninnies; all armed with pages of formulae and garbled quotations from Charles Fort or Tertium Organum. Editor Stanhope had been quite diplomatic, but it was a strain. And stories! "Every

To Stanhope's office he came, bearing a strange machine. Obviously he was mad, his machine a fake, and yet

Story Scientifically Accurate" read the lines on the cover of the magazine. It was Stanhope's sole standard. And the manuscripts he read today were impossible.

There was the old story of the man who went back in time; written by somebody who probably thought a time-machine was some kind of alarm-clock.

There was a novelette in which the city of New York was destroyed by Martians, and once again the Empire State Building fell down. Editor Stanhope firmly resolved never to buy any more stories where the Empire State Building fell down. Why couldn't they pick on some other building for a change? Even the Chicago Tribune Tower would be a novelty; but no, it was always the Empire State Building that had to go boom. He wondered what Al Smith thought when he read all this.

There was a story about an atomic disintegrator ray; sound in theory, but with human characters so wooden and stilted the editor wished to heaven they'd turn the ray on themselves.

It was discouraging. But stories must be bought; good stories. "Every Story Scientifically Accurate." Editor Stanhope scowled into the mirror, then read on grimly. He was half-way through an absurd item about a space-ship with wings, meanwhile thinking of how Stanley Weinbaum must be turning over in his grave, when the door opened.

Stanhope looked up. He sighed, under his breath.

The stranger in the doorway did everything but carry a ten-foot sign on his chest labeled "Screwball."

There were all the signs. The tangled mop of black, curly hair straggling over the high forehead. The deep-set, blazing eyes. The cynical half-sneer of the mouth. The untidy clothing. The excited movements of his hands, the quickened breath, the nervous blinking of the eyelids. Worst of all, the stranger carried a machine under one arm.

STANHOPE knew the type. He was not prejudiced, he was a reasonable man; but long experience had taught him that in some cases it did not pay to be overly tolerant. There are cranks and eccentrics in every field; but scientific cranks are by all odds the worst.

After all, it had been a hard day. The editor resolved to be firm.

"Good afternoon, sir. What can I do for you?"

"What can you do for me? Don't make me laugh! I'm going to do something for you." The smiling stranger advanced into the room.

"You're Stanhope, the editor of this rag, aren't you?"

"I am Mr. Stanhope, yes. But see here-"

"Never mind." The stranger waved the words aside with an airy gesture of his left hand as he sat down in the chair opposite the desk and deposited the shining mechanism he carried on the table. "Mr. Stanhope, my name is Volmar Clark. You know of me, no doubt?"

"Can't say that I do."

"What?" The stranger's eyebrows became two swords of accusation. "Never heard of Clark, the man who left the Institute after telling them all off for the pack of fools they were; the man who was called in to advise on the building of the Pasadena Observatory lens in spite of it all? Never heard of Clark? You're like all the other dolts; gabbling of H. G. Wells and Sir James Jeans and a few other publicity hounds and ignoring the quiet work of the scientific great under your very nose."

"Wait a minute, Mr. Clark. I'm very

busy and—"

"One is never busy in the presence of Genius. But you've never heard of Clark, you say? You know Einstein, don't you? Well, forget him. In years to come, Clark will outshine Einstein as the sun outshines a penny match!"

Stanhope winced. He was as patient as the next, but he couldn't afford to waste time any longer. This schizophrenic who referred to himself in the third person was impossible.

"You'll have to excuse me," Stanhope said, rising.

"Oh that's all right. I'm not blaming you for anything," the man called Clark announced. "It's only that I thought you might remember me. About a year ago, when I was still naive enough to wish for earthly recognition, I did a foolish thing. I embodied my scientific thesis, rejected by the academic ignoramuses of the Institute, in a story and sent to you. I thought you might remember it; certainly it was the best thing of its kind ever written, and I don't ever see how it could have been rejected."

Stanhope lost his tact.

"What was the name of the story?"

"You don't even recall the name of the most startling bit of literature ever penned? Mr. Stanhope, I am truly sorry—for you. The story was entitled Fourth Dimensional Mirror."

A BRUPTLY, Stanhope recalled. How could he ever forget? Fourth Dimensional Mirror! A rotten title. But the story itself was far worse than the title implied. It had been something Stanhope had really tried to forget. Sheer babbling lunacy—a rambling, incoherent tale which purported to contain a theory about mirrors being the gates of the Fourth Dimension. It had been filled with wild explanations of the laws of optics and how the eye

was connected by electric impulse with the brain so that light-waves and thought commingled to produce awareness of the Fourth Dimension. There was something about a field of force set up on the mysterious reflecting surface of a mirror, which could be physically entered by the human body. A man walking through a mirror into the Fourth Dimension was by all odds the most absurd notion Stanhope had ever encountered in all his reading of science-fiction. He had firmly rejected the tale on his usual grounds: "Every Story Scientifically Accurate."

"I remember now," he said. "I recall rejecting the story."

"Why?" The word was a jet of flame.
"Why? Why? Because it was implausible, Mr. Clark. Here" Editor Stanhope picked up a copy of the magazine from his desk. "You know our by-line, our trademark, as it were. 'Every Story Scientifically Accurate.' I'm sorry, but your story wasn't."

Clark's beady eyes flickered as he suddenly grasped the magazine and crumpled it convulsively between his fingers.

"Every Story Scientifically Accurate!" His tone was purest venom. "You call this stuff science? Robots and Martians and fungoid beings and opium-smoker's visions? What if the so-called theories are mathematically correct? Does that make these stories accurate? They are fiction, not fact. And science is factual. How can you draw the line?"

"I haven't time to go into that just now, Mr. Clark."

"Of course you haven't. Neither have I. Neither did the men at the Institute when I showed them my theories no paper. They forced me to resign. And yet they respected my pre-eminent authority in the field of optics enough to call me in on the telescopic lens job;

but they refused to believe the truth. I wrote the truth up in the form of fiction and even you couldn't swallow it as mere imagination. And yet it is true—truer than all this Martian humbug or space-flight nonsense you insist is within the pale of possibility. But I'll show you! I'll show them all! What Einstein and De Sitter hinted at, I shall reveal. Every story scientifically accurate, eh?"

Stanhope thought vaguely of running out and getting help. This man was insane. He might become violent in his megalomania; this unnatural fuss about the rejection of a story a year ago was obvious proof of his pronounced unbalance.

"What makes stories scientifically accurate?" Clark was shouting. "I ask you?"

"Proof," muttered Stanhope, trying to avoid the too-bright gaze of his demented visitor.

"Proof? Exactly. And I've brought proof." Clark pointed at the machine.

"You ask me why I didn't go to the Institute, or to higher authorities with this machine. Simple. I've spent a year working on this, a solid year! spent twenty before that in perfecting my theory and was laughed at for my pains. So I spent one year more building my proof; my machine. Now instead of taking it to the scoffers higher up, I decided this time to start at the bottom; with you, the most insignificant of my critics. You, and your 'scientifically accurate' stories couldn't swallow my theory. Therefore you shall be the first to swallow my proof. You shall be my guinea-pig, Editor Stanhope. How would you like to see that Fourth Dimension your ignorant authors are always babbling about?"

STANHOPE was really afraid now. This madman was larger, stronger than the slight-bodied editor, and he was obviously aroused. Stanhope must humor him, keep him talking until the art-editor or one of the stenographers happened in and could get wind of the situation. Therefore the editor tried to smile. He caught sight of his haggard face in the mirror and shuddered.

"Going to send me to the Fourth Dimension, eh?" he said. "How?"

"You read the story. Through the mirror, of course."

Stanhope wanted to be diplomatic, but his natural honesty rebelled at this. He was, first and foremost, an honest man; an honest editor. And his creed, "Every Story Scientifically Accurate" was written on his heart just as firmly as it was emblazoned on the cover of his magazine. He couldn't stomach this statement.

"Clark, be sensible. Send me through the mirror? Why that's childish fairy-tale stuff. Like Lewis Carroll's Through the Looking-Glass."

"Exactly," Clark answered, a smile on his pale face. "That's where I got the idea. Oh, you needn't scowl so. Lewis Carroll — what do you know about the man? He was a mathematician, writing children's books under a pseudonym. Nobody ever noticed the quiet little fellow in real life, yet Alice in Wonderland and Through the Looking Glass are perhaps the most unique literature ever written in themselves. Not only children but adults have found keen satire in their pages; and more than that, the two books are still conceded to be the most accurate descriptions of dreams ever recorded. Do you understand what I mean? Lewis Carroll, the shy, furtive little schoolteacher, was one of the world's greatest psychologists. And mark you, he was a mathematician as well. He was no fool - and when he sent Alice through the mirror into the dreamworld he was basing fantasy on the most advanced and abstruse mathematical logic ever conceived. Even to-day there are those who link dreams with the Fourth Dimension; the mathematical symbols of each are interchangeable. Where but in dreams, or the Fourth Dimension is body and consciousness altered? Where does life take on new and varied forms of expression? I wouldn't be such a fool, if I were you."

Stanhope lost his temper for one desperate moment.

"Get down to facts," he shouted.
"Where is this machine and what does it consist of? Stop talking about dreams and fairy-tales."

"That's right. The editor wants his scientifically accurate proof, doesn't he?" Clark's voice was mocking. "Very well. Here's the machine on the table."

Stanhope turned to gaze closely at the contrivance. It was a long, gleaming silver tube mounted on a pedestal base from which jutted a series of levers and buttons. Superficially, it resembled an ordinary microscope. Clark picked up the instrument, sat down on top of the desk, and cradled it in his lap. His hands unconsciously caressed it, and Stanhope watched the play of his long, slim fingers.

"Just what does this machine do?" the editor inquired.

"Just what the machine in my story did. You look through the lens, adjust the focus to correspond with your own vision—that is, the rate of speed by which light-rays impinge on your retina and are translated into electrical impulse by your brain. This sets up an electrical rhythm which in turn is acted upon by the system of angled lenses in the tube. Then you gaze through the tube at your image in a mirror and you become translated into the Fourth Di-

mension by means of electrical contact of duplicate focii. In other words, when you apply your eye to this tube, it becomes merely an extension of the tube itself; a necessary part of the machine linking your brain directly with your image. The force-field draws brain into image, and there you are."

"In the nut-house," Stanhope wanted to add, but he thought better of it as he gazed into the fanatical eyes of Volmar Clark.

"BUT how did you build this; what are the principles?" asked the editor, sparring for time. Why didn't some one come in and rescue him?

"Let us be scientific, by all means," purred Clark. "Perhaps I can explain it by questioning you. To begin with, you believe in scientific accuracy, don't you?"

Editor Stanhope nodded.

"And yet you'd say my principle of mirror-images being Fourth-Dimensional projections of three-dimensional objects is not founded on scientific fact, and is therefore absurd?"

Again Stanhope nodded.

"Very well. Let us see whether or not you can give scientific reasons for your disbelief. I say you look through this tube into the mirror and become drawn through it."

"A solid man can't enter his own reflection," Stanhope parried. "That mirror on the wall is nothing but plate glass, backed by a thin coating of mercury. It merely reflects light from the smooth, polished surface of the glass."

"Very good, my skeptical editor. Very good. And now would you mind telling me something about glass?"

"Why, surely-"

"Scientifically, what is glass? Is it a metal?"

"Well-"

"Isn't it true that glass has no crys-

talline structure? All metals have."

"Now, wait a minute."

"Is glass a liquid or a solid? What is its definite melting point?"

"I don't know that."

"True. Nobody knows.* No scientist knows, any more than he knows the exact nature of electricity, for instance. And neither you nor Einstein can discover the make-up of its molecular structure."

"Yes, I'm afraid you're right," the editor confessed.

"Of course I am. Glass is a mystery. Like electricity, man can produce it, control it within limits, and even use it in a few simple tasks which do not even begin to impinge on its possibilities. We can guess that thought is electricity, and that life is perhaps an electrical manifestation. No one has ever bothered to theorize on the mystery of plain, everyday glass; the greatest key to the secret of light. The strange substance through which we see the stars is the link between light and electricity; between seeing and being.

"And properly handled according to mathematical formulae, I say that a man can enter the peculiar molecular chaos of glass and enter through its planes into the Fourth Dimension. Man co-exists; he appears before himself in a mirror. The only reason the mirror image isn't real is because his brain is absent from it. His three-dimensional consciousness cannot penetrate Fourth-Dimensional reflection — but my lens does that. By linking his eye to the lens to the image of his reflection, and by thus directly connecting brain to image, the electric structure of thought impinges on the mysterious planes of glass and he is drawn through."

Clark's eyes blazed.

"There's scientific accuracy for you," he challenged. "Refute me if you can. Everything I've asked about the nature of glass, and about the nature of reflection cannot be answered by science. I tell you I'm right."

"Negativism isn't proof," Stanhope replied. "That mirror over there may be all you say it is, but your machine is impossible. Have you ever tried it out?"

"I just completed it, under considerable stress. And I haven't tried it yet, thank you. I don't want to enter into a mirror. Beyond my own reflection and that of this room, I cannot dream of the strange world which inhabits the peculiar structure of ultra-dimensional light. But that's why I came to you, my editorial scoffer. You're my guinea pig, as I said. You shall look through the tube with your skeptical eye and find out the truth."

"What?" The maniac was convincing. Editor Stanhope felt a shudder he strove vainly to repress. For a moment the man's wild whispers had convinced him that he lived in a cosmos governed by strange laws. But it was nonsense. It had to be. Every story scientifically accurate — theory rejected.

CLARK read skepticism in the editor's face.

"Well," he challenged. "You don't believe me, so you needn't be afraid. Look into my harmless little tube. Adjust the levers until you see perfectly; until you see your reflection in the mirror. Then watch the lens-angles as they revolve, as your brain spins into the tube, your consciousness flows through it and into the mirror. Go ahead."

Stanhope began to perspire. Clark towered over him, hands twitching.

^{*} Glass is not liquid, not solid; not metal, not crystalline; there is no exact chemical formula for glass; its specific gravity varies from 2.4 to 5.6.—Ed.

He looked as though he might spring at his throat. The white face was contorted.

"What would become of my real body if I was—drawn in?" he asked, trying to keep his voice calm, trying to stall for time.

"It would disappear, naturally. You would be real, then, in the mirror; in the strange molecular structure of the glass, which is the Fourth Dimension. We co-exist in the Third and Fourth Dimension, you know; even Einstein admits that. But we feel alive in the Third because our consciousness is tridimensional. Once that consciousness, by means of light-action on the electrical impulse we call thought, is transformed into our image, we live there. You'd disappear, into the room reflected in the mirror. What lies beyond we cannot say. But you shall find out." Clark's voice rose to a half-scream. "Look!"

He grasped the editor's shoulder and bent him forward toward the gleaming instrument. Stanhope struggled silently. The man was strong. His fingers forced—

And then there was uproar; welcome pandemonium.

The two men had come in very quietly, for all their burliness. They were efficient despite their strength. Without a word they had crept up behind Volmar Clark, and now they were upon him. Soundlessly they dragged him off the table and locked his arms behind his back. Clark gasped madly, but he was no match for the determined and capable captors. They held him firmly.

Editor Stanhope looked up. One of the men touched his hat.

"Sorry he disturbed you, sir. We've had orders to bring him in."

"What?"

"This is Volmar Clark. He's been

in our charge at the Sanitorium for the past year; ever since he finished the observatory lens job. He had a—breakdown afterwards, and his relatives saw to it he was put in our care."

"Don't listen to the fools," Clark hissed. He lunged, but a quick jerk of his captors' arms brought him to a standstill.

"Usually he's very quiet. We allowed him to build his laboratory in his room at the Sanitorium and he's been quite happy building some kind of machine or other. But today he sneaked off. Luckily we traced him down here at once; he let his destination slip to the nurse. Sorry he's been a bother—but I'd appreciate it if nothing was said to the authorities. He's in a private institution, and in view of his past position, his family would be grateful for secrecy."

Stanhope nodded.

The man turned. "Come along, Mr. Clark," he said. "Back to the laboratory."

It was the cue for the maniacal scene. It was the point where Clark should have gone berserk and collapsed, to be dragged screaming from the room. By dramatic tradition it should have happened. Instead, Volmar Clark, mathematical genius and optics authority, drew himself up to full height and smiled at Editor Stanhope.

"All right," he said. "Sorry about our little interview, Stanhope. Another minute and I'd—well, never mind. Wish you'd remember what I told you, though. I've worked for a year."

With that he turned, and the two efficient-looking men escorted him from the room.

Stanhope sank into his chair behind the desk and mopped his brow. That was that. What a day!

Thank heavens, all over now. He glanced at his face in the mirror once

more. He was haggard. No use to resume manuscript reading; it was time to go home and rest. No use to submit his dazed brain to the test of maintaining that "Every Story Scientifically Accurate" standard. Not now.

Abruptly his eyes fell on the silver object which still stood on the desk-top. Clark's lens. He'd left it here! The guards had never noticed it. Clark hadn't either. Or had he? Had he left it here on purpose? Editor Stanhope remembered the cryptic parting words.

HE picked up the magazine once more and gazed unseeingly at the cover. "Every Story Scientifically Accurate." He smiled, wearily. Well, Clark's story wasn't scientifically accurate. Mystery or no mystery, man didn't walk through glass mirrors into new worlds. The theories didn't hold. No scientific accuracy. He rejected the idea as he would a story.

But wait a minute. That madman had been a genius, once. He was still sincere. As an editor, Stanhope admired sincerity. He wouldn't reject a story without reading it. Could he wholly reject Clark's theory without testing it? The test lay merely in looking through the lens.

When Clark was forcing him, Stanhope had been afraid—charmed by the words of the demented man. Now his fear had passed. He could look through the lens calmly, discover just what principles actuated the mechanism. Why not? Here it was.

Idly, Stanhope bent over the tube, one hand still clutching the magazine. He half-rose and squinted down the long chamber, then raised the cylinder and aimed it at his image in the mirror. He peered down. He saw nothing but cloudy gray. He remembered the lever system. His free hand casually twirled first one lever, then another. He turned

and adjusted.

Ah. There it was. His face, his body in the mirror. The room in reflection. Why, this device didn't change the image at all! Clark was mad. He adjusted focus, as he would if peering into a microscope. How clear his image in the mirror was!

No. Not so clear now. It was blurring. Getting gray again. And—his eyes hurt. A series of flickering, brilliant lights seemed to run from the mirror up through the tube into his eyes; into the brain behind them. His eyes felt glued to the lens; his brain felt glued. He no longer had eyes. His brain was a part of the lens.

"Eyes and brain and tube all part of the machinery," Clark had said. But Clark was mad. Then he must be mad, imagining this!

The brilliant rays were brighter than ultra-violet. They moved circularly and Stanhope saw in circles. It was impossible, but he knew it was like that. The tube was filled with spinning lenses, all moving at queer angles, distorting the image he gazed at, sending blinding light that was not light, but electricity, into his brain. He couldn't look away, he couldn't think away. He felt one with the image beyond; felt himself slide into it.

For one climactic, dreadful instant he had the peculiar sensation of looking out from his eyes instead of in; the lightwaves seemed to be reversed, flowing from his retina instead of flowing toward it. He felt as though he were in the bottom of the tube, looking up, instead of down. And then the image in the mirror grew brighter and brighter, and larger and larger, and Stanhope felt his body swim in circles of light.

With a gasp, he crumpled to the floor in the gray room.

He opened his eyes in a moment. He blinked rapidly. For a single gruesome moment he thought he had been blinded. Then the brilliant mist passed, and he could see.

He rose from the floor, clutching the magazine. He breathed deeply. That damnable machine! Clark had done something with it after all; he had made a hypnotizing agent out of it. The bright reflecting surface of the mirror, viewed through twirling mirrors and lenses in the tube, acted as a focal point in the hypnotic process. That was what had happened. He'd hypnotized himself. Yes, glass and mirrors had strange properties, and light became electrical thought in the brain all right. But that

Fourth-Dimensional theory wasn't scientifically accurate after all.

Stanhope laughed. He'd looked through the tube, and he hadn't entered the mirror and the reflection of the room in the Fourth Dimension. There was the mirror now, still in front of him. It reflected the room of his office, just as it always had.

Editor Stanhope glanced idly down at the magazine he still held in his hand. With wild panic surging up in his breast, he read the words on the cover. Strange words, words that could not be safe in reflection, words that bit into his brain.

EVERY STORY SCIENTIFICALLY ACCURATE

"Short Years And Long"

By J. F. Turner

IT IS an interesting fact that in our solar system a "year" ranges from less than three months to 248 times the earth's twelve-month period. Mercury, smallest of the nine major or primary planets of the solar family, is nearest to the sun and accordingly has the shortest year, a period of revolution of only 88 days. Next beyond Mercury is bright shining Venus, traveling in an orbit which gives it a year of 225 days. Following in the order of remoteness from the sun is this old, spinning globe of ours, and still more distant by many millions of miles the red glowing sphere we know as Mars. The latter planet completes its orbital journey in 687 days.

Strung out even farther into limitless space and with respect to solar distance are: gigantic Jupiter with its nine moons, taking close to twelve years to circumnavigate the sun; ringed Saturn, also possessing nine satellites, and covering the solar swing in 29 years; Uranus, performing a complete turn about the sunstar once in 84 years, and Neptune, having a period of revolution equal to 165 of the earth's years.

Finally, there is far flung Pluto, discovered as recently as 1930 through the use of photography. The earth's distance from the sun is some 92,900,000 miles (one astronomical unit), but Pluto exceeds this distance by about forty times. The orbit of this outermost member of the solar family is one of extreme vastness, and to describe its planetary path around the sun is a little matter which occupies Pluto for 248 years.