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AFTER



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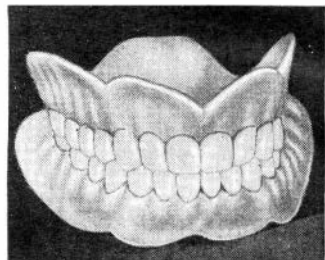


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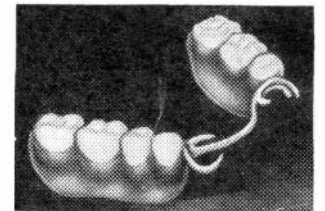
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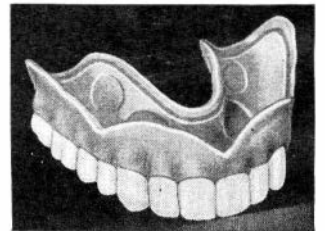
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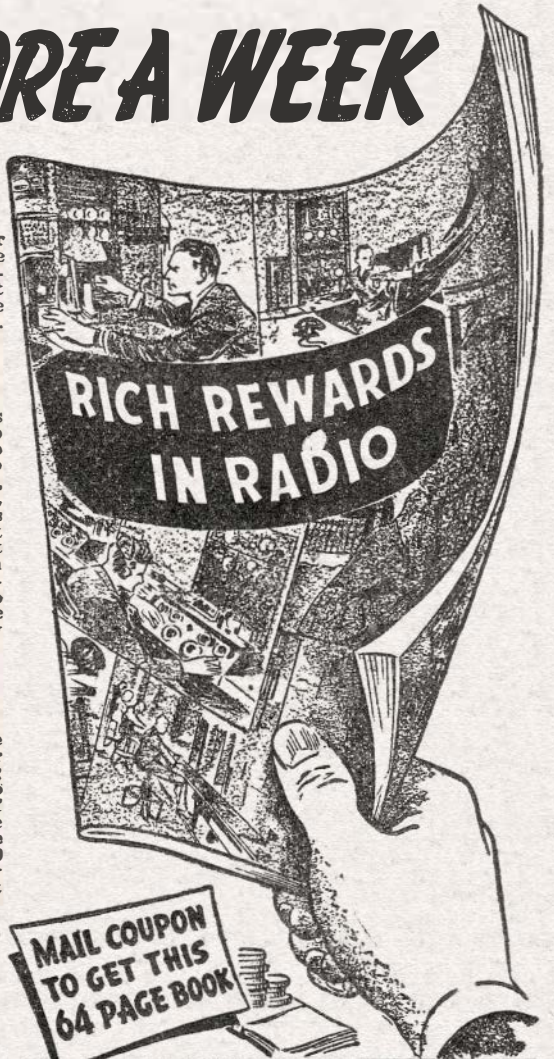
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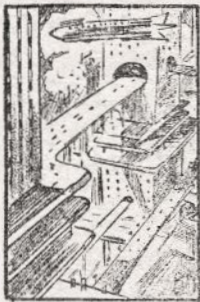
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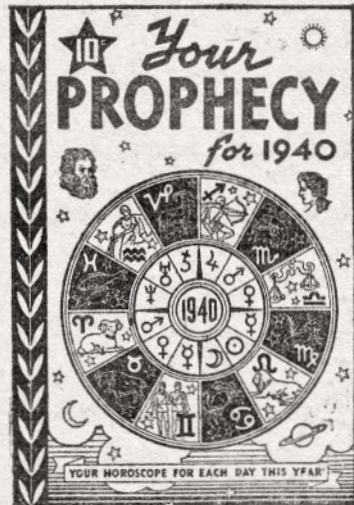
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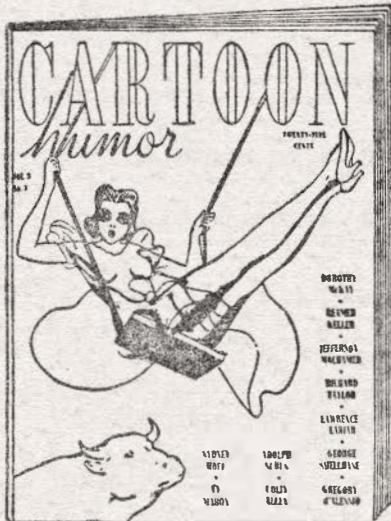
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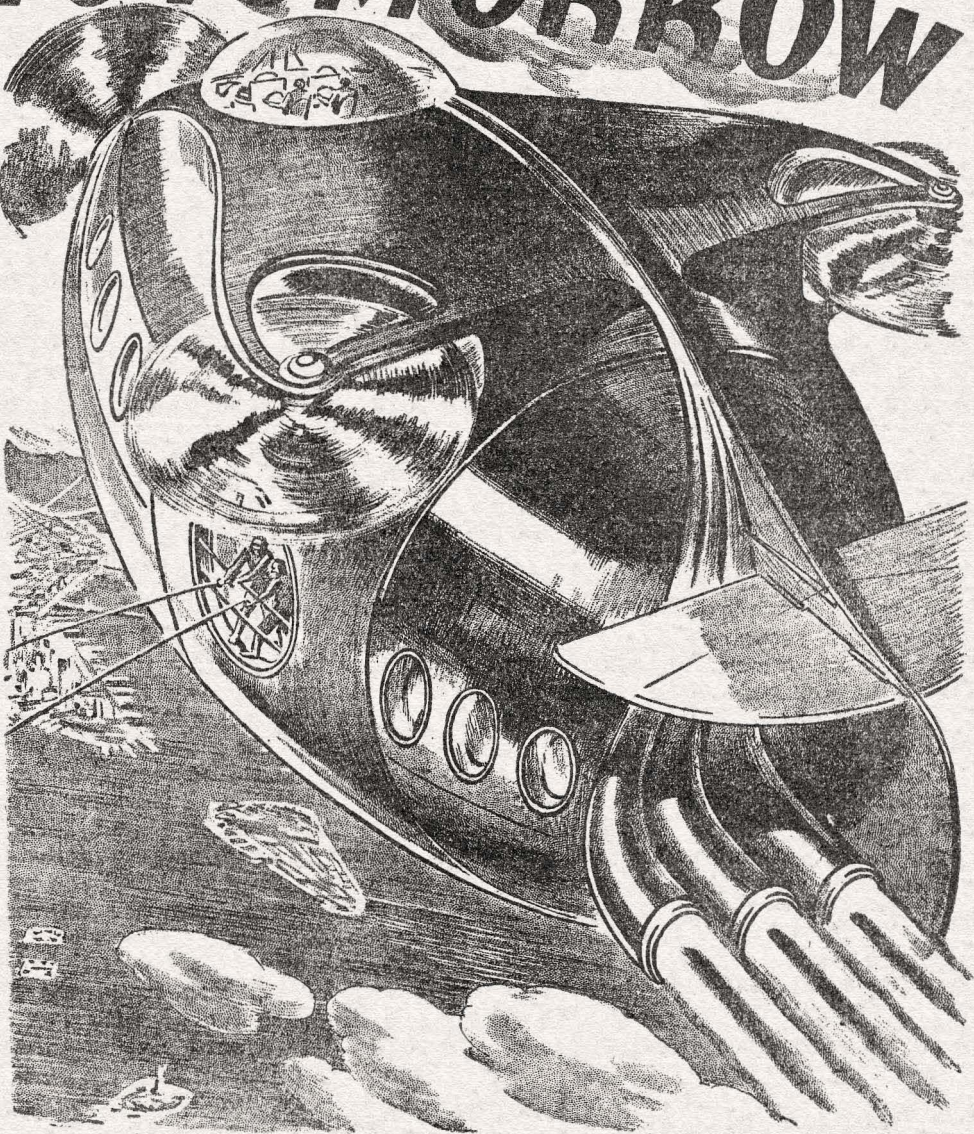
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TO TOMORROW



CHAPTER I

New Century

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bringing down the curtain on one century and raising it on another. A new century loomed with hope and promise, and greater things for mankind.

Richard Hale felt that as he faced the assemblage in the Radium Room of New York's Strato-Hotel, one hundred and forty-nine stories above street level. The deafening hum of hilarity died down. Faces turned expectantly toward him when he raised his arm.

Glasses clinked as they were set down. Noise-makers, given an advance try-out, were silenced. Even the few persons who had imbibed to the point of intoxication allowed themselves to be hushed.

The great moment of the evening had arrived.

The ike-men made their final adjustments on the glowing iconoscopic eye that would flash the scene through the ether. Ike-men were always on hand for things like this. It was a common expression in the year 2000 that all you had to do was shake out your pockets, find a few ike-men and their portable iconoscopes. They were the eyes of the world.

Richard Hale steadied himself with a hand on the veiled model beside him. He trembled a little, and his throat went dry. He suddenly felt panic-stricken, facing so many people. And he felt the concentrated stares of the vast television audience, in that huge glowing eye at his left. Hale was just twenty-four, accustomed more to the quiet of a laboratory than the rostrum of a hall. For a moment, flushed and weak-kneed, he thought desperately of diving for the nearest exit.

Then his eyes met those of Laura Asquith. She was in the front row of that terrible sea of faces, not ten feet away. Lovely as ever, calm, cool, sympathetic, her eyes seemed to speak to him, steady him. He drew courage from her, straightened his shoulders.

Hale began. His voice, at first, was low and tinged with uncertainty. Then quickly it became the normal, forceful tones of a man who knew he had something important to say.

"Friends, as you all know, I am president of the Subatlantic Tube Company, formed a year ago. Your investments, and those of hundreds of others not here tonight, are in this untried venture. Our plans are to dig a tunnel from New York to Le Havre, France, under the Atlantic Ocean. That it will succeed, I'm as certain as if it were already done."

His voice suddenly went deep with restrained emotion.

"My father, Burton Hale, conceived the idea of the Tube twenty years ago.

For twenty years he planned, calculated, worked himself to an early grave. He was only fifty-one when he died last year."

Hale's gulp was visible to the television audience, but he went on firmly.

"Burton Hale left his plans as a legacy to all the world. I know he meant it that way. He visioned a network of tunnels that would eventually span the Pacific as well as Atlantic. I made a pledge to him, on his death-bed, that I would devote my life to that aim. Ladies and gentlemen—the Subatlantic Tube!"

HALE signaled with his hand. An electrician at the rear closed a switch, and a humming electric motor pulled at a fanwise strand of wires connected to pulleys in the ceiling. The silken drapery over the model raised, billowing in a draft of air.

The eyes of the gathering and those of the unseen television audience, fastened on the object revealed. Twenty-feet long, it represented in reduced scale the first twenty miles of the Tube. At one end was the proposed New York terminal, a lofty pit sunk a mile deep into the ground. Elevators in miniature could be seen through a transparent cutaway. Successive levels were to hold baggage and freight warehouses, and unloading facilities. It was to be a super-railroad station.

As you looked from the terminal along the length of the Tube, you got the impression of its eventual hugeness and scope. You could see the round, tile-lined tunnel, fifty feet in diameter, that would stretch thirty-five hundred miles through the bowels of Earth. At its lowest point, it would be fifteen miles within Earth's crust. Few mines in 2000 A.D. went deeper.

What could keep this amazing tunnel from collapsing? What could hold back those millions of tons of rock and ocean above, all pressing down savagely? Then you saw, in another cutaway, the tremendous hydraulic-sprung girders—Burton Hale's great invention. Under pressure, these girders yielded, but they stored up the compression in large hydraulic drums

and fought back. Engineers had all been forced to agree that the system would hold up indefinitely. Even a major earthquake could only shake the girders to a safe margin of ten percent above collapse.

But, most of all, your eye was caught by the sleek, streamlined model ship at the terminal. The man in back closed another switch and the animated model began working. Puffs of rocket exhaust hissed from the ship's stern. Like a silver streak, the tiny craft shot along. It made the twenty feet in slightly under a minute. It seemed slow, because it was ten times oversize in comparison with the tunnel.

But it meant seventeen miles a minute—a thousand miles an hour—New York to Le Havre in three and a half hours!

The crowd stared in awe, realizing it watched a preview of what would go down in history as the greatest engineering feat of all time. The 21st century would start off in grand style. Cheers burst out, and applause.

RICHARD HALE waited till the hubbub had died of its own accord. Then he spoke again, now with an uplift in his voice, all nervousness gone.

"The Subatlantic Tube, and all future ones, will be a boon to Earth's problem of transportation. Man has found the way to travel on the ground, on the seas and in the air. Now he will travel under the ocean, more safely and speedily than any other way. Strato-clippers crash now and then. Ships at sea miss their schedules. The Tube rocket will never be more than a minute late. It will not meet treacherous winds or storms. Its crossings will be as unalterable as a well-oiled machine. And a third point—"

Richard Hale paused. A thoughtful frown tightened his clean-cut features. There was more to say, but he hardly knew how to put it. He had memorized and prepared notes, yet somehow they were forgotten. What he wanted to say was something so vital and explosive that it brought a cold sweat.



Richard Hale

Again he looked at Laura Asquith for encouragement, and found it. Beside her stood her uncle, Peter Asquith, with whom she lived. Peter Asquith, Burton Hale's best friend, had often supplied money for research in the lean days. Hale felt happy that his father's best friend was present.

The clock stood at fifteen minutes to twelve. Fifteen minutes would launch the new century. Hale suddenly went on, inspired.

"The twentieth century has been a significant century to civilization. Great things were done, but equally great upsets occurred. Radium, the movies, radio, automobiles and the airplane came in. Science took seven-league strides. But social evolution bogged down miserably. The First World War of nineteen-fourteen to nineteen-eighteen, and the Great Depression of the 'thirties spawned the next two World Wars and depressions. It was not till nineteen-eighty that balance came. With the formation of the World League in that year, peace and prosperity came to Earth."

Hale motioned toward the clock.

"In a few minutes, the twenty-first century begins. We all hope and pray

it will be a century of progress and enlightenment. *But will it?*" His voice became challenging. "It will only if the world is aware of a new seed of conflict. I refer frankly and openly to Transport Corporation.

"Transport Corporation holds the monopoly on all transportation—trucks, buses, cars, railroads, ship lines and air routes. In the past twenty years it has bought out most competitors. Its lobby in the World Congress is the most powerful in the world. It is next door to *controlling* the World Government like a puppet!"

The ike-men snapped away their cigarets and fussed over their apparatus to make sure it was working. This was dynamite, the kind of verbal dynamite that the free-masonry of ike-men liked to spray out over the ether!

HALE stood with set lips. The crowd had become utterly quiet, almost transfixed. They began to see something more in this than merely a ceremony. Hale raised a tense hand.

"I am not going to preach a new doctrine. I simply say, beware of Transport Corporation! They approached me several times, offering to back the Tube. Yes, so they could later own it, add it to their monopoly. Five men control Transport Corporation. They have kept under cover. I don't know them. But those Five I challenge. They have a strangle-hold on transportation, the circulation system of civilization which pumps the blood of trade through the world.

"They seek power, these Five, the power of absolute rule! They are a new kind of budding dictator, more dangerous than the tin-pot dictators of the middle twentieth century. Their methods are less bloody, less brutal, but insidiously more effective. When their chosen day comes, they will say to the world, 'Accept our rule, or starve! Not one wheel will move to distribute food and goods unless we are given the reins of government!'"

Richard Hale paused, panting a little. But he went right on.

"The Five won't succeed. They haven't yet crushed all competition in

transportation. It will take them more than five years to complete their plans. In five years, the Subatlantic Tube will be in operation. My company will fight the monopoly. We will undersell them in trans-oceanic trade. The monopoly will crash. And then—"

His voice grew softer, calmer.

"And then the twenty-first century will have the really right start. I want to see a century of democracy, liberty, progress. Not a century of blind follow-the-leader under the dictates of five power-drunk men. The Five have threatened me, of course, through their agents. Sabotage, financial ruin, even assassination.

"But two of our five years of building are allowed for the worst possible sabotage—underground. Our sonic-survey has shown, secondly, that our digging will run through veins of pure gold. The project will finance itself. As for personal threat, I can take care of myself. I challenge the Five to stop me!"

CHAPTER II

The Five Strike

MILLIONS of people heard and saw the tall, young man deliver his impassioned challenge. But four were more vitally concerned than any of the others. Four of "the Five" sat in a darkened, sound-proof room, huddled before a two-foot visi-screen.

"Richard Hale is our enemy, and a dangerous one," said Jonathan Mauser. He was short and fat. His pudgy hands almost continuously washed themselves with air. He bore the meek, cringing manner that betrayed the hypocrite. A man of law, he had often tricked trusting souls into legal doom. Beneath his white, fat skin was a heart as black as coal.

"The twenty-first century is about to start, and he is in our way," growled Ivan von Grenfeld. "He must be crushed, eliminated. We should have arranged his death months ago!" Ivan von Grenfeld, of mixed foreign blood, was six-feet-two, broad-shouldered,

impressively rugged, and proud of it all. He wore a uniform, one of dozens in his wardrobe. Some part of his ancestry had once held a dukedom.

"No, that would have been the wrong way, and it is still the wrong way," said Sir Charles Paxton, in his cold stiff accent. "The Company would go on after his death. The whole company must be discredited, broken up, even though that method is more costly." Sir Charles Paxton betrayed the miser by that last phrase. Gold to him was an idol. He worshiped it.



Laura Asquith

"No sense going over old ground," snapped Dr. Emanuel Gordy. "Our present plan is the one. You know who is over there now, in the Radium Room, waiting for the right moment. It will work out as I planned!"

Dr. Emanuel Gordy laid undue emphasis on the word "I." He never let the other four forget his acknowledged leadership. He was the brain behind their plans. At one time he had been an eminent scientist. A slow smile drew up the corners of his thin lips.

"You challenge us, Richard Hale!" he spat at the televised image. "You'll soon find out what that means. When

the New Year, and the New Century, breaks, that will be the moment."

FIVE minutes to twelve. Richard Hale waved. Behind him, the electrician at the switches moved his hand again. A ten-foot visi-screen over Hale's head began to glow, clarified to the scene of a desolate stretch of Long Island. In the background stood a huge atomic-power excavator amid all the paraphernalia of a digging project about to be begun. In the foreground, a line of workmen waited expectantly.

"The company," Hale explained, "arranged this private television hookup with the future site of the New York terminal. When I press this button, it will flash a signal to them—"

Watching the clock, Hale trembled more than before. He wanted so much to time it just right. Somehow, it would be a symbol of all that was to come. He pressed the button of a contact switch beside him.

In the visi-screen, the workmen broke their line at the signal and leaped away as though they had been on a leash. They scattered to all the machinery. The foreman remained in close focus. With a common shovel, he gravely dug up a shovelful of dirt and tossed it into a wheelbarrow. Then he looked up and waved.

Hale waved back, then faced the audience.

"Ladies and gentlemen! The first shovelful of ground dug for the new Subatlantic Tube!"

The clock marked twelve to the very second.

From outside, through an opened window, came the sudden blast of a siren, followed a split-second later by a deluge of sound—bells, horns, trumpets, drums, and the full-throated roar of human voices. Timed to the last second, New York City blasted forth its welcome to the New Year, and to the New Century.

It was January first, 2001 A.D.!

Richard Hale still stared at the visi-screen. Now the great AP—atomic-power—excavator rumbled to life, and the tremendous project was under way, right on schedule. It was merely

ceremony, of course. The men out there would quit in a moment and join in celebrations. But the project had been officially started.

Suddenly Hale was being pummeled on the back. His arms were pumped up and down. Voices screamed in his ear.

"Happy New Century! Happy New Century!"

A slim form struggled through the crowd and grasped his arm. Laura Asquith rested a moment pantingly, then turned her face up.

"Happy New Century, Dick!" Her lips formed the unheard words.

Hale bent to the invitation of her lips. He knew it was the supreme moment of his life. Only two things had counted to him—the start of the project, and Laura. He had timed things perfectly so far. One more thing remained before the moment would be over forever.

HE grasped the girl tightly, so they wouldn't be torn apart.

"I want you to marry me!" he screamed.

Not a word was audible, but the girl had read his lips. Hers formed a startled "oh!" also inaudible.

"What a time and place you picked, silly!" Her smile was impish, and tender.

"Well?" he pursued in their silent lip-reading.

She shook her chestnut tresses and laughed at his suddenly crestfallen air.

"Try again tomorrow, when we're alone!" she informed him with elaborate pantomime of her lips.

Hale nodded, satisfied. After all, it had been rather foolish to spring that here in this pandemonium of yelling, celebrating people. He turned at a touch on his arm. Peter Asquith stood there. The two men shook hands silently. Hale felt a glow within him. It was good to have a girl like Laura and a friend like Asquith starting off the new century at your side. The new century could mean everything splendid, or could mean turmoil.

The height of the moment spent itself, and the peak of noise dropped.

Voices could be heard once again.

"Wonderful speech, dear," Laura said, squeezing his hand. "I'm proud of you. But didn't you put it rather strongly about Transport Corporation?"

Peter Asquith nodded gravely. "Transport may sue you for libel, my lad."

Hale's eyes gleamed.

"Let them! That's exactly what I want. If they take me to court, I'll give a real exposé. You two know how they came after Dad, trying to buy him out. Dad and I investigated. Through a private source, we learned out the Five. We wanted to expose them then. But the man who gave us the information disappeared. Murdered, of course. I'm trying to smoke out the Five this way. Yes, let them sue me for libel!"

Peter Asquith shook his head slowly. "You're playing with fire. You haven't any proof of your claims, have you?"

Hale lowered his voice cautiously.

"The man who was murdered left one concrete piece of evidence with us. A receipt showed that one million dollars was transferred to the account of the subversive Dictator Syndicate, in middle Europe. You know the Dictator Syndicate and their outdated ideology. It hasn't been disbanded because it poses as a legal political party.

"The source of the million dollars that went to them is cleverly unnamed, but the Syndicate records would show it, if investigated by Government order. The Five, I believe, are sponsoring the Dictator Syndicate, or at least strengthening it, helping to build an outlawed body of trained troopers!"

"Good Lord!" exclaimed Asquith. "Where do you keep that paper?"

Hale patted a spot under his right shoulder.

"I carry it with me in a silk pouch tied around my chest. When the time comes—"

He paused significantly. Laura shuddered a bit.

"Dick, I'm worried for you! I almost feel the way I've felt several times before. An invisible net is settling down over you—over us!"

Hale laughed, patting her hand reassuringly.

"I can take care of myself. Let's dance. Everybody else is."

AT twelve-thirty aching silence came suddenly in the great room. It had the converse effect of a thunder-clap in quiet air. Hale and Laura turned. People were staring in the direction of the main door, at the other end of the hall.

Hale saw the reason for the startling cessation in merriment. Six blue-uniformed men marched forward—police. The celebrants were dumbfounded. A raid? But for what, on New Year's Eve, a time sacred to free spirits?

Hale stiffened. Straight for him the men came, led by a police sergeant. They stopped.

"Richard Hale?" asked the officer.

"Yes."

"I have a warrant for your arrest!" The officer displayed the document.

Hale could feel Laura trembling against him. He let out his breath, smiling.

"On what charge? Libel? You can't arrest me for that." Surely the Five, striking back, must know that.

The officer's voice was terse. "No. For High Treason against the World Government! Come along."

Hale gasped. It took him by surprise. He thought rapidly. Naturally the Five had brought the charge against him, through Transport Corporation. But what did they have on him? Nothing! On the other hand . . . He patted the silken envelope next to his skin. The crucial moment had arrived sooner than he expected.

"That's ridiculous!" Laura Asquith was saying, clutching his arm. "There is some mistake—!"

"Sorry, miss. He has to come with us."

Two of the police firmly disengaged the girl and took Hale's arms. He shrugged them off angrily.

"No need for that." To Laura he said: "Don't worry, dear. This may spoil our tomorrow, but they can't hold me forever."

"I'll stick by you, no matter what happens!" Laura cried.

"We'll be down to see you as soon as we can," Peter Asquith seconded.

Holding his head high, Hale strode to the door between two rows of police, aware of the stares of the crowd. He felt miserable at this climax to the launching of the Subatlantic Tube project. It was a hell of a way for the evening to turn out. The Five had struck more swiftly, and more mysteriously, than he had expected.

RICHARD HALE paced his cell like a caged tiger, cursing in a low tone. It was the third day after his arrest, and still he had not been released. There was no bail for the charge of High Treason, or the Company would have come to the rescue.

He had been allowed no visitors, save only a counselor-at-law, sent by the Company. He had not heard a word from Laura or her uncle. Behind his rage, Hale was sick with apprehension. The ponderous machinery of law, once started, was not so easily stopped.

The electric lock clicked.

Hale wheeled in the middle of a stride. The steel door closed behind a tall, burly figure in a form-fitting uniform. A craggy, domineering face peered from beneath a visor. Hale recognized him as Ivan von Grenfeld, a high official of the World League police force. Hale narrowed his eyes, puzzled at this visit.

"Richard Hale, you are in grave trouble," von Grenfeld declared without preamble. "Your trial will be held in a week."

"Trial?" gasped Hale. "But the charge against me is ridiculous. That paper the police—your men—found on me can be traced back to the Dictator Syndicate. And their record will show the money came from Transport Corporation, not me."

Von Grenfeld held up a hand stiffly.

"The paper was investigated. The money came from your Tube Company."

"Impossible!" stated Hale. "It's dated a year ago. At that time the Company had barely started. Our assets were ten thousand dollars. Where did the million come from?"

"From Transport Corporation, for services rendered!"

Hale sagged weakly to his prison cot. His brain whirled. A million dollars mysteriously donated by Transport to Tube, and as mysteriously signed over to the Syndicate! Hale suddenly thought of Laura's words. An invisible net certainly was settling down.

He stared at the visitor. Something had exploded in his mind.

"You're one of the Five!" he snapped.

Ivan von Grenfeld nodded imperterbably. "I have been sent here to give you one chance of leniency. But there are two things you must do. Publicly refute your New Year's accusations. Sign a statement never to oppose us again."

"Get out," Hale said quietly, coldly. "Get out."

Ivan von Grenfeld drew himself up haughtily.

"You will regret this, Richard Hale!"

Hale sat with head in hands after von Grenfeld stalked out. Was he bucking more than he could handle? Ivan von Grenfeld, ranking police official, one of the Five! Then what high positions must the other four hold?

AN hour later the door opened again. The man who entered was thin and solemn-faced, known widely through television. Sir Charles Paxton was Supreme Court justice of the World Government. He placed himself in the sunlight streaming from the barred window. His skin had a golden color in the radiation which he liked.

"Number two?" guessed Hale.

"Eh?" Sir Charles appeared startled. Then he smiled. "Sharp young man, aren't you? Yes, number two of the Five. My mission is to suggest a way out of our mutual differences. Suppose you were to live comfortably the rest of your life on a steady annuity. One percent of the profit of the completed Tube service would do that nicely, wouldn't it?"

Hale laughed harshly at the irony

of it. He spoke savagely.

"You, a Supreme Court justice, offering me a bribe! Nice reflection on your character."

"That's neither here nor there," returned Paxton testily. "Well?"

"No!" Hale said the word quietly, but with a world of firmness behind it.

"But you can't turn down so much *money!*" gasped Paxton. His mouth was open as though he had heard the incredible.

"Fill this cell with gold and I'll throw it out as fast as it comes," Hale returned biting. "Get out."

Sir Charles Paxton left, his expression still one of dazed disbelief.

CHAPTER III

Who Is the Fifth?

HALE expected a third visitor, but it was not till the next day that Jonathan Mausser, Government attorney-at-law, came in rubbing his hands. He stood in the middle of the cell, well away from the slightly sooted walls. He wore a pious expression.

"Number three," Hale said. "What's your offer?"

Jonathan Mausser looked pained at the blunt statement.

"Out of sheer pity for you, young man, I've convinced my colleagues to give you one more chance. We'll withdraw our charge if you'll give Transport fifty-one percent stock control of Tube, no more. Isn't that reasonable?"

"Touching," retorted Hale. He arose, fists clenched.

"Don't you hit me!" Mausser cried, cringing against the wall, then shrinking back because he had acquired a slight dirt mark on the elbow of his natty suit.

Hale strode to the door and rapped on it for the jailer to take the visitor away. He jerked his thumb for Mausser's benefit and then ignored him.

"You'll soon have the conceit taken out of you, Hale!" snapped Jonathan Mausser before he left. It was like

a rat squeaking when he spoke.

Dr. Emanuel Gordy was next, suave and dignified, radiating the air of a man who has a keen, active mind and knows it. He was a research director at the Government labs. Hale sensed immediately that he was the leader of the Five. This was the man who some day hoped to stand before the world, its master.

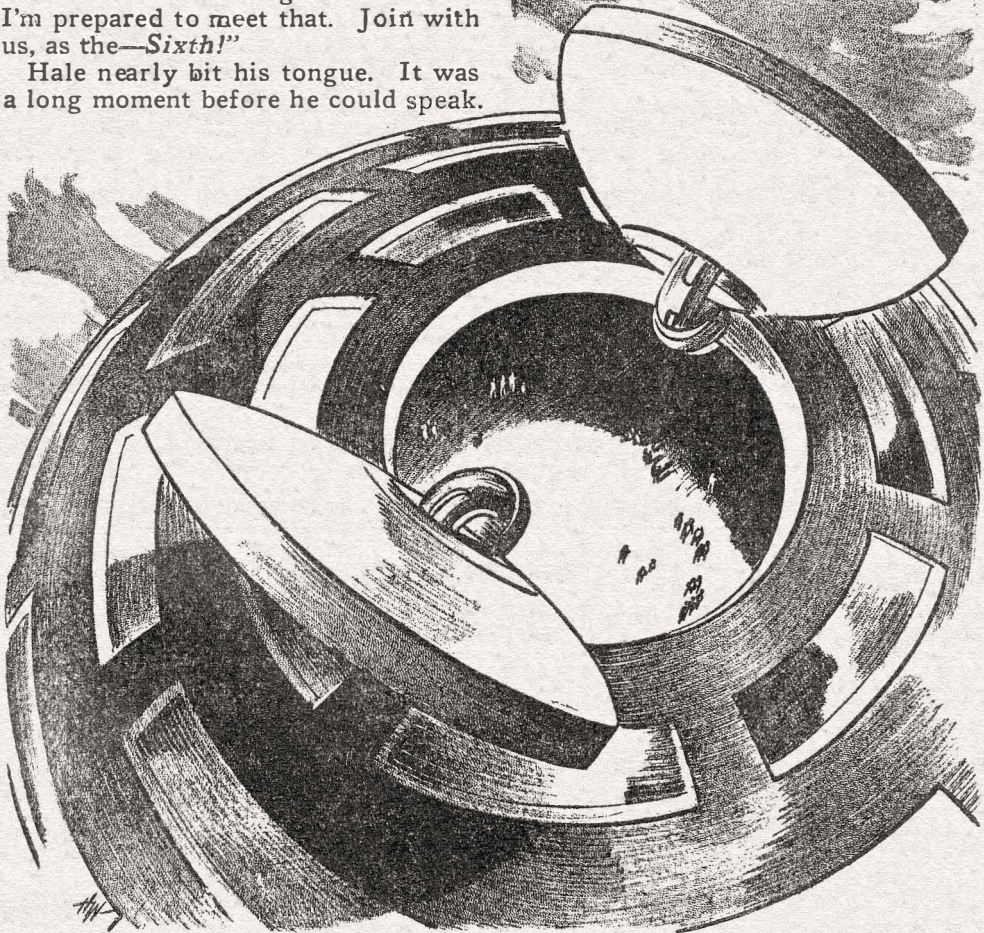
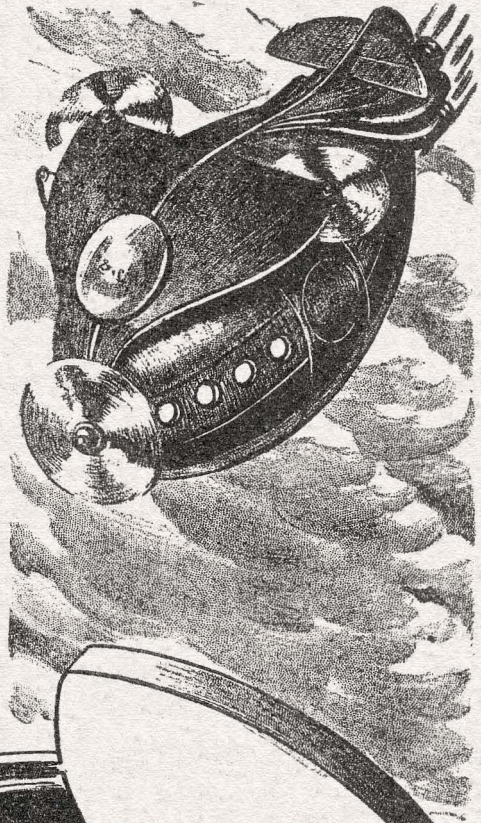
"Richard Hale, you're not a fool," he said frankly. "I sent the others to you with various propositions more or less to test you."

Hale grinned mirthlessly.

"You mean because you'd rather have me on your side than against you."

"Right," admitted the scientist. "I have a rule never to make an enemy unless I can't make him a friend. I think I know why you refused those offers. You're holding out for more. I'm prepared to meet that. Join with us, as the—*Sixth!*"

Hale nearly bit his tongue. It was a long moment before he could speak.



The prisoner ship entered Strato-prison on throbbing rockets (Chap. IV)

"You've got me all wrong, Dr. Gordy," he replied, fighting back an impulse to punch that cold, autocratic face. "All wrong. I'm fighting you and what you stand for to the very last."

The scientist measured him with his calculating eyes.

"You're intelligent, Hale," he resumed calmly. "In fact you're something of a genius. I happen to know that at twenty, fresh from university, you joined your father's researches and advanced them. You devised super-recoil steel, self-absorptive rockets and flexible concrete. Without them the Subatlantic Tube would still be a dream. I can use a man like you in my laboratory. Research, if you like. One of the Six, eventually."

"One-sixth of a dictatorship," retorted Hale. "No, thanks. I don't care to help dig up buried and rotten things."

"Benevolent dictatorship," amended the scientist. "Scientific and economic rule for all."

"But rule as *you* see it," countered Hale. "The World Government was pledged never again to allow one person or clique to lead the way over precipices. You're an anachronism, Gordy. A Hitler born too late."

The scientist arose, still maintaining his unshakable calm. But his voice was dry with a trace of deadliness that had edged into it.

"I'm going to break you, Richard Hale, and the Company with you. Nothing can stand in my way."

WHEN the scientist was gone, Hale found himself trembling. The revelation of their identities shook him. He saw the magnitude of the crushing forces against him. Ivan von Grenfeld, Sir Charles Paxton, Jonathan Mausser, Dr. Emanuel Gordy—four men of towering influence and prestige! And there was a fifth. Who was he? What incredibly important man would he prove to be.

Hale almost shouted in relief. His next visitor, instead of the dreaded fifth, was Peter Asquith. Good old honest Peter Asquith, tidily well-to-do from a clipping service he owned.

Hale poured out the whole story, thus releasing the dam of his pent-up emotions.

"When I get out of this," he concluded grimly, "I'm going after them. Now that I know who they are I'll have something tangible to work on. I don't know the fifth, but he'll turn up. The first thing I'll do, after the farce they'll call a trial—"

Hale stopped. Peter Asquith was staring intently at him.

"You will be convicted," Asquith stated.

"What? You know they can't!"

"This trap was laid for you long before," Asquith continued in a low voice. "The receipt from the Syndicate, found on your person—"

"But how did they know about that?" demanded Hale. "How could they know I had it with me New Year's Eve? I told no one!" He swallowed, his eyes hurt and unbelieving. "A half hour after I mentioned it to you, the police came."

He paused, waiting for an explanation. When none came, the hideous truth lay naked before him.

"*You are the last of the Five, Peter Asquith!*"

For a minute there was no sound in the cell, except the breathing of two men whose gazes locked.

"I had meant to tell you myself," Asquith said finally.

Hale spoke as though from a trance. "My father's friend. My friend. The uncle of the girl I—" He groaned. "I can't believe it. You gave us money when we needed it!"

"Transport money," returned Asquith, without emotion. "We wanted you and your father to finish your great plan, but all the while we planned how to gain control. My clipping service is really the front for a world-wide espionage service. Through that we dealt with the Syndicate in our scheme."

"I see," breathed Hale, still stunned. He went on bleakly. "Does Laura know?"

"Yes, everything."

"And she hasn't tried to see me? She sent no message?"

"She has no need to see you. She

has known all along. To her, the Five's plans are beneficent. She will have a high place in the new regime."

"Snake! You're lying!"

Hale leaped with the words, his brain seething with rage. Asquith squirmed out of the way. When Hale turned, he faced the cold, deadly barrel of a pistol. He stopped short, warned by the grimness of his former friend's face. He sank down unwillingly on his bunk.

"That's better," Asquith said coolly. "Dr. Gordy sent me in to repeat his last offer. Join us. It is the only way you can have Laura."

"She loves me," Hale retorted. "You haven't destroyed that. But I won't have her that way."

Asquith backed out of the opened door, slipping his pistol away.

"That was your last chance, Hale. You're doomed!"

Alone again in his cell, Hale heard those words re-echoing. Had the invisible net snared him?

THE trial, a week later, was conducted with a swift deadliness that numbed Hale's mind. He had the feeling of standing at the edge of a sinister pit, with the Five pushing him in. The Five—and Laura.

The girl was there, wearing a netted veil. She sat far to the side, never looking at him. Hale was not allowed to approach her.

When he looked around at the others, cold shock battered his nerves. Jonathan Mausser was State's prosecutor. Sir Charles Paxton sat with lofty dignity in the judge's seat. Ivan von Grenfeld marshaled the witnesses. Dr. Emanuel Gordy sat in the rear, like a spider surveying his web. Peter Asquith, by a subtle irony, was to be his character witness. And Laura—What part was she to play?

The answer came soon enough.

Jonathan Mausser, as prosecutor, worked with the efficiency of a medieval executioner. Ivan von Grenfeld presented State's evidence that the Dictator Syndicate had received the million-dollar subsidy from the sub-Atlantic Tube Co. Peter Asquith, under cross-examination, was "forced to

admit" that his young friend had very often mentioned the Syndicate. In his high seat, Sir Charles Paxton called the jury's attention, at strategic moments, to the growing evidence against the defendant.

It was a farce, a deadly, cunning, ruthless farce. But even the reporters and ike-men took it all for gospel truth. Out to the world was going the front-page news that Richard Hale, erstwhile young altruist, was in reality a traitor to the World Government.

Hale leaped up suddenly, unable to stand it any longer.

"Lies! All lies!" he shouted. "Can't any of you see? How can you be so blind? I'm being framed, railroaded into prison. Transport Corporation wants control of my Tube. The Five want control. They are right here—Jonathan Mausser, Sir Charles—"

Long before he had completed even the first name, he was coughing and gagging incoherently. Ivan von Grenfeld, standing near watchfully, had used his para-beam pistol, aiming it for Hale's throat. Its harmless but effective ray paralyzed Hale's vocal chords, by an inductive electric shock. It was an official court weapon.

"The defendant will make no more such outbursts," commanded Judge Paxton. "Proceed."

The ike-men and reporters shrugged for all their audience. All through court history, the guilty had always acted the part of the innocent. One could only go by evidence. And that, under the skilled judgy hands of Jonathan Mausser, was damning.

By late afternoon, the case drew to a close. Court processes, since the court reforms of 1982, worked with swiftness, if not accuracy.

Jonathan Mausser glanced at Hale, as though measuring him for the final thrust. Then he called Laura Asquith to the stand.

AT that moment, the shades were partly drawn, plunging the court room into semi-darkness. From the side came the whirr of a movie projector. Three dimensional images, cast by the machine, materialized

overhead, for all to see. Two figures were seen—Peter Asquith and Richard Hale. They were dim, ghostly, but recognizable. Their voices spoke with the slight hiss of the recording film.

"Leaving, Richard?" Asquith's image asked. "Why not stay? What's so important?"

"Nothing much," Hale's image returned, smiling. "Just an appointment with a Syndicate member."

That was all. The film clicked off and the shades were lifted. Hale gasped at the sheer hypocrisy of it. The bit of conversation meant nothing. It was a world-wide standing social excuse of the time, for breaking away at awkward moments. It meant no more than, "I'm seeing my Congressman about something."

But here, diabolically, it fitted in like a glove. Jonathan Mausser pointed a finger at Laura Asquith. "Do you recognize the scene, Miss Asquith? State what you know."

Laura answered in a dull voice.

"It was taken by myself about a year ago. I've always had a candid movie camera. The speakers were my uncle and Richard Hale, the defendant."

Hale heard no more. He could only stare bitterly at the girl who was testifying against him. It was true, then. She had schemed, along with her uncle, to lull Hale's suspicions till the time was ripe. She had been told to pose as loving him, so that he would confide in her. And all the while she had plotted his downfall. When the Five were in power, no doubt she would have everything a scheming girl could desire. Could that be the deadly truth? He didn't want to believe it.

"Laura!" he groaned. "Laura, I can't believe—"

The rest was a choking rasp, as von Grenfeld again used his para-gun. The girl's head had jerked sharply, at the note in his voice. For a moment she seemed on the point of answering his call, running to him.

"That will be all. Thank you, Miss Asquith." Jonathan Mausser's voice had cut in sharply.

The girl seemed to shrink within herself. She stepped down from the stand, avoiding Hale's pleading eyes.

The jury returned its verdict in fifteen minutes.

"Guilty!"

"The defendant, Richard Hale, will please stand," Sir Charles Paxton intoned sonorously. "The sentence, for your crime of high treason against the World Government, is life imprisonment in Strato-prison!"

IT was the final touch. Strato-prison—the super-bastille of 2001 A. D.! Life imprisonment there meant isolation from Earth, as fully and finally as though marooned in the next universe. Hale stood silent and bitter. The Five had achieved the ultimate against him. Capital punishment had been abolished in 1984, otherwise he would now be a dead man. As it was, he would be only one degree better, a living-dead man.

"Because of its affiliations through Richard Hale with the Dictator Syndicate, the Subatlantic Tube Company is automatically dissolved," Sir Charles Paxton droned on. "All its assets and contracts will be auctioned to the highest bidder."

No need to say who would be the "highest bidder." The Five had done well for themselves. In one stroke they had eliminated Hale, broken up his company, and gained control of the future of the Tube. Yes, they had done well.

That thought lashed through Hale's mind like a cruel whip.

"Have you anything to say before the court?" queried Paxton, carrying on the routine legal tradition.

Hale stood silent for a moment. His burning eyes traveled from face to face of the Five, as though indelibly imprinting their features on his mind. His gaze stopped on Dr. Emanuel Gordy.

"I say only one thing to the Five." His voice was low, tense, deadly. "Revenge!"

His glance flickered to Laura Asquith, at the last, as if including her in his vow. Then, face set stonily, he turned to be led to his cell.

"It might interest you to know," hissed von Grenfeld in his ear, "that escape is impossible from Strato-prison!"

"Let that thought comfort you," Hale replied between his teeth. "Nobody can stop my revenge. I'll have it some day!"

Ivan von Grenfeld shuddered at the unspeakable resolve in that voice.

"When?" he mocked. "Tomorrow? There is no tomorrow for those in Strato-prison!"

CHAPTER IV

Escape and Back

RICHARD HALE watched Earth dropping away from the window of the strato-ship that was taking him to prison.

He was in the small stern guard cabin, along with another man recently sentenced. With his back to the door sat an armed guard, bored but watchful.

The powerful beat of the atomic rockets shot the ship up and up at a steady slant. New York City assumed to ylike proportions. New Washington, the seat of World Government, on Long Island, dwindled beside it. It had never seemed such a magnificent sight, for bright sunshine glinted from its tall spires. The countryside around was blanketed with silvery snow. The ocean to the east, broad and blue, sparkled with white caps. Aircraft, like mechanical

eagles, were drumming below, a symbol of the busy, bustling civilization they were leaving.

"Take a good look at it, you two," admonished the hard-bitten guard laconically. "You'll never see it again!" He watched his two prisoners with the eyes of a sadist. He went on harshly. "It's a pretty awful feeling, isn't it, leaving Earth and knowing you'll never come back? You can't escape from Strato-prison. Only one prisoner ever escaped in thirty years. How he did it, no one knows. But anyway the rest, and you two, won't. You'll live and die up there, fifty miles above Earth!"

Each word to Hale was like a whip-lash. An Earth slipped away, the stark realization bit deeper each second that he was leaving it forever. All its joys and sorrows and daily living were no longer his. Nothing but a lifetime of prison existence yawned before him. His life was completely ruined. His father's life-work was now in the hands of the Five. His future happiness with Laura had been destroyed utterly. The acid of bitterness corroded his soul.

"Damn you, stow it!" growled the other prisoner to the guard. Then he addressed Hale, in a tone of the common fraternity of crime. "I blew up an AP-dynamo, breaking a strike. Killed ten men. Name's Tom Rance. What you in for, pal?"

"I was framed, railroaded," Hale said hollowly. "At least you know what you're being sent up for, but I'm innocent!"

[Turn page]



The prisoner looked cynical.

"Yeah, of course. Innocent," jeered the guard. He stared curiously at Hale. "In that case, you're taking it pretty calm."

Hale's eyes met those of the guard, but he said nothing. The guard shivered. Something deep and deadly and infinitely bitter lay naked in those eyes.

Hale's leaden calm gave no indication of the burning thoughts in his brain. He was living, over and over, the court scene. Again and again, like a specter, arose the searing picture of the Five twisting the coils of law about him. The Five—and Laura, the girl who had betrayed him. And like a great clanging bell, one word reverberated in his mind—*revenge!*

But how, and when?

Once locked up in Strato-prison, nothing could be done. In thirty years, out of thousands of prisoners, only one had escaped. He could find no hope there. His only chance of escape was now, before the ship reached Strato-prison.

THE other prisoner stood at the window, looking down with a sort of frantic eagerness. His chin trembled slightly. Cold-blooded murderer though he had been, leaving Earth shook him to the bottom of his calloused soul. Hale could sense hysterical rage building up in the man with each passing second.

Hale suddenly caught Rance's eye. An unvoiced signal passed between them. Overhead, in the ceiling, hung parachutes. The cabin window could be cracked with a determined heel. Only the guard was in the way. Perhaps between the two of them—

There could be no planning of the desperate attempt, no chance to talk it over without the guard hearing. And the ship was ranging higher every minute, making the parachute drop to Earth a more precarious proposition. It was now or never.

Hale tensed himself, but waited for Rance to take the lead. Rance suddenly did. He was a big man, but whirling, he threw himself at the guard. Startled, the guard half drew

his para-beam pistol. A blow from the big prisoner staggered him against the wall. He let out a yell of alarm and flung himself at the attacker.

Hale thought rapidly, in the desperation of the moment. He darted for the door, instead of joining in the battle. Another guard, stationed out there, must be kept from entering. Barely in time, Hale clutched at the door's handle as it began sliding aside. He heaved it shut, held it closed by main strength. There was no lock or bolt. The guard on the other side jerked again and again. Hale felt his arm muscles crack, but braced his feet. He could hear the outside guard bawling for help.

Out of the corner of his eye, Hale watched the progress of the fight in back of him. Both men were battering at one another savagely, grunting and cursing. The guard was too busy defending himself to use his paralysis pistol. Tom Rance, handy with his fists, fighting for far more than a moment's victory, rapidly gained the advantage. A final powerful blow cracked on the guard's chin like a pistol-shot. He slumped against the wall, his head lolling.

Hale felt like yelling in triumph. Their chances were excellent now. But a jerk at the sliding door nearly pulled his arms from their sockets. Two guards were trying to force an entrance.

"Bench!" gasped Hale. "Hurry—barricade door!"

"Hold on!" barked Rance.

Hastily he unsnapped the bolts holding down the bench. Then he heaved the long metal bench against the sliding door, wedging it between the handle and one wall. Hale eased his hold on the handle. His hands were numb.

At that moment, those beyond the door ceased tugging. Instead, something banged against the thin metal panel. It began to buckle slowly.

"They're battering it down!" panted Rance. "Get down the parachutes while I kick out the window."

He kicked at the port with one heel of his heavy shoes. A tough quartz pane, it was designed to hold against

the near-vacuum of the higher stratosphere. A dozen blows finally cracked it. The pieces fell outward, and the port was open to the thin air.

Hale felt the breath whip out of his lungs, for the ship was up almost ten miles. Gasping, his ear-drums roaring, Hale helped the other prisoner strap on a parachute. His own was already in place.

WITH the door ready at any second to crumple inward under a battering ram, the two prisoners

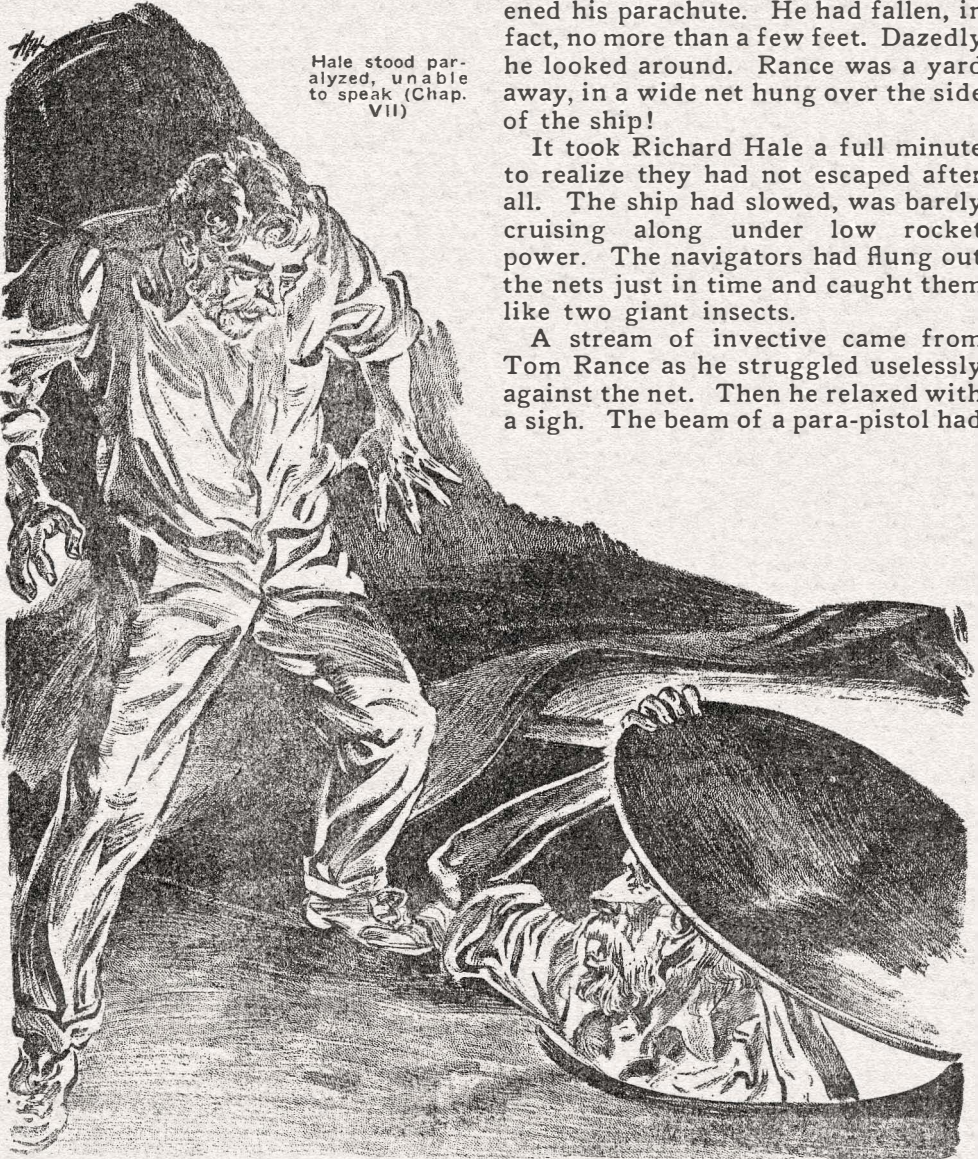
leaped through the open port-hole. Rance went first, simply because he got there first and wanted frantically to escape. But Hale was right after him, dizzy and exultant.

As he slipped from the port edge, his thoughts were back in the court room. Once again he was looking from one to the other of the Five and promising revenge. When he landed below, on Earth, he would go into hiding, lay careful plans. He would—

His thoughts ended abruptly the instant his body struck something springy and binding. He had not opened his parachute. He had fallen, in fact, no more than a few feet. Dazedly he looked around. Rance was a yard away, in a wide net hung over the side of the ship!

It took Richard Hale a full minute to realize they had not escaped after all. The ship had slowed, was barely cruising along under low rocket power. The navigators had flung out the nets just in time and caught them like two giant insects.

A stream of invective came from Tom Rance as he struggled uselessly against the net. Then he relaxed with a sigh. The beam of a para-pistol had



Hale stood paralyzed, unable to speak (Chap. VII)

sprayed over him. The beam touched Hale and he went numb. He felt the nets being drawn in slowly.

"Guess we failed, pal," Rance struggled to say. "It's Strato-prison for us, after all."

An hour later, the laboring rocket engine had lifted them within sight of Strato-prison.

The broken port had been resealed with another quartz pane and vacuum wax. Normal pressures had been restored. The two prisoners were back in custody, tightly bound with chains. Three watchful guards stood over them. There had been no slightest second chance to escape.

Hale looked out dully, utterly dejected in spirit. Strato-prison was a huge, pitiless globe of metal, hanging fifty miles above Earth's surface. A half-mile in diameter, it was upheld by a zero-gravity field, created by giant AP-dynamos. It served double duty as a prison and sun-power station. Its sunward side, as it slowly rotated, held great lenses that focused the Sun's beams within. Electro-converters captured the sun-energy, and sent it to Earth via radio power beams.

It was hoped one day that it would also serve as a way-station in space flight. No ship had yet reached the Moon or another planet successfully. AP-rockets and zero-gravity fields were not enough. Above the protective ionosphere of Earth existed the deadly cosmic rays in full force. Life withered in their blast. They would have to be conquered before men could visit the planets.

But men had at least extended their domain to fifty miles above Earth. Experimental ships had even gone a little higher.

Hale already felt as though he were in another world. Nothing was familiar. The blue-black of near space swam with bright stars. The Sun lay revealed in all its glory. Its halo and corona were starkly beautiful. Sun and stars could be seen together here, for this was not Earth. Earth lay invisible below, behind a blanket of clouds. It was another totally alien world.

The rocket ship circled over the

gigantic globe, flashing a radio signal to Earth for the locks to be opened. The single sealed entrance to Strato-prison was operated by remote control from the home planet. As a result, Strato-prison was escape-proof. Once a month the supply ship arrived from Earth, and that was the only contact with the world below.

Yet one prisoner had escaped!

HALE nourished that thought, though sight of the impregnable prison has struck him with almost utter hopelessness. A year before, for the first time, a prisoner had completely vanished. How he had accomplished the miraculous escape, the astounded prison officials did not know. It was almost a legendary feat. Hale clung to the fact that if it could be done once, it could be done again. Then he shelved the matter far back in his mind. It was something for the unpredictable future.

Hale knew little more about Strato-prison. Not much was known on Earth of the hell of bitter, lost souls. Earth's worst criminals were its denizens, bestial murderers, saboteurs, plotters of treason. All were lifers. All had been completely disowned by the society against which they had sinned. All of them, in times of capital punishment, would have been executed.

Hale shuddered, now that he was so close. To live out a life among such dregs of humanity would be sheer torture to him. Most bitterly ironic of all, he was innocent.

Two enormous drawbridge doors swung wide in the upper surface of the globe. The supply and prisoner ship entered on throbbing rockets. Two sets of locks closed overhead. Air hissed into the large space. The crew of the ship stepped out to begin unloading supplies. A moment later a door opened in the large chamber, and a file of denim-clad men marched in, flanked by armed guards. They helped in the unloading.

"All right, you two, let's go," barked the ship's guard to Hale and Rance. He was the guard they had attacked. His face had been patched

with adhesive. He grinned evilly. "This is it, your home for the rest of your natural lives. And I wish you a long life!"

Strato-prison guards waited to take the two new prisoners within the prison. As they walked past other prisoners, Hale looked them over in revulsion. He saw men with the degrading mark of prison and their crimes on them. Their faces were harsh and brutal. Every other word of their muttered conversation was a coarse oath. Human in name only, they seemed closer to beasts, completely divorced from normal human life. They hailed the new prisoners with ribald expressions of mock welcome.

And yet, among them, Hale saw a sensitive, almost aristocratic face. The eyes that met his were filled with infinite misery. And an infinite pity—for Hale! Hale shuddered. Probably another man the Five had railroaded into this accursed, forsaken place.

"Get along, you!" A guard kicked Hale forward. "No time to day-dream around. Obey orders and you'll keep out of trouble."

The way led through a seal-door that opened out on a broad, dimly lit corridor. It was a section of the upper levels, living quarters of the guards, jailers and non-criminal attendants in the vast prison.

Farther on, in a series of rooms, Hale and Rance were fingerprinted, photographed, stripped, put under a disinfecting spray, and shaved of all hair. As a final ignominy, numbers were indelibly tattooed with electric-needles on the bare skin of their chests. Finally ushered before the warden of Strato-prison, they were clad in denim with numbers on their backs to match the numbers on their chests.

WARDEN LEWIS eyed them impersonally. He was a man, Hale saw, who would have sneered at the word "soul."

"You are no longer Tom Rance and Richard Hale," he said coldly. "You are T-sixteen-twenty-one and Y-fourteen-eighteen. You left your identi-

ties on Earth. You will never regain them."

Hale went cold at the flat final tone. This man had seen thousands of prisoners come and go. They came in life and went in death. But they never escaped this super-bastille of the sky.

"All details of prison life will be explained to you by the jailers. There is a routine of eating, sleeping, drilling, and laboring that must be abided by—or else it goes hard with you. T-sixteen-twenty-one, you may go. Y-fourteen-eighteen, you will remain a moment."

Rance turned to leave.

"I'll be seeing you around, Hale," he said in farewell.

Hale nodded. He actually hated to see Rance go. Murderer though he was, he was the closest thing to a friend in all this hostile place.

The master of Strato-prison smiled peculiarly.

"I don't think you'll see him again, Y-fourteen-eighteen," he said deliberately. "You are a very special case. My orders, from Earth, are to confine you immediately in solitary!"

"Thanks," Hale said, thinking of a cell of his own. He felt relief that he wouldn't be paired with one of those shattered hulks of men.

"Do you know what solitary means?" continued the warden, smiling without humor. "It means being locked in a cell, utterly alone—till death!"

Hale kept his head high, though he flinched inside.

"Orders from Earth? From the Five!" he gritted bitterly, half to himself. "For that, too, I'll have my revenge!"

"Revenge?" the warden laughed. "Don't build up hope of escape, not the tiniest hope. In thirty years only one man escaped. You won't repeat the miracle. You had your last look at Earth, your friends and your enemies when you left. It's a pity in a way. You're so young, upright, intelligent. Soon you'll be old—"

He broke off, looking guilty, as though caught in the act of having feelings his position did not allow him to have.

"Take him away," he brusquely ordered a guard. "Solitary cell B-fifty-five."

He turned away as though from a man about to be buried.

CHAPTER V

Solitary

DOWN in a wire cage elevator they went, passing through successive levels of the colossal prison. Most of the levels were long cell-blocks. Shifts of prisoners were being marched in here and there, or marched out to drills, mess, or labor detail. The extreme regimentation left Hale sick.

Lower levels held the mess-halls, drill rooms and repair shops. One huge level was crammed with great AP-dynamos and sun-power converters, where the more highly skilled prisoners were employed. Below this were storerooms.

The elevator went lower, toward the bottom of the giant metal ball. Gradually all the lights and noises faded from above. Gloom and quiet surrounded them. The elevator stopped, and the guard turned Hale over to the lower-level jailer. After a pitying look at him, the guard sent the cage up swiftly, as though glad to get away.

The jailer led the way to the end of a corridor, and switched on a visiscreen that showed simply blank space and stars. The Sun was far off in one corner. The crescent Moon hung nearby, sharp and clear. Below, vaguely, lay the great curving bulk of Earth, blanketed by clouds. It was a weirdly beautiful scene, thrilling Hale. Then he turned.

"Well?" he demanded.

The jailer had stood quietly watching him.

"Those who are sent to solitary are always given a last look," he said indifferently. "Like the last meal before execution, in history. You will be all alone in your dark cell, cut off from everything. You won't even see me. Food will come to you twice a day by

robot conveyor. The rest of the time is your own."

After pausing, the jailer went on with an uninflected voice, as though on a guide tour.

"Every six months you are examined by the prison's psychiatrist, for your sanity. Most of them go mad eventually. When he's been proved mad, the prisoner is put away painlessly, by the Mercy Euthanasia Law of nineteen-seventy-seven."

Hale gasped. Did such things go on in the world he had thought civilized? Strato-prison was really an anachronism, a lag from the harsher times prior to 1979, a spawn of the concentration camps of dictator days. But prison reform, like all reforms, was far behind the times. Earth did not hear much of the true inside story of Strato-prison, as Hale was now hearing it.

All through history, the good and bad had existed side by side. In the first half of the 20th century, for instance, a million people had lived in frightful squalor in New York City's slums, under the very noses of the rich. Strato-prison was the blemish of more enlightened 2000 A. D.

"Inhuman!" Hale cried. "The system *drives* them mad!"

"You think those with strong minds, like yourself—" He stopped, as though saying too much. "Those sent to solitary are the ones who never confessed their crimes. All you have to do is confess and escape it."

Hale's mind exploded.

"Confess to something I'm innocent of? Never, I tell you! Never!"

The jailer shrugged. "Come. Walk ahead of me. I'm armed."

Striding along, Hale saw the diabolical ruthless hand of the Five in this. They hoped he would be driven mad, and thus die in the loophole of the Euthanasia Law. On the other hand, if he confessed to escape solitary, he was condemning himself irrevocably. And they knew, damn their rotten souls, that Hale was not the kind to confess a lie.

Hale felt the Five, like an invisible octopus, giving their last fatal squeeze.

He was before his cell now, a metal chamber built into the metal walls of the prison. Farther down was another, and from it came a low, steady moan that chilled Hale's blood. Some poor creature in there was at the brink of madness.

Hale marched in with shoulders squared. Hope had not yet entirely deserted him.

The thick metal door grated shut, like the lid of a coffin. A hissing click sounded, as the electrical lock shot home. Hale was alone, in solitary. . . .

THE room was almost, not quite, lightless. A faint reflected glow came from the corridor through the ventilation vanes in the door.

It was ten feet square. Hale bumped his shins against a metal cot, as he explored gropingly. He felt a hard mattress and thin, rough blanket. There was no other furniture in the room. It was a dungeon, the most miserable form of habitation invented by the human mind. In one corner was a small refuse closet. A lingering odor attested that the last unfortunate had spited himself.

His inspection over, Hale sat down on the bunk. For the moment he was glad of the dark and quiet. It gave him a chance to think over the recent tumultuous events in his life. Bitterly he reviewed the whole maddening sequence.

New Year's Eve—New Century's Eve! How happy and proud he had been! He had stood on top of the world. His father's life-work was about to be consummated with his gift to civilization in the great Subatlantic Tube. Laura Asquith had been at his side, happiness ahead of them. That night had been a supreme moment, glorious in its promise.

Hale recaptured the mood for a moment, his spirit soaring.

Then his hand touched the hard metal of his bunk. . . .

With a rude, jarring shock, he was back in prison. In one crushing blow he had lost all that. From the high he plunged to the low.

Like a phantom newsreel, the court

Payton's hands were gold! (Chap. XII)



scene flashed through his mind. The Five, maneuvering his downfall, hung real as life before him. Fat, white, black-souled Jonathan Mausser, who delighted in legal torture. Brutal, hard Ivan von Grenfeld, trampler of human souls. Thin, avaricious Sir Charles Paxton, placing gold above human honor. Spidery, cold-brained Dr. Emanuel Gordy, visioning a human ant-heap under his whip.

But it hurt most to think of Peter Asquith, the man who had posed as his friend, yet had dug his pit. And Laura, the girl who had said:

"I will stick with you, no matter what happens!"

The darkness of his cell was merciful. Richard Hale felt glad that he could not see his face in a mirror at that moment. He knew a twisted leer had been etched on his features by the acid of bitterness.

He jumped to his feet, began to pace up and down. He bumped against one wall and reeled away, cursing.

"Revenge!" The word swung like a pendulum in his mind.

It was all he had to live for now, revenge on those who had sent him to perdition. He must not go mad. He must keep his sanity. He was young and strong. He wouldn't languish and die as men did in historical

romances. Years and years were ahead of him. He would plot and scheme to escape. One man had done it. There must be a way. Somehow he would get out—some day.

And then he would confront the Five. He would stand before them like a ghost from the past. He would remind them of their frightful crime against him. They would quake to the bottom of their worm-eaten souls.

HOURS later, Hale's tumultuous thoughts were interrupted by a clicking sound, followed by a sliding clank. Now accustomed to the near-darkness, his eyes easily made out the moving object. A lower slot in the door had opened. A tray scraped forward. The robot conveyor had brought him his first prison meal.

Hale sat before the tray, sampling the food. There were three wooden bowls. One held a thick stew of meats and vegetables, highly spiced, hiding its rancidness. The second held hard bread. The third was tepid water.

At least, he reflected as he ate, they didn't starve their prisoners. He was careful to let no crumbs fall on the floor, for there was poor ventilation. He saw no sense in adding to his own discomfort. With a little neatness and care, the cell would remain half-way decent. Resolve was strong within him to last out the bare, bleak future ahead of him.

A half hour later, the robot conveyor came to life again, sliding back the tray and closing the door slot. Hale heard the sounds of a sort of running belt system that operated under the floor. Then the sounds abruptly ceased. . . .

For the first time Hale became aware of the silence—in utter, aching, tomb-like silence. No slightest sound penetrated the metal walls. Though tired, he tossed and turned for hours on his hard bed before he fell asleep, finally beaten down by that unnatural dead quiet.

Three days later, Hale still found himself fighting the silence. He had more than once put his ear to the ventilation slits, hoping to hear some sound from outside. Even the mad

moaning of another prisoner would have been welcome. But he heard nothing—*nothing!*

He began to welcome and wait for the clink and scrape of the robot conveyor. It seemed as though days passed between its clocked arrivals, though he knew it was only a matter of hours.

He kept telling himself to relax, not to let it break him. Yet within a week he tried the one thing he had told himself he must never do—talk aloud to himself. His voice at first terrified him, sounding hollow and strange. Then soon it seemed natural to express all his thoughts aloud. But whenever his voice died, the silence seemed to spring at him like a crouching beast.

Darkness, too, preyed gratingly on his nerves.

He found himself holding his hands before his face, going over their dim outline, fearful that he was going blind without knowing it. It was a stupid thought, he knew, but stupid thoughts like that eternally crawled up on him. Worst of all, the uselessness of his eyes allowed his mental visions full play. And these endlessly revolved around the court scene and the hated faces of the Five.

A third thing that plagued the lonely prisoner was the slowness of time. The cliché "Time hanging heavily" became a living truth to him. Often he was convinced that the conveyor was hours and days late with his food, only to realize the pangs of hunger never coincided with that conviction. For a month he meticulously kept a mental record of the time, by the conveyor. Then, hoping time would fly faster if he didn't know, he dropped the count.

Silence, darkness and snail-footed time were his three enemies. The Three, he began to call them in grim jest.

Silence, broken only by his own footsteps and hoarse voice. . . . Darkness, peopled with his extinct past, making his hell more hellish by contrast. . . . Dragging time that stretched before him like a shuddery, bottomless pit. . . .

NEVER would he know for sure when he had his first breakdown. But he was suddenly screaming at the top of his voice, beating against the walls and door with his fists till his skin cracked and became slippery with blood. He pleaded, begged, shrieked to be let out. It went on for whole desperate minutes.

"Hallo, you in there. What do you want Y-fourteen-eighteen?"

Hale choked to stunned silence. The jailer's voice was speaking through the door slits. It was the first human voice, other than his own, that Hale had heard for eternity. It sounded heavenly sweet.

"I—" But Hale didn't know what to say.

"You want to sign a confession?"

That was the reason he had come. Hale swallowed hard.

"No, never!" he croaked.

"All right." With that phlegmatic phrase, the jailer was leaving.

"Wait! Don't go!" begged Hale. "Haven't you got a minute spare? Talk to me." Hale wanted desperately to have the man stay. "Tell me. How are you?" It was first thing that came to his mind.

"Against the rules to talk to prisoners." The jailer's voice moved away. It had been expressionless, unmoved.

Hale stood for a long time with his back against the door, a hollow misery trembling through every fiber of him. He fought for the control he had nearly lost.

"Revenge!" he gritted aloud to himself. "Remember that, Richard Hale

—revenge! You've got keep sane and live for that!"

Yet to do that he had to escape from an iron globe, completely sealed, swarming with guards, perched fifty miles above Earth. Impossible, yet one man had done it. Somehow he had thought out a way. Hale, too, must think a way out, even if it took years.

CHAPTER VI

How to Test a Mind

ATTUNED to graveyard silence, his ears made out the faintest of sounds from outside his cell door. Footsteps were approaching! When the electric clock clicked, and the door began to swing open, Hale realized that six perpetual, age-long months had gone by. For they were coming to examine him.

His eyes winced and watered at the blinding light that sprang in. Blinding light? He knew the corridor was dim. The jailer stood there, a slouched, ill-kempt human figure. But looked more godlike, to Hale, than the best of Grecian statuary.

"Come along," said the jailer. "Up to the psychiatrist's office."

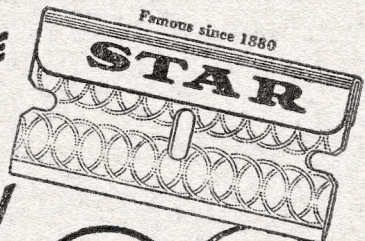
Hale staggered out.

Another prisoner stood there, a ragged, bearded wretch who had once been strong and broad-shouldered. He was scrawny and hollow-eyed now, staring about in deep bewilderment. Hale knew how he felt, seeing some-

[Turn page]



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Bloodstains covered
Asquith's hands!
(Chap. XIII)

thing besides his dark cell. But the man acted queerly. He clutched at Hale's arm.

"Why is it so dark here?" he mumbled.

"It isn't!" sang back Hale, drinking in the optical paradise. It felt good just to talk and look. "It's as light as day here. It's bright and shiny and fresh—"

He stopped, looking at the other prisoner pityingly.

A look of horror had come over the man's haggard face. He passed his hands in front of his eyes.

"Everything is dim to me!" he said in a hoarse whisper. "I can hardly see. And you say it's light here?" A shriek burst from his lips. "It happened! It happened! I've gone blind—"

Abruptly, he sank to the floor.

"Fainted," said the jailer. "I'll send someone to take care of him. Come with me, Y-fourteen-eighteen."

Hale stood before a mirror a minute later, shocked. Saw himself as a wild, savage figure with a ragged beard, tangled mane of hair, prison-pallor skin, threadbare evil-smelling clothes. He resembled something out of a child's nightmare.

He was permitted the luxury of a bath, given a new denim suit, and his

hair was indifferently clipped by a hurried attendant. Yet, it was all sheer delight to Hale. And when the elevator took him up, past lighted levels filled with sound, he thought it was like ascending to some heaven, by contrast with his isolated cell.

Hale finally stood before the psychiatrist, Dr. Riss, and Warden Lewis. They eyed him narrowly.

"They're wondering if I'm insane. But I'm not—"

Hale stopped, suddenly realizing he was thinking aloud, as he had in his cell.

DR. RISS smiled peculiarly. "Y-fourteen-eighteen, say the first word that comes to mind at each word I say. Don't hesitate. Ready?"

Hale nodded. Swiftly he told himself to be alert. The Five would want him adjudged insane. Dr. Riss probably had his orders. At the slightest excuse, Hale would be branded unsound of mind, consigned to the mercy of Euthanasia death.

"Red!" snapped the psychiatrist.

"Color."

"Sound!"

"Silence."

"Cell!"

"Solitary."

It went on for some time. The key-words all related to his confinement. An unhinged man would have screamed at each one.

Dr. Riss' tone changed.

"Syndicate!"

"Innocent."

"Tube!"

"Mine."

"Laura!"

Hale hesitated for an instant. The list had been prepared by the Five, obviously. His nerves, about to crack, eased as a gong rang in his mind—"Watch yourself, Richard Hale, or you're done for!"

"Girl," he snapped back.

"Revenge!"

"Word."

It went on for some time, ending with the psychiatrist snapping "confession!" and Hale instantly returning, "Never!"

Dr. Riss arose, flashed a bright light

in Hale's eyes, peering intently. He turned finally.

The psychiatrist drew himself up.

"Warden, in all honesty to myself and my profession. I can't pronounce this man anything but sane, no matter who—" He broke off and finished: "This man has a strong mind. I dismiss the case."

Hale's heart leaped. He had scored against the Five! No matter how small and empty a victory it was, he had won this much against them.

"Back to solitary," snapped the warden. His glance at Hale said: "We'll see how long this strong-minded man lasts!"

Locked in his cell, Hale wondered himself. The oppressive silence and dark again coiled themselves around his mind. The brief interlude above was already a forgotten dream that served only to heighten his returned misery. Diabolically, the prison masters had planned it so. It was mental Inquisition.

TIME dissolved into itself. Days or weeks meant nothing to Richard Hale in his lightless, soundless, timeless cell. Mind-staggering eternities hung before him, punctuated only by the regular clank of the robot conveyor.

Hale's misery touched bottom. If he only had something to do, a book to read, paper or wire that he could occupy his fingers with. Just eternally sitting and thinking made him feel like a blind worm. Even the prisoners above did not realize how happy they were, with a chance to work and talk with others.

And when Hale thought back to Earth, he wondered if people realized what staggering treasures were heaped around them. A breath of wind, a shaft of sunlight, a tuft of grass—each was a blessed jewel denied him. And the whole Earth was crammed and loaded with them! The thought grew almost incredible, as though Earth were a dream heaven that did not really exist.

Hale realized, in the back of his tortured mind, that these were distorted thoughts, that bit by bit he was

losing the struggle to remain mentally balanced. He might last another six months, but what about the next six months—and the next and next? What if for five or ten or fifteen years he could think of no way of escape?

Years, whole unending years of this! The thought crushed him. If no escape presented itself, his jailer would one day open the cell to find a broken creature stumbling around, croaking "*Revenge!*" without even knowing what the word meant.

No, it must not be years. That would be more than the human brain could stand. If he was to escape, it must be soon. Subconsciously he had been constantly wrestling with the problem, and it seemed impossible. Yet one prisoner had done it. But how, through walls of steel, past swarming guards, and out of a sealed globe suspended in a near-vacuum?

Hale jumped up suddenly, yelling and screaming at the air vents of the door. He had thought of something. The jailer's voice answered beyond the door.

"Ready to confess?"

"No. Listen to me." Hale went on tensely: "I have friends on Earth—Rich friends. Does money have any value to you?"

"Money has value to everyone," returned the jailer noncommittally.

Hale exulted. The jailer did not leave. The word money had evidently caught him.

"Could you get a note to Earth, from me to my friends, at a price?" Hale asked eagerly.

"Well?"

Hale took a breath. "They would arrange any sum you mention, if you could help me." Hale paused suggestively. He did have business friends who might—it was a forlorn chance at best—scrape together a sizable amount.

"The price of a candle is one hundred dollars," the jailer said candidly.

"What is the price of—freedom?" Hale demanded breathlessly.

"More than you could pay, my friend," laughed the jailer. "Because you would have to buy off all the guards. It is impossible to arrange a

prisoner's escape. It has never happened."

HALE'S heart sank. "But what about the one who *did* escape?" he queried wistfully.

"Z - ninety - nine - twenty - two? That was a mystery." The jailer's voice filled with sudden awe. "He was in solitary too. A year ago I opened his cell, and he had gone. The cell looked intact, but he was gone. They suspected me, but the electric lock record showed no tampering. He was simply gone!"

"But how, where?" Hale pursued.

"Who knows?" The jailer must have shrugged. "Maybe he went into the fourth dimension." He laughed shortly and moved away. "And that's your only hope, Y-fourteen-eighteen. Find the way into the fourth dimension!"

Alone, Hale pondered the mystery of Z-9922. Days later he was still pondering, weeks later, an eternity later. The silence and the dark and the timeless web around him whispered evilly.

"Into the fourth dimension—escape—revenge! Into the fourth dimension—escape—revenge!"

On and on the endless refrain went in his tormented mind, like a cracked phonograph record.

And suddenly Richard Hale knew the truth. It was a lie, a diabolical myth developed by the master sadists of Strato-prison. No prisoner had escaped! There had been no Z-9922. It was a story designed to keep alive the faintest of hopes in prisoners' breasts, so they could not accept the philosophy of resignation. Then the mind, chasing like a mad hare between the two extremes of hope and hopelessness, would more speedily wear itself out, and collapse.

There was no escape!

And Richard Hale, driven by the demon that yelled "revenge!" ceaselessly and meaninglessly, knew that he was going mad . . .

Another eternity of bitter loneliness crept by.

Hale sat with his face in his hands, peering into the darkness, thinking. He no longer talked of himself. He

listened to the silence, and he thought.

"Damn you!"

He suddenly whirled, clutching with his hand, and almost caught them.

"Please let me alone!" he begged.

Damn those dark-creatures, always pulling at his hair and ears and tormenting him. Couldn't they let him alone? Couldn't let him think in peace?

He had something very important to figure out. The Door. He hadn't found it yet. On hands and knees he had crawled the circuit of the walls, feeling with his hands thousands of times. Some time he would find it, the door into the fourth dimension. And then he would walk out. It was so simple.

He swore again, suddenly. Now he heard the crawl of a bug. There were bugs here too, and they disturbed his deep study. He dropped silently in a crouch, listened, turning his head like a radio aerial. Finally, moving forward cautiously, he spied the bug, for his eyes were tempered to near-darkness. He scuttled forward, stamped, heard the crunch of the bug underfoot.

SATISFIED, he went back to his bunk. He resumed his thinking, waving the dark-creatures aside. He would find the door through the fourth dimension, and escape. Then he would find the Five, lead them back to the cell, make them listen to the bugs, and play with the dark-creatures.

He shrieked with laughter. Make them listen to the bugs, the bugs that slithered along the wall, making tiny scraping sounds. There, another one! It was scraping, clicking, sliding along with a sort of slither. He could almost distinguish the sound of each insect leg lifting up and down, in that perfect silence, scraping, hissing—

Hissing? Why should it make a hissing sound?

Hale sat up, listened intently, cupping his ears. Then he eased himself to the floor, placing one ear against the metal. The sound came from *below* the floor!

Cold shock swept over Hale's mind. He forgot the bugs and dark-creatures. This new phenomenon demanded his attention. It was the first outside sound that had ever penetrated his absolute isolation. What could it be?

Intently he listened for an hour. It was a steady hiss that reminded Hale of something he had heard before. Many eternities before, on a place called Earth, he had heard a similar sound. It was the sound of some instrument in operation.

Hale's mind beat against waves of obscurity. God, if he could only remember the time before the dark-creatures had come! That hissing sound, and the crunch of billions of little things together—

Atoms!

The word was like cold water thrown over his fevered mind. He gasped, remembering.

An AP-beam was biting into matter!

By degrees Hale's mind swam upward from a pool of bedlam. Reasoned thoughts charged forward against mad conceptions of dark-creatures and the fourth-dimensional door.

"Who or what," came the thought, "is working or digging with an AP-beam under this floor?"

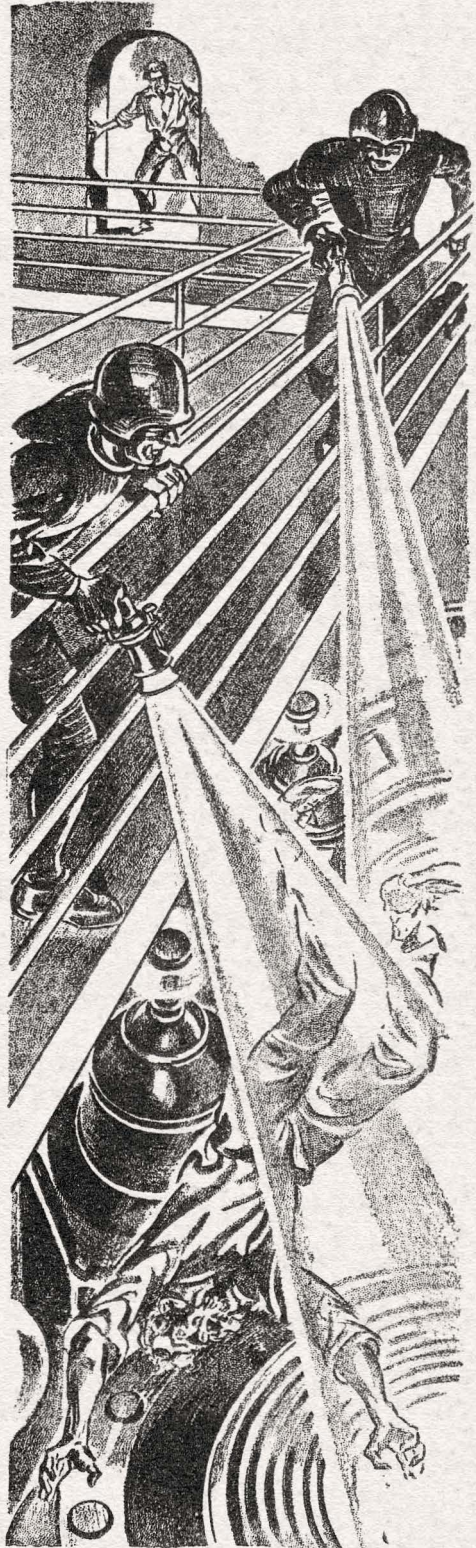
CHAPTER VII

Weird Visitor

WHILE Hale waited in breathless suspense, the answer came days later. One day a sharp hiss sounded, almost like a pistol shot. Hale momentarily saw the purling-violet flame of an AP-beam stab upward from the floor. The beam broke through one needlelike hole. And it stopped.

Wild with wonder, Hale kneeled at the spot and pounded against the metal with a wooden bowl he had saved from his last meal. He pounded three times, heavily. Would the sound penetrate below? Would the signal reach his possible—rescuers!

Hale's fevered thoughts had formed



He fell straight toward a generator (Chap. IX)

that explanation for the mysterious event. He or they, whoever he or they were, were digging up toward his cell, perhaps from the outer hull. Either that or workmen were doing routine repairs.

He waited in an agony of suspense to find the result of his signal. No answer came, no sound at all. The thermometer of hope dropped. But suddenly it leaped high again. The fact that they hadn't answered meant they were afraid to, whereas workmen would have ignored his signals. That made him cling to the theory of rescuers who feared they had been detected by guards.

Hale gripped his wooden bowl firmly. Sweat started on his brow as he searched a confused memory for the International Code, learned years before and almost forgotten. Finally he began tapping, slowly, struggling to remember.

"R-i-c-h-a-r-d H-a-l-e p-r-i-s-o-n-e-r Y-1-4-1-8 w-a-i-t-i-n-g p-l-e-a-s-e a-n-s-w-e-r."

Then he lay flat, one ear pressed against the metal floor. He held his breath, lest his harsh breathing hide any sounds from below. But no slightest sound returned. Hale left the weight of despair. Had it all been imagination in a disordered mind? But no, he could feel with his fingers the tiny hole an AP-beam had cut. Why in God's name didn't they answer? Even if they didn't know the code, any tapping signal would be reassurance. They must realize that.

They must realize that.

An hour passed. Hale's muscles were numb from lying rigidly in one position. He picked up the bowl finally, to try again. Perhaps his first signal hadn't gone through—

And then he dropped it, seized by a fit of trembling.

The return signal!

It was a faint metallic tapping, barely audible, as though the sender feared detection at any moment.

"A-n-y g-u-a-r-d-s n-e-a-r."

"N-o," Hale returned joyfully. "C-o-m-e t-h-r-o-u-g-h."

For long minutes there was no answer to this and no sign from be-

low. Then suddenly the hiss of the AP-beam resumed. Skillfully guided by an unseen hand, it ate through the metal floor in a rough circle two feet in diameter. Then the severed plate, like a manhole cover, slowly raised at one side. Slowly it inched upward as though a pair of eyes were gradually taking in more and more of the view beyond.

The raised side of the lid remained poised six inches off the floor. Hale's owl-sensitive eyes made out a forehead, overhung by a tangled mop of hair, and a pair of eyes that painfully peered about.

Hale stood paralyzed, wondering what to do or say.

WHEN the eyes met his, they widened, taking in his figure from head to toe. They were eyes also apparently able to see by the dim reflected glow of the cell, pitch darkness to normal vision.

Hale waited for the unknown man to make the next move. He did. He spoke, wearily.

"Here, help me. Lift this lid away."

Hale complied, rolling the inch-thick metal plate aside and leaning it against the wall. Beyond was a dark tunnel, almost parallel to the floor, but slanting down gradually. Out of it crawled the newcomer. Hale made out an old, scrawny man with uncut hair and white beard. He sat dejectedly beside his tunnel, staring about as though to make sure that what he had seen actually existed. Then he looked up.

"Whom did you say you were?" he queried in his weary voice.

Hale hadn't spoken a word aloud for long months. His first attempt resulted only in a hoarse mumble. Then he repeated, taking great care:

"Richard Hale. Or number Y-fourteen-eighteen."

"What cell?"

Hale searched his memory. "B-fifty-five."

"B-fifty-five!" echoed the other. "Then my calculations were way off!" He groaned from the very bottom of his soul. "Five years! Five years of labor and planning gone for nothing!"

The old head bowed. Dry sobs racked the bony frame. Hale, watching, was also shaken by grinding disappointment. The moment the old man had crawled out of his tunnel, Hale had seen he was another prisoner, not rescuers but another poor wretch from another cell! One part of Hale's mind cursed bitterly and savagely. Lost hope crushed the buoyant spirit that had awaited the wielder of the AP-beam.

For long minutes they said nothing more to each other. Hale hated the man, for he represented shattered hope. But another part of his mind was gradually shaken by emotion of a different sort. This man, fellow prisoner though he was, was another human being—someone to talk to—someone to keep away the nightmare dark creatures that swarmed in the frightful silence.

"Whoever you are," Hale said abruptly, kneeling beside the old man and gripping his shoulders, "you've saved my sanity. I'm glad you're here." He stopped, unable to express the feelings that gripped him.

The old man straightened, controlling himself. He also seemed ashamed of his first reaction.

"Dr. John Allison was my name on Earth when I was among the living. Forgive me, Richard Hale. I know what the loneliness of solitary is. Our meeting is its own reward. But, you see, I had hoped to penetrate into a main passage of Strato-prison that would have meant escape!"

The word sounded sweet to Hale.

"Is that how Z-ninety-nine-twenty-two did it?"

"I'm Z-ninety-nine-twenty-two!" the old man chuckled harshly.

"But I thought he—you—escaped!" Hale gasped.

"Only my cell, not from Strato-prison. Its record, though they don't know it themselves, is still unblemished. No one has escaped Strato-prison, though I have come close."

ONCE more awakened, Hale's scientific mind prompted a question.

"Where is your AP-projector?"

"Here." Dr. Allison held up his

hand. A tubular instrument small and crude, rested in his palm.

"The smallest AP-projector I ever saw on Earth stood three feet high and weighed a quarter-ton!" Hale protested.

The scientist smiled, with a trace of pride.

"Clumsy machines. I constructed this myself, here in prison. Look, it is based on a new principle."

He pressed a spring trigger on the side. From the small nozzle leaped a five-inch AP-beam. When he held it against the wall, it ate out a slight depression.

"The metal is transformed into helium, of course, as with Earth AP-excavators. My power-source is a speck of radium."

Suddenly there was a metallic ping. The small instrument burst into a dozen flying pieces. The beam died with a hissing gurgle.

Dr. Allison stared at the broken parts in his palm. Though unwilling to believe it had happened, he did not seem too surprised.

"I thought it would happen before this," he sighed wearily. "It was ready to fall apart at any moment, after five years of use." He smiled with an effort. "Well, that's the end of escape from Strato-prison."

"But if you somehow managed to construct one, why can't you make another?" Hale asked, wondering whether he dared raise hope.

The old scientist spoke dully.

"Do you know how long it took me to build this one? *Ten years!*"

Hale's confused thoughts, alternately hopeful and hopeless in the past few minutes, consigned themselves to his former despair. He could think of only one thing to say.

"At least we have each other's company."

On the following phase of Hale's prison life, that was an inestimable blessing. It was easier now to face silence, dark, and frustrated existence with another human presence. Time moved less leadenly.

Dr. Allison's story was strange, rivalling the somber imaginations of Poe, Hugo, or Bierce.

"I've been here in Strato-prison for thirty years," he began with a weary sigh. "I was one of the 'charter' prisoners. It is a sort of poetic justice, I suppose, because a Dr. Karl Gordy and I helped devise the zero-gravity field that upholds this globe."

Hale started, shocked and suddenly grim.

"Dr. Gordy secretly sold the plans to the Centro-Europe dictatorship of nineteen-seventy for a stratosphere war base. I got enraged when I found out. I went to their capital and demanded return of the plans. How foolish I was! I was arrested and sentenced by them for the murder of Dr. Gordy—whom they shot! Thus they had both of us out of the way." He sighed again. "The only consolation to me was that Dr. Gordy's treachery was paid in its own coin. His kind doesn't deserve to live. He at least is gone."

"But his son lives on!" interposed Hale.

NOW Hale could see the background of the present Emanuel Gordy, son of an upscrupulous father. Undoubtedly, if he gained the dictatorship of Earth, his first move would be a purge in Europe, a frightful, large-scale revenge for his father's execution.

"Go on with your story, Dr. Allison. I'll tell you mine when you're through."

The old scientist resumed.

"I was sent to solitary. I heard only vaguely of the final peace of nineteen-seventy-nine and the formation of the World Government. My release did not come. I was still a murderer, according to the records. The world had forgotten me as a scientist. So I knew then that I was doomed to a lifetime of imprisonment here. I nearly went mad the first year . . ."

He paused, shuddering with the recollection. Hale shuddered with him. For Hale had been here almost a year, and he also had nearly gone raving mad.

"Then I gripped myself. I accepted a philosophy of resignation. I would make the best of it. I had seen

the blueprints of the globe before construction. I knew escape would be impossible. I didn't hope for it, and somehow that made it easier to bear.

"Other things helped to make it bearable. I still had a rich, faithful friend on Earth. Failing in all efforts to obtain my release, he thought of my comfort. Through enormous bribes, guards and jailers were induced to smuggle in to me a micro-reader, to pass the time. A ten-inch strip of micro-film, as you know, records a complete book in micro-lettering, which the micro-reader's lenses magnify for reading. Over a period of ten years I accumulated a boxful of film, equivalent to a huge library. What a blessing it was to have this mental occupation, through those long, lonely, bitter hours!"

Hale could see that very well. Just one micro-book, to read over and over, would have been a godsend. A whole library was an unthinkable treasure.

The elderly scientist's voice broke. In the dark of the cell, Hale could see his eyes glow.

"Fifteen years later—and fifteen years ago—hope of escape suddenly sprang up again. The human heart never really resigns itself, else all life would cease. I saw that it might be possible to use the parts of the micro-reader to make some sort of AP-projector. I began a task that was to take ten years. I had no tools. Bribery would not get them in. I used my teeth, for days on end, to twist little screws loose."

He raised his upper lip. Hale shivered. The upper teeth were worn down almost to the gums.

"I wore away rivet heads by rubbing them along the metal walls of my cell, long hours each day, for months at a time. I made separate metal parts by scraping through with the sharp steel edge of my bunk. Finally I had the instrument apart. I had bits of metal, glass and wire. These had to be assembled, somehow, according to the plans I had in mind.

"The human intellect is more ingenious, in desperation, than most people know. I made paste with spittle, bread-starch and ground-up film.

It, hardened almost like glass, readily held some parts together. I welded corners together by the heat of hammering—pounding with a metal rod till I fell asleep. I bored holes through metal with slivers of harder metal, for what seemed ages of time. I will skip further detail. At last it was done. It took ten years!”

CHAPTER VIII

Treasures of Science

TEN years! Hale ached, hearing the account, as though it was he who had spent ten grinding years on that stupendous task. It must have taken colossal persistence. On Earth, some men had made history in ten years.

In proportion, Dr. Allison had done an equally mighty thing.

“But how did you get the radium you needed for an activator?” Hale queried. He knew all AP-processes were based on the trigger of radio-activity

The old scientist grinned a little. “I consider that my master accomplishment. My lower teeth are false. I took the plate out, broke it in several pieces, and wheedled the jailer into having a new set set made for me, on Earth. My Earth friend paid the necessary bribe. A note in code to him—he understood cryptograms—did the trick. The set of false teeth came back. One of them, a molar, was lined with lead, and in its center was a

tiny capsule of radium. With that, my projector was complete.”

Dr. Allison paused.

“No one will ever know”—his voice became solemn—“what that moment meant to me. It took me hours to press the trigger. What if it didn’t work? What if my new principle of AP-generation failed? What if my ten long years of work were wasted? I would have gone stark mad that moment, if it hadn’t worked. But it did!

“The little AP-gun ate into matter as readily as the big projectors, though at a much slower rate. I think I screamed in triumph. That was five years ago. Then I began my digging. I carefully etched out a bevel-edged plate, so that I could cover the tunnel I extended. Every six months, when they came to take me out for the routine sanity tests, I was there. Everything looked quite the same. They did not know that an unsuspected manhole lid covered a tunnel that I was digging—toward freedom!

“I knew the basic plan of Stratoprison. Underneath these solitary cells are passageways connecting to the upper corridors. These run parallel to the curving hull. In two years, inch by inch, I dug through six feet of metal. This globe is very solidly constructed. It was originally planned as an impregnable war-base. Weight meant nothing, in the zero-gravity field.

“I broke through into one of the passages, rarely used except for repairs on the conveyor-system. But it had no direct connection to the main

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College Humor

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CENTS

THE BEST COMEDY IN AMERICA

FICTION • SATIRE • CARTOONS

ON SALE EVERYWHERE!

passage that would lead me to the upper air-lock, to await my chance to escape. I had to reach that main corridor. Boring through the ten-foot thick hull would have been useless, for I would emerge in a near-vacuum fifty miles above Earth. After long thought I reasoned where the main passage should be. I began boring again."

He stopped for a moment, shaking his head.

"I made two mistakes. One, I lost track of time. That was two years ago. The jailer came to take me out for a sanity test, and I wasn't in my cell. I was below, digging. And that's the story of Z-ninety-nine-twenty-two, who miraculously 'escaped', or vanished. I covered up my trail by adjusting my AP-beam to a simple heat-beam and fusing the plate to the floor, sealing myself out of my own cell.

"If I had reappeared in my cell, they would have investigated carefully and found my tunnel. As it was, they reasoned my cell door's electric lock had somehow failed for a moment and that I had sneaked out and up to the air-lock, stowed away on a supply-ship before they even knew my cell was empty. But I was below, still trapped."

"What did you do then?" Hale asked wonderingly. "You were faced with starvation, cut off from your own cell!"

THE old man shook his head. "I had access to the robot food conveyor. It ran through the passage I had reached, from the kitchens to the cells. I simply took a little food from each prisoner's meals, so it wouldn't be noticed. And water, of course. The passage was ventilated, and a refuse closet was near. Whenever guards happened to pass through, or repair-men came to look over the conveyor, I had barely time to scramble into my tunnel and hope they wouldn't notice it in the dimness. They never did.

"My second mistake was missing the main passage, and coming up here. And now, with my AP-gun useless, I

am no farther than when I started, fifteen years ago—"

His voice faded away.

Hale realized now the inconceivable disappointment that must have overwhelmed the man. After fifteen years of slavlike toil and scheming and hope, to come up in another prisoner's cell!

"God!" The old scientist's voice suddenly burst out sharply, as though the full realization had first burst on him. Then his voice lowered to a dry whisper that chilled Hale's blood.

"Has fate ever played a more hellish trick on a man? I wanted so much to escape. To see Earth just once more. To know again, if only for a moment, what sunshine was, and rain and a crowded city street and laughter. Instead, I'll die here like a trapped rat!"

It was horrible to hear the dry, rustling whisper of a man without hope. Hale shuddered. It was worse than if he had shrieked and stormed. Was his mind teetering on the verge of madness? Was Hale to have a madman for a companion?

Hale grasped the old man's shoulders and shook him.

"Don't, Dr. Allison!"

The scientist looked up wanly.

"Don't worry. I won't jump up and batter my head against the wall. But I have nothing to live for. Nothing! Just leave me alone for awhile . . ." His whisper faded into the still of the cell.

Hale saw the tears in the old eyes—two large tears that furrowed down his cheeks and lost themselves in his uncut beard.

It was not till hours later that the old scientist stirred, with a heavy sigh.

"Hale," he called.

"Yes?"

"Tell me your story."

Hale did, with unleashed bitterness. He left out no detail of the Five's plot, both against him and the world.

"And now you are here," commented Dr. Allison, "with no tomorrow you can look forward to. Your life ended when the Five sentenced you." His

voice was pitying. "You're so terribly young—"

"There *can* be a tomorrow for me," Hale said savagely. "After I escape, there will be a tomorrow!"

"Escape?" The scientist dismissed the thought with the word.

SUDDENLY he began pacing the cell. "You have told a strange story, Hale," he muttered. "Aside from what the Five have done to you, they are a greater menace to the well being of Earth. Emanuel Gordy as dictator! I can picture the son from what I know of the father. The world will be crushed under his thumb!

"I could stop him, if I were there!" he pursued. He halted in front of Hale, his voice tense. "Do you know that I'm the greatest living scientist? At my fingertips I have scientific secrets that would rock civilization. In one year, in a well-equipped laboratory I could emerge with powers making me a superman."

Hale caught his breath sharply, then cursed himself for not realizing it before. The man had gone mad after all! Like Hitler in exile, and Napoleon before him, Dr. Allison imagined himself a supreme power held helpless.

The scientist was watching him.

"You think I'm mad," he said quietly. "And yet, what about my midget AP-gun? With a speck of radium, and a few bits of wire and metal I unlocked atomic energy. On Earth you need a portable cyclotron weighing at least a quarter-ton. All I needed was a little grid of copper and beryllium to bounce neutrons between the plates till they exploded into energy. I devised that principle here in prison."

Hale didn't know what to think.

"How?" he queried. "How could you do it without a laboratory?"

The old man tapped his forehead.

"This was my laboratory. Remember, I had thirty years. All I occupied my mind with in those thirty years was scientific thought, to keep me from going mad. I had read my small but select library of micro-books over and over. I had gathered only science works. I came near memorizing the



A black face stared back at Mausser (Chap. XIV)

whole set. In the last fifteen years, while I laboriously made the little AP-gun and then tediously dug through metal, I still had endless hours in which to think and review my knowledge.

Facial expressions were lost in the almost lightless cell, but Hale could sense the slight upcurl of the lips, as the scientist went on.

"There's irony in it all. If I had lived free on Earth, I might have made only mediocre laboratory discoveries. The powers of the mind, in normal life, would have been tempted into too many channels. Misfortune like this made me delve into my own mind for its treasures. Captivity for thirty years sharpened my intellectual capacity.

"With perfect quiet and isolation, I could follow one train of thought for days, and hound down any worthwhile idea. I thought out the principle of my little neutron-bouncing grid in a solid year of continuous thought!"

Hale was still astonished. "You just sat and thought and devised the grid without one bit of experimental data! It's—it's incredible!"

"Experimental data was already there!" Dr. Allison declared. "Think

of Newton. Did he have a laboratory, in the modern sense? Hardly. He simply sat down and figured out the stupendous laws of gravitation. He used the data compiled by dozens of men before him—the giants on whose shoulders he stood, in his own words. Einstein, too, formulated relatively from data that went back a half century."

NOW Hale saw more clearly. It was a new way of looking at genius.

"Hundreds and thousands of scientists experiment and collect data, and publish them. Then a Newton or an Einstein comes along and sees what is before their noses. They are too close, the experimenters, to see it themselves."

"Exactly," agreed the scientist. "So it was with me. For thirty years I revolved all the latest scientific data. Some things began to stand out clearly, in the focus of my continuous thoughts. Stupendous things!"

His voice cracked suddenly.

"And yet here I am, helpless. My scientific secrets are dead, lost, locked up with me in a globe of metal in the stratosphere. A master scientist, with only a nameless grave before him. That is the bitter irony of it."

Hale's thoughts clicked to a swift conclusion.

"Dr. Allison, pass your secrets along to me! I can do something with them!"

"Here?"

"No, but when I escape—"

A harsh laugh resounded.

"I tried for thirty years and failed. How can you have hope?"

"I have, somehow. I don't know how or when, but I'll escape!"

The scientists's hand reached through the darkness to touch Hale.

"It is good to have hope," he murmured. "I'll teach you my scientific secrets. At least, if nothing else, it will lighten for both of us this murderous cell existence."

Two more years rolled by, in the endless parade of time.

Every six months, Richard Hale was conducted from his cell briefly, and

found sane. The warden could not hide his surprise. It was strange for a young, sensitive-minded man to take the horrors of solitary in his stride. Hale laughed wildly within himself. They did not know of his mysterious companion.

There was little worry of detection. The jailers never visited the cells between the six-month periods. Daily Dr. Allison crawled through his tunnel to the conveyor-system passage, for food. At times he shared Hale's rations, or Hale would go below. They derived a grim pleasure in having defeated the very purpose of solitary isolation, without the prison masters knowing. It was a joke on them.

Dr. Allison imparted his scientific discoveries, nurtured in his mind through thirty years. Hale gradually began to feel as though he were kneeling before a treasure-chest, sifting gold pieces and shining jewels through his fingers. Most of the scientist's conceptions were half-formed, nebulous. Many would prove to be useless fantasies. But some, after laboratory tests, would be startling wonders. Dr. Allison's library had included all sciences—physics, chemistry, astronomy, biology, and many in between. His patient, penetrating mind had delved omnivorously into all.

IT was not so startling. The techniques of science had, by the late 20th century, become reduced to fundamentals. The 19th century and early 20th had been pioneering days of experimentation. After that had come the period of widespread industrial application. Dr. Allison, at the apex of this period, was a generation ahead.

In biology, he intuitively sensed new and amazing hormones just ahead. In chemistry, he predicted dyes that would out date any known. In physics, the traditional structure of matter would be altered and molded as if it were wax. In astronomy, Dr. Allison knew of a comet—whose orbit data other scientists had not yet sifted—that would pass within 100,-

000 miles of Earth, closer than the Moon.

Heaped scientific treasures, gleamed from the four corners of world lore, and the originator was an exile, cast away from Earth life. Hale saw a vivid parallel with past history. Galileo had been forced by contemporary authority to recant his heretical discoveries. Lavoisier's laboratory had been burned down as a witch's den. And again genius would not be hailed, in the case of Dr. Allison, till after his death. That is, Hale reflected sorerly, if at all.

"So much good could be done with all those things," the old scientist would murmur at times.

"They are treasures of science," Hale would say solemnly. "I promise you, Dr. Allison, that if I escape they will be given to Earth for its benefit."

But the old scientist's companionship was the rarest treasure of all, to Hale. No longer did time drag so cumbersomely, nor darkness and silence hold such terrors.

CHAPTER IX

When Tomorrow Comes

YET one thing loomed monstrously—the lack of any sort of Tomorrow for them.

Hale talked of escape. With Dr. Allison he resolved a hundred vague plans. The scientist took him below, through his tunnel. A dim corridor stretched here, but solid steel doors blocked both ends. They might conceivably slip past guards, with the door open. But then the way led past each level of the giant prison, each with a locked door again, and guards swarming everywhere.

"No chance at all that way," said the scientist flatly. "All the doors are controlled from Earth, as you know, by remote control. When guards march from level to level, the doors unlock one by one. But only at orders from the warden, in contact with the Earth operators by television.

"My one slim chance, with the AP-gun, was to get into a hull-corridor, burn a hole through each door quickly, and finally reach the air-lock. Here, since they had practically forgotten me, I could slip onto the regular supply ship and thus reach Earth."

He spread his hands helplessly.

"Without an AP-gun, there is no conceivable way of escaping. *None!*"

Hale felt the crushing force of that word. No escape, no revenge against the Five. Never to see Earth again. To die here, of old age, as Dr. Allison was dying.

The scientist was near death, that was obvious. He had been thirty when incarcerated. He was over sixty now, thin, trembling, sickly. His failure to escape had left him a barren shell, without the will to live.

But again and again Hale went over the plans of the prison, as the scientist had revealed them. Doggedly he nursed hope.

"Those remote control doors are the only possibility," he repeated for the hundredth time. "If the system ever breaks down temporarily—"

"It never does, even for a second," croaked the old scientist. "The remote control system is as infallible as the motions of the heavenly bodies."

"Good God, don't keep saying that!" shrieked Hale.

Three years of dimming hope had taken their toll of his nerves. He was instantly sorry, and took the old man's hand in apology. Suddenly he squeezed.

"As infallible as the motions—" he repeated, his voice tense. "What was that you told me, a few months ago, about a comet passing between Earth and Moon?"

The old scientist nursed his aching hand.

"The Dawson Comet, discovered nineteen-eighty-nine, is due back this year. I based my figures on data I read. I'm quite positive it will swing between the Earth and Moon for the first time in history. It won't be captured, however, because of its speed. That should be in the order of—"

"Never mind that," interrupted

Hale. "How close will it pass to Strato-prison?"

The scientist's mental calculations were rapid. "Almost directly over it, within ninety-five thousand miles."

"Which way will its tail swing?"

Dr. Allison pondered.

"The Moon will be sunward from Earth. Therefore the comet's tail will swing earthward, toward us."

"Escape!"

Hale yelled the one word in awe.

SHARPENED by solitude and the scientist's inspiring teachings, Hale's mind leaped to that conclusion in one blinding stroke.

"What?" Dr. Allison demanded, stupefied.

"Escape, I tell you! The remote control is via radio waves. Electrical impulses. What is a comet's tail made of? Electrified particles—ions. When these sweep over the globe, there will be no harm done, of course—except to the remote-control. *It will be thrown out of working order by electrical interference!*"

Dr. Allison nodded almost instantly.

"Of course. I should have thought of that myself. The tail's ions will produce a barrage of static interference for thousands of miles. The remote control radio impulses from Earth will be shot through with holes. The doors will be opened—by the comet's tail!"

They looked at each other, hardly daring to believe their quick deduction. But in their eyes had sprung again the burning fires of hope.

Four months later, when the comet was due, two tense figures stood before a locked door. They had quitted Hale's cell, crawled through the tunnel, and emerged in the lower passage-way. It led upward to freedom!

"The comet should be due any minute now," whispered Dr. Allison. He had checked his mental figures a dozen times. "When its tail sweeps past, we'll have just thirty-two minutes of open doors. We'll have to run. The distance to the top of the globe, through the spiral passage next to the hull, is almost a mile. If we

see any guards, we throw ourselves flat and pray. Luckily this is exactly between shifts. The passage should be almost deserted. Is that clear?"

Hale nodded. His heart hammered in anticipation, but outwardly he was cool. All his faculties were alert for this desperate gamble. He knew he would never again have another chance. Comets do not obligingly sweep by very often in one lifetime.

"Listen!"

They heard it then—a slight crackling noise, like static. Somewhere up above, beyond their steel prison walls, a comet was majestically sailing between Earth and Moon. Its long, tenuous tail of ions was engulfing the prison globe. A radio aerial was crackling under the deluge, as if signals were coming from Earth. The comet was opening all locks except those of the cells, which were directly under the warden's control.

Hale pushed forward against the door. It swung open squeakily on un-oiled hinges. The way here led upward to the cell-blocks. But Dr. Allison turned the other way, to the passage that hugged the hull and avoided the center of activity.

Grim and hopeful they raced down the dimly lit corridor.

Soon it became a steep upward climb. The floor was corrugated for foot traction. Although the giant globe itself rested weightless in a zero-gravity field, all things within it were still subject to the gravity of Earth. It was as though they were ants suspended above ground on a shelf.

FOR fifteen minutes they sped on, opening and closing door after door that the comet had unlocked. They met no guards. It seemed almost too easy.

"We're more than half-way," panted Dr. Allison. "We'll make it if our luck holds out—"

At each door, Hale in the lead cautiously opened it and peered out for guards. He drew back suddenly at one door.

"Two guards standing in the corridor ahead, talking," he whispered.

"We'll have to wait and hope they go."

Dr. Allison's eyes darted ahead and back constantly.

Minutes passed. Precious minutes while the comet's wide tail drew nearer to its final leave-taking. Cursing under his breath, Hale kept one eye on the two lounging guards ahead. They seemed in no hurry to go. They were off-duty, apparently, and were rapt in conversation. If only Hale were armed!

The old scientist trembled.

"We can't wait much longer," he said nervously, "or we'll have locked doors against us."

He turned, grasping the younger man's arm tightly. He spoke tersely.

"There's one chance. You stay here. I'll go out alone. There is a corridor just ahead that leads to the atomic generator room. I'll lead them into that. Then the way will be clear for you."

"Together or not at all!" Hale retorted, shaking his head violently.

"Don't be a fool!" whispered the old man. "Together we die!"

His old eyes softened suddenly, looking at his young companion.

"I'm old. What would a few hours of liberty on Earth benefit me? But you are young, and in you, I live again. With you go my thirty years of thought and science. Your tomorrow is mine." He squeezed Hale's arm. "Good-bye, lad—"

Then, before Hale could act, he sprang forward, swung open the door and leaped out. The door began to swing shut again in Hale's face. He caught it when it was a few inches of closing. For a moment he leaned his weight forward, to shove it open and leap after the old scientist.

He relaxed, groaning. It was the only hope. Hale knew he would have been more of a fool to leap out than a coward to remain.

From beyond he heard the shouts of the guards, as they spied Dr. Allison's madly stumbling figure. Peering around the door's edge, Hale saw the scientist dart into the side corridor. A moment later the two guards had reached the same point and fol-



Von Grenfeld had to strain to look in the mirror
(Chap. XVII)

lowed, pistols out.

The way—for Hale—was clear. Seconds were precious.

Hale shoved the door aside and raced down the corridor. At the turn-off passage, he heard the rumble and hiss of the mighty atomic generators from the neighboring room. Hale stopped. The passage was short. The open door revealed the huge extent of the chamber, sunk below the level of his eye.

A scene etched itself on his mind.

Dr. Allison had scuttled along the narrow catwalk that overhung the giant generators. The guards now had a clear shot at him. Neutron-charges hissed toward the fleeing scientist.

Abruptly he stopped. He looked both ways, like a trapped animal who sees no way out. At the far end of the catwalk was another guard, already moving forward. A neutron-charge struck the scientist's leg. He toppled, fell—straight down toward the pulsing grid of a generator.

The guards stiffened, watching. Below, the eyes of the prison workers on shift fastened to the falling body. It struck the flat grid, bounced, rested there. Then flame burst around it, the livid, searing energy of exploding

atoms. In seconds the body had vanished, consumed by the frightful powers engulfing it.

DR. ALLISON was gone. Z-9922, the mythical "escaped" prisoner, had finally escaped—into Death.

Hale watched, paralyzed in horrible fascination. He heard the voice of one guard, drifting to him down the passage.

"The fool should have known he couldn't escape. Who in hell did he think he was, Z-ninety-nine-twenty-two?"

Something within Hale was barely able to choke down hysterical laughter. But the sweeping irony of it faded in his mind as he thought of what it meant to him. A prisoner had escaped his cell, made a dash for freedom, failed. Later they would find Hale's cell empty. They would finally connect the comet with his escape from his cell. Therefore Richard Hale, Y-1418, was the prisoner who had died on the atomic-grid! There would not even be a search or general alarm. . . .

Dr. Allison had opened the path to freedom in more ways than one. And Hale knew now that the old scientist had deliberately thrown himself on the grid, to be burned beyond recognition. Deliberately he had planned this sacrifice before they even started! For the substitution of identities made certain that there would be no search for Y-1418, neither here nor on Earth!

Hale sped along now, down the deserted corridor. There was still a chance of meeting other guards, and of failing to reach the last door before the comet's tail left.

But ten minutes later Hale had reached the last door, near the top of Strato-prison, leading into the air-lock chambers. Most of the thirty-two minutes were gone.

He was panting, sweated, when he reached the final door. His leg muscles ached from the unaccustomed exertion after three years of cell inactivity. He leaned his weight against the door, turning the handle.

It didn't open. . . .

It was locked! Too late!

Enraged by this trick of fate, Hale furiously threw himself at the door, but only bruised his shoulders. Then, spent, he looked back, with the fear of the cornered animal chilling his heart. Sooner or later guards would come along, spy him, capture or kill him.

Failure! Tomorrow still leered beyond that locked door, still remote as the Moon. The maddening thought of it nearly brought a scream of torment from him.

He heard a dim murmur of voices from down the corridor. Guards were approaching. In a moment they would come near and see his crouching figure, with no place to hide. . . .

And then Hale's ears heard grinding behind him. The door gave and he tumbled through. He had sufficient presence of mind to shove it closed immediately. He heard a static splutter from the electric lock, and then a sharp final click. He knew the door was locked now, beyond all human power to open.

Hale lay gasping on the floor. Somehow the door's lock had reopened for those few seconds, saving him. Perhaps a shred of the comet's tail, following the main bulk of it, had worked the miracle.

The room he lay in was utterly dark, yet he knew it was large, for his heavy breathing echoed. It was the third and final chamber of the triple air-lock system. In three days, the usual supply ship was due from Earth. He and Dr. Allison had plotted that all so carefully.

The rest, with a little luck, was simple.

CHAPTER X

Free Air!

IF HALE'S first few months in his timeless cell had seemed like an age, the three days he now waited was an eternity. But after eternity would come a new tomorrow!

At last he heard the rumble of an air-lock opening above him. The

ship had arrived! Again he heard the movement of mechanism directly over him, as the two halves of his chamber's lock yawned.

A cyclonic *whoosh* of air rushed from his chamber to the one above. Hale panted for breath. He watched from behind piled crates as the strato-ship settled down in the lever grip of elevators. Its wheels touched the floor. Overhead the lock doors closed. Air hissed from corner vents, refilling the space with normal pressure. Hale's discomfort eased.

The pilots and guards stepped from the ship bearing three new prisoners within the walls of the strato-bastille. Hale pitied them. Then he jerked to attention. From the main corridors came a file of prisoners, herded by armed guards.

Again Hale had to resign himself to the whim of chance. By feel, he had long ago picked out the crate he wanted. He crawled in now, among stale smelling opened tin cans. Strato-prison had no disposal of these, save by the returning ship. The cans could not just be thrown down to Earth.

Hale burrowed to the bottom of the heaped crateful of cans. They covered him completely. The noise could not be heard in the general bustle of the unloading. Some of the sharp edges scratched him, but pain meant nothing to him now.

It seemed like hours before he felt his crate lurch into movement.

"Feels heavy," grunted one of the prisoners carrying it.

"You're getting weak," returned the other sarcastically.

Hale felt the crate bump against the floor, in the ship's hold. Then the crate slid along roughly, to end up against one wall. Other crates bumped against his.

Hale allowed himself to exult. Luck was playing along with him.

In the hour of delay that followed Hale suffered most. It was the cautious custom, before a ship left, to herd all shifts of prisoners to their cells throughout the giant prison and take the roll-call. Only then could the warden be certain that no prisoner

had by some miracle stowed away on the ship.

The roll-call, Hale assured himself, should reveal no absences. Prisoner Y-1418 was not in his cell, of course. He had burned to death on an atomic grid, trying to escape three days before. Somehow, the warden would reason, Y-1418 had escaped from his cell, probably because of the comet's nearness, since the operators on Earth had complained of interference. But he had been run down and burned on the grid. He hadn't actually escaped Strato-prison—as Z-9922 had.

Therefore the ship could go. Strato-prison's record of no escapes—save for Z-9922—was unblemished.

But not till he felt movement of the ship did Hale's nerves relax. All was well. There had been no alarm. As he felt the powerful surge of rockets speeding the ship up and away from Strato-prison, Hale's spirits soared. He felt as though a vice that had been squeezing him for three long years had suddenly eased.

"I'm out of Strato-prison! I'm in free air!" he told himself happily.

AN hour later the strato-ship's wide spiral narrowed down to ordinary air travel in Earth's atmosphere. Then Hale felt the ship bump to a landing. The hold doors opened. Hands dragged out the crates. From here on, Hale didn't know what the situation would be, but he did know he would have to be alert as a hunted animal.

He felt his crate carried, then stacked again with the others on the ground.

"Too late to bring them to the slag-melter today," said a voice. "Tomorrow morning will be all right."

"Yes, sir."

The voices moved away and Hale listened to the sounds of a busy airport. Hours later these reached a minimum that indicated it must be the middle of the night. Hale stirred. Like a corpse emerging from its coffin, he struggled up. He had to shove a crate off with his shoulders by main force. It fell to the ground with a clatter of empty cans.

Hale leaped out and crouched behind the crates, peering in all directions. He was at the edge of the airport. No one had noticed in the dark.

Hale stumbled away, hugging the shadows of a building. Beyond lay open land, beyond that, woods in which he could hide safely.

After running madly until the airport could not be seen and he was panting and exhausted, Hale threw himself on the muddy ground. A drenching downpour had started some time before.

WET to the skin and shivering, he lay there. He had not eaten for three days. His clothes carried the stench of the unclean crate. His skin was lacerated with a dozen wounds. Every muscle ached from his recent exertions. He had a splitting headache from the sheer physical and mental strain he had gone through.

By all normal standards, he should have been more miserable than the lowliest downtrodden specimen of humanity.

But he knew, instead, that he was at that moment the happiest human being alive!

He lay on his back, his eyes staring into the rain-filled sky. There were no walls above or around him. This was heaven! He caught at the raindrops with his hands and laughed, laughed for long minutes, till sheer weakness stopped him.

Somewhere up above lay somber Strato-prison. The men there did not know that for once a prisoner had truly escaped, that a comet and a man's life had done the impossible—that down here, in the mud, lay Prisoner Y-1418, with all the world before him.

Hale jumped up suddenly.

"I'm alive again!" he shouted against the swishing of the rain. "Alive! Alive!"

He fell in the mud again, singing, laughing, as near to a madness of joy as he had once been to a madness of despair. . . .

Dawn brought the warm heat of a summer day. Hale had gained control of himself. His mind was calm,

cool, calculating. He dried his clothes. He had carried one of the cans along with him. With its sharp, jagged edge he laboriously trimmed his prison beard and wild mane of hair kneeling before a puddle of rain-water for a mirror. Finished, he was still a strange looking being, but no worse perhaps than a wandering tramp.

He cut the numbers "Y-1418" from the back of his denim outfit and ground it into the dirt with his heel. But without proper equipment he could not erase the numbers tattooed on his chest.

He left the spot, making his way to the edge of the woods. His step was springy, his spirits sang. The chirp of birds was music from a higher plane of existence. The dawn clouds and blue sky were beauty that ached. The trees were friendly creatures that whispered greetings to him.

To Hale, returning from the living dead, all this was supreme realization of the pure joy of living.

At the edge of the woods, looking out, he drank in the sight of the city that lay close at hand. He was on Long Island, he knew, where the airport lay. Beyond gleamed the silvery spires and elevated spans of New Washington, seat of the World Government. It had been founded in 1979, a new city to commemorate and govern the new World State. It glinted magnificently in the morning Sun.

Suddenly he froze. A surprised gasp came from his lips. A mile or so away from the city proper he saw now the ramparts of a mighty structure. Erected of gleaming white stone and shining alloy, it's colossal dome stood outlined against the blue of the ocean beyond.

Hale stood stunned.

His mind flew back to New Century's Eve of 2000 A.D. He had stood beside the model of such a dome, the cap over a mile-deep pit sunk into Earth. At its lower end, he knew, must be the shaft of the great Subatlantic Tube, piercing under the ocean to Europe.

Transport Corporation, of course,

had carried on the plans, taken over the project. When it was completed, probably within two years, the Five would control the Tube that he, Richard Hale, should rightfully control.

The Five!

He had almost forgotten them in the joy of his resurrection on Earth. And suddenly the joy of freedom faded into a grim rage that seeped into his brain like an acid.

"Revenge!"

He hurled the word silently out over the world. Revenge against the Five for taking from him this magnificent thing that the dome represented. Revenge for three years of blighted existence. Revenge for destroying what had been his Tomorrow. That New Year's Eve of 2000.

Now a new Tomorrow must take its place.

"Five steps to tomorrow!" he vowed grimly.

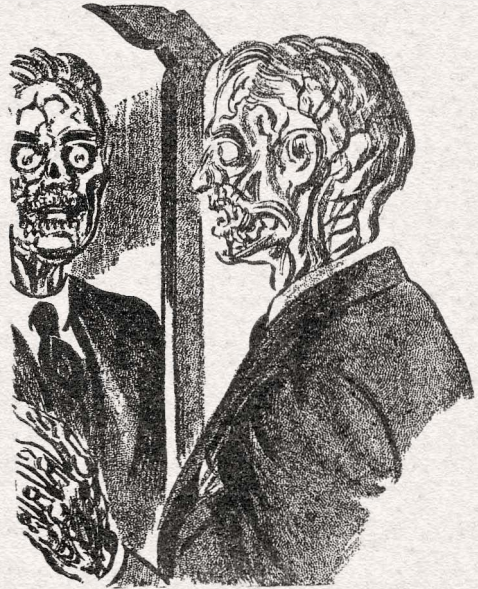
He stepped away from the dome, finally, toward the farming section of the island. Rapid plans danced through his mind. First he would approach some farmer for a meal, shave and bath. Then he would go back to New York, get an odd job, save pennies. He had to start from scratch. There was no one he could go to, no one he could trust of all his former acquaintances. He thought momentarily of Laura Asquith. She least of all!

He must make his way as a non-entity at first. No one on Earth knew he was here. As Richard Hale, he was dead!

SIX months later, in a small bare little room in New York's poorest quarters, a young man dressed in a cheap suit watched a queer little apparatus.

A strange grid of beryllium and platinum wires, fed by house-current, glowed weirdly with purling violet light.

Hale observed breathlessly. Like Dr. Allison's little grid, it substituted for a quarter-ton cyclotron. Between the wires bounced atoms of volatilized lead metal. Would they or would they not break down?



Dr. Gordy's skin was transparent! (Chap. XVII)

With his rheostat, Hale fed more current to the grid. Its glow became iridescent, filling the room with spangled colors. The hum of dancing atoms sounded like a hiveful of bees.

He saw it then, a mist of golden color that formed around the grid. The mist thickened, became a fine, impalpable, golden dust that drifted away in all directions. Hale rubbed his finger along the suddenly dusty table top under the grid, held it before his eyes and saw the tawny yellow color. Its shade was unmistakable.

"Gold!" he whispered in awe. "Pure gold!"

He sat there hunched before his little apparatus like some medieval alchemist. He watched the lead atoms burst and turn into gold atoms. The grid had ripped one unit of atomic number—ten units of atomic weight—from an atom of lead, leaving it an atom of gold. Scientists had done it with cyclotrons, but at a cost far greater than the value of the gold itself.

Hale had used a few cents worth of electricity, a few dollars worth of apparatus, and lead worth thirty cents a pound. And he had produced gold so cheap that it wasn't worth the

equivalent in high-grade steel!

The clue had been under the noses of scientists for years. But they had not recognized it, and possibly never would. Only a mind in solitude for thirty years had tracked down the clue. It was the first of Dr. Allison's scientific secrets.

Hale watched the gold dust swirl out and fill the room with earthly wealth. A minute before he had been penniless. Now he was making money—literally—at a faster pace than the greatest capitalist in history. But the wealth itself gave him no thrill. It was the thought of what he could do with it. He would not reveal the process, for that would destroy the world's money system. He would use the magic wealth for his own secret purposes.

First he would buy an isolated estate, somewhere north of New York. There, in a fully equipped laboratory, he would search out the secrets of a profound brain that for thirty years had molded great things out of pure thought.

Then he would emerge to confront the Five!

A slow, grim smile touched his lips. What was that old well-known line from a light-opera?

"Make the punishment fit the crime."

He would make the punishment fit the person!

Hale stepped before a mirror suddenly. Would they recognize him? The face that stared back was not the same face of over three years before. Richard Hale of 2000 had been boyish, clear-eyed, round-cheeked.

The Richard Hale of 2004 was aged by ten years. Thin cheeks were surmounted by burning dark eyes. His hair had thinned. Lines had appeared where none had been before. The compressed lips could only draw up in a light, sardonic smile. Frustrated prison life had left its mark. His own father, were he living, might not have seen more than a puzzling, frightening resemblance to the son he had known.

No, he wouldn't be recognized. He could safely face the Five. Besides,

their last thought of Richard Hale would have been his reported death in trying to escape Strato-prison.

But still he would make the necessary test. . . .

CHAPTER XI

One Step to Tomorrow

LAURA ASQUITH looked at her visitor with natural feminine interest as he walked into the living room.

He was tall, slender, dark-haired, yet his complexion bore a strange dull pallor. He had a rather severe, intellectual face, with straight lips under a small black mustache. He wore tortoise-shelled glasses that seemed to hide dark eyes that burned at her.

Womanlike, she tried to guess his age. But that was impossible. He might have been twenty-five or forty-five. Foreign, of course. With the queer name of Dr. Strato, he could only be a Greek or Latin.

"Dr. Strato?" she murmured in greeting. "You sent me lovely flowers and asked to see me." She hesitated, for something disturbed her. "Have I met you before?" she added apologetically.

"I believe not." The visitor's voice was suave, with the precise accent of a foreigner who has learned English thoroughly. "A poet friend of mine, Antonio Vinci, met you at a ball. He asked me to pay his respects to you. He said you were a lovely girl. He was right."

Smiling at the compliment, Laura Asquith's thoughts flew back.

"Antonio Vinci? Why, that was at the New Year's ball of nineteen-ninety-nine, five years ago! I was so young then, merely eighteen. Yet I do remember it vividly. I was with—"

She stopped, eager reminiscence vanishing from her eyes.

"Yes?" prompted Dr. Strato politely.

"Just a friend," Laura finished.

"Was it young Richard Hale?"

The girl started, and then nodded

wordlessly. A fixed smile had appeared on her lips.

"Antonio mentioned him," the visitor pursued conversationally. "Antonio was quite captivated by your charm, but you seemed, he said, to be loyal to the American. All the world has heard, of course, of his unfortunate doings and sentence to Strato-prison. Antonio asked, as a matter of curiosity, if you had heard any more of him."

Laura darted a sharp glance at her mysterious visitor.

"He died last year trying to escape," she said tonelessly.

"How unfortunate! However, those who plot treason deserve death. I believe you were one of the witnesses at the trial?"

Laura nodded briefly, trying to show distaste for the topic. Dr. Strato went on as if unaware of her increasing nervousness.

"There were some who believed Richard Hale had been innocent. But



of course he must have been guilty, if a girl like yourself helped convict him."

Laura Asquith jumped up.

"Please, Dr. Strato, may I excuse myself? I'm not feeling well."

Without another word she left the room, leaving her visitor to find his way out.

On the street, Richard Hale permitted himself a sigh of relief. She hadn't recognized him. He was safe. The added items of a mustache, darkened eyebrows and hair, and horn-rimmed plain glasses had completed the natural disguise of three years of prison. His practised accent and foreign manner were further subterfuges. Now he could face the Five without

fear of premature recognition. Laura had been the real acid test.

Also he had found out that Richard Hale was completely dead, in their minds. That left him free to move about as he wished. As Dr. Strato, a mysterious foreign scientist, he could twine an invisible net around them as they once had around him. Hale was pleased with the initial success of his plan.

But striding along, his thoughts went back to Laura Asquith.

As much as to test his changed identity, he had wanted to see her, to make certain that their love was cold, dead ashes. Should he make it six steps instead of five—bring down the heavy hand of vengeance on her too? Why not? Did she deserve any better? He hated her, despised her for what she had done. It was impossible that his love could survive three bitter years. If his heart had hammered, it had been in repressed hate.

He straightened his shoulders. That was that. He would think what to do with her in due time.

Right now, he was ready for Step One. . . .

SIR CHARLES PAXTON received his caller in his private office in New Washington. The door lettering said, "Secretary of Finance, World Government." The furniture was upholstered in tawny yellow leather, filling the room with a golden glow. He basked in that, as one would in sunshine.

Hale walked up to his desk slowly, staring at him. Outwardly he was the cool, calm Dr. Strato. Within, his blood pounded. Vividly the court scene of five years before stood in his mind. He remembered every little merciless expression Paxton had worn on that occasion.

"Dr. Strato?" Sir Charles Paxton frowned, looking at the card again. "I don't believe I've heard of you. What is your business?"

Hale leisurely sat down in a comfortable chair without waiting for permission. He carried a cane for effect and folded his two hands over its

handle. Then he looked up blandly at the man who controlled world finance.

"I'm a scientist by profession, a rich man through good fortune," Hale drawled. He saw the added interest in Paxton's eyes at the phrase "rich man". He went on. "The official opening of the Subatlantic Tube is scheduled within a month. I would like to have the privilege of being among the first passengers who ride through the tube. A whim of mine."

"Impossible, I'm afraid," retorted Paxton shortly. "Only high Government officials will have that privilege. Sorry."

He was already looking down at the papers on his desk.

"What would be the price?" persisted Hale.

"There is no price."

"I'm sure there is," Hale contradicted. He had opened his coat and was toying with a pure gold watch fob and chain. "Money, I have heard, buys everything. Everything, perhaps, except a clear conscience. The price of that is often more than all the gold on Earth can purchase!"

Paxton's sidelong glance was veiled, and slightly disturbed.

"What do you mean?" he asked in a low tone.

"Nothing. A mere epigram." Hale was still toying with his gold chain, his voice still bland. "Let's call my request a fare. Shall we say—a million dollars?"

Paxton gasped. His sharp face peered closely at his strange visitor.

"A million dollars! You would be willing to pay that for a three-and-a-half hour trip in the Tube?" He reddened suddenly. "I don't appreciate the humor."

"I'm serious," Hale interposed, rising. "My address is on the card. If you think it can be arranged, drive out and see me. My offer will hold good for twenty-four hours."

With an enigmatic smile, Hale strolled out of the office.

Alone, Sir Charles Paxton looked at the card.

"A million dollars!" he murmured. With an annoyed gesture, he tossed

the card in the waste basket and went back to his papers.

THAT evening the roles were reversed. Paxton was the caller at Hale's isolated Long Island estate.

Hale's enigmatic grin returned. He was not surprised. He had known his man, knew he would come. The irresistible lure of money had drawn Paxton as surely as honey drew flies.

Paxton hemmed and hawed around guiltily while Hale watched him in secret amusement. Finally he came to the point.

"If you are still serious about the matter we discussed this afternoon, I think it might be arranged, purely as a personal favor to you."

And the million dollars would be purely a personal payment to Paxton, Hale knew. He would not miss this chance to add a million at one stroke to his personal fortune.

"Fine," Hale nodded.

"If you could give some little token of your—ah—"

Hale was prepared. He opened a small sack into a porcelain bowl. Shining gold dust slithered out softly.

Paxton shoved forward to the edge of his chair, his eyes glistening.

"Gold dust! Where do you get it? You have a mine somewhere?"

"I have the Midas touch," returned Hale. "Everything I touch turns to gold."

Paxton smiled weakly at this eccentric man's humor.

"A most admirable gift, if you had it," he remarked seriously.

"It was a curse in the fable," reminded Hale. "As a matter of fact, however, I manufacture the gold dust."

Paxton smiled again, in annoyance.

"Naturally if you don't wish to tell the truth . . ." He let his voice trail away.

"Come in my laboratory. I'll show you."

Hale led the way. Paxton followed out of sheer curiosity. The laboratory was large, tile lined, apparently equipped for every conceivable type of research.

"Sit down."

Hale motioned to a chair, then turned to indicate an apparatus on the nearby workbench. A tiny glass vial was suspended a foot over the tabletop, held in a clamp. A speck of something glowed slightly in the vial. Hale picked up a strip of white metal and brought it near the vial.

"Watch closely," he warned.

When the metal strip was within a foot of the vial, it began to change color slightly. Hale moved it steadily closer. At six inches, the metal glowed with a rich yellow color. It sent shafts of golden light darting through the air.

"Gold!" Paxton gasped. "You've actually turned it to gold."

Hale observed him, still wearing the saturnine smile that now came so easily to his lips. When the financier

poured down on Paxton's head.

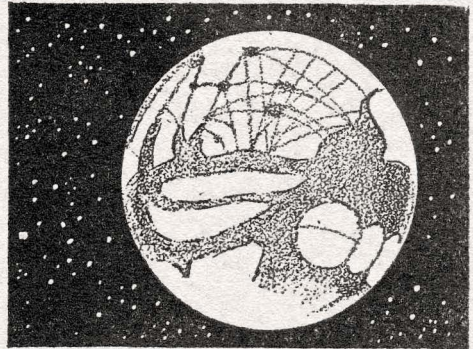
He had been about to say something more. His mouth remained open for a second, then sagged shut with a deep sigh. His eyes closed. His limp body slumped into the roomy chair, his head hanging.

Hale looked down at him for a moment. He had gone instantly to sleep under the influence of the anesthetic ray. Dr. Allison, up in Strato-prison, had reasoned that some sort of beam could do the same thing sleep or anesthetics did—short-circuit the conscious brain. Hale had produced the type of ray necessary, a wave of tremendous high-frequency that interfered with the human brain's nerve currents. It would be a boon to surgery when he revealed it.

Hale's mask of polite suavity had

Meet THE KID FROM MARS

IN THE NEXT ISSUE



was about to jump up eagerly to handle the miraculously made gold strip, Hale moved it away swiftly.

The strip turned back to its former silvery hue.

"Oh-h-h!" breathed an ululation of disappointment from Paxton.

"Just a trick," grinned Hale.

"You don't make gold?" Then, angry with himself for having even entertained the ridiculous thought, Paxton's voice snapped. "This is all rather pointless."

"Is it?"

HALE'S hand was behind his back. It reached to a panel of switches and closed one. A low hum arose. Above Paxton's head a filament glowed within a concave container of frosted quartz. Its soft, radiation

vanished abruptly. For the first time he let his inner rage take possession of him. Hate burned from his eyes, hatred for this man who, with four others, had mercilessly railroaded him to lifelong exile. Paxton would have to pay for the three years that had been clipped off Hale's life.

"You like the sight of gold," Hale murmured to the unhearing man. "You would like the Midas touch."

He worked rapidly, in accordance with plans long before thought out to the last detail. He wheeled a low tabor over and clamped Paxton's hands to the surface, palms down. He inserted a fine steel needle with a hypodermic plunger attachment in the flesh of the middle finger of one hand, just above the last joint. He pressed till the needle met bone, and an eighth

of an inch deeper, into the bone. Then he pushed the plunger. Compressed air forced a tiny speck of matter to the hollow needle's end, depositing it in the bone.

The speck has been taken from the glass vial before which a strip of white metal had turned golden. It was a new type of radioactive material, made by Hale, unknown to science at large. It had the peculiar property of giving off a ray that caused yellow fluorescence in all matter within a radius of six inches. Even the air around it glowed faintly yellow. Similar to ultra-violet fluorescence, it was confined solely to the yellow range of the spectrum.

Dr. Allison's long pondering mind had conceived a whole new chain of radioactive elements. They could be made by carefully controlled bombardments of neutrons into radium. The yellow fluorescing type had interested Hale the most.

He drew the needle out carefully. Only one drop of blood resulted, and that he wiped away. Nothing showed. He did the same to the middle finger of the other hand. The limp figure made no sign of feeling what ordinarily would have been sharp pain for a moment. The anesthetic ray induced perfect lack of feeling in the human body.

Hale put away the needle, looked down at the hands, and nodded in satisfaction. He folded them in Paxton's lap, wheeled the taboret away, and snapped off the anesthetic ray switch.

Paxton sat up, blinking, instantly awake.

"Eh? What were you saying?"

He had the embarrassed air of a man who had just caught himself at the point of going to sleep before company.

"It's just a little laboratory experiment," Hale said. "Pointless, as you say. I make gold—in my own way. You will arrange about the fare, then? I will come to pay you when you are ready."

While talking, casually, Hale conducted his money-mad visitor to the door.

CHAPTER XII

Midas Touch

RIDING away in his limousine, Paxton reflected that Dr. Strato was a man of eccentric whims. Naturally he didn't *make* gold. He had a rich mine somewhere. That gave him the Midas Touch in effect. . . .

The Midas Touch! How wonderful it must be just to stretch out your hand, touch something, and see it turn to beautiful, shining gold! Just put out your hand, like this. . . .

Paxton started.

He had touched the cushion at his side, and it had turned a rich, golden yellow in an area a foot across. His hand itself, to the wrist, was of the same tawny tint. Experimentally he touched the window ledge, the glass, his suit. All seemed to take on that exciting hue. His left hand seemed equally capable.

Imagination, of course. His left hand seemed equally capable.

Imagination, of course, he told himself scornfully. He had become excited by all that talk about gold. He put his hands in his pockets resolutely, before his driver would notice his queer actions.

Midas Touch, indeed! This was the 21st century, free from fairy-tale superstitions. Yet it was a queer trick his eyes had played on him a moment before. Now it disturbed him to look down at his pockets and see the bulges around his hands gleaming apparently with a shimmering golden color.

Imagination, of course.

Arriving at his sumptuous bachelor apartment, Paxton dismissed his chauffeur. At the door he reached to turn the door handle. He paused with his hand six inches from the ivory door knob. No longer a creamy white in color, it gleamed deep yellow. Golden!

Paxton went in, shaking his head. Imagination. . . .

His apartment was flashily decorated in a golden motif. Gold-plated statuettes and lamps occupied the

corners. Paxton kept no servants. They might yield to temptation, and were an unnecessary item on a miserly budget.

He hung up his wraps and sank into a tawny leather easy chair, thinking over the queer Dr. Strato and his strange offer. Idly he picked a cigaret from a gold-inlaid case. As he brought it close to his lips, he started. The white cylinder had changed to a golden one!

Was it just the reflection of the golden tints all around him? It must be.

PAXTON lit a match, was suddenly holding a sliver of gold. The flame was yellower than it should be. With a smothered curse, he flung the cigaret and match away. They lay on the thick rug designed with golden dragons. The cigaret was mockingly white again, the match wooden.

A fine dew of sweat beaded Paxton's forehead. He drew several coins from his pockets, held them in his hand. Nickel, silver and copper coins, yet all shone brightly like burnished gold! What madness was this?

He drew a shaky breath.

"Imagination, damn it!" he cried aloud.

He glanced at the wall clock. Its case and dial gleamed yellow. He started. Then he remembered that the clock had always been that color. When he read the time, he arose to press the dumbwaiter buzzer for his nightly milk and cold sandwich, from the building's kitchen below.

The smoothly silent dumbwaiter deposited the usual fare. Paxton stretched his hand slowly for the sandwich of white bread and thin sausage. Beside it stood a glass of white milk.

"Turn to gold!" he muttered in mockery of himself. "Turn to gold, I say. I've got the Midas Touch!"

In mockery of his mockery, the white bread turned to yellow cornbread. The milk took on the hue of butter. Paxton's eyes riveted on them. Then, savagely, he bit into the sandwich, closing his eyes. He had

the vivid sensation of crunching flaky gold between his teeth. The strip of sausage was a golden disk that would break his jaw. And when he took a hasty gulp of milk, he gagged at the thought of its being molten gold!

The Golden Touch? The Midas Curse!

He flung the sandwich and milk away, stumbled toward his bedroom. He ignored the golden flashes that beat against his eyes whenever his hands touched something. In bed, in the dark, he calmed his trembling nerves. After an hour he convinced himself it was sheer hallucination. He had been working hard lately. His nervous system was upset.

He switched on the bed lamp at that point, reached for a book. Reading would bring sleep. But the pages were blank, blinding sheets of gold.

Shuddering, Sir Charles Paxton consigned himself to the mercy of darkness. He knew now how King Midas must have felt had there been such an accursed creature.

* * * * *
AND vicariously Richard Hale knew too how he had felt.

By means of a spy ray, he had seen Paxton in his limousine and watched his first consternation. In succession, Hale had observed the tormented man test the curse that rested in his hands. The act of flinging away the sandwich and milk had made Hale chuckle mirthlessly. It had followed almost to the letter the legend of Midas. The final scene of a miserable man crawling into a sleepless bed had been a fitting climax.

"Step One!" Hale gloated as darkness cut off the scenes. "The punishment fits the person perfectly in the case of Paxton." His lips twisted bitterly. "Yet he has only had a few hours of it. I had three long years of suffering in Strato-prison."

Turning to switch off the generator of the spy ray, he stared at the instrument for a moment. It was still a wonder to him, though he had completed and used it a month before. It was perhaps the greatest of Dr. Allison's mental inventions — except for one other. And the latter he might never

attempt to use at all, at any time.

Even the spy ray, at first, had seemed a dread sort of thing to make and use. Its invisible, undetectable beam penetrated anywhere, through all matter. A tiny diamond crystal set in vibration by AP-energy projected the beam as a subatomic radiation that was more penetrating than cosmic rays. And it could be focused clearly at any earthly distance or dimension.

It was, in brief, super-television. At the controlled focal point, sight and sound were absorbed. The usual television principles were then applicable, to reproduce on Hale's screen what the modulated spy beam saw and heard. Someday it would simplify television enormously, when a suitable insulating material could be developed for privacy's sake.

But to Hale the spy ray now, represented more than just a way to enjoy the fruits of subtle revenge. It enabled him to follow every plan, every secret of the Five in their program toward world domination. . . .

DR. EMANUEL GORDY looked around at his four confreres in their sound-proof secret room in the heart of New Washington. His eyes gleamed with the fires of a megalomaniac who visioned world dictatorship. He spoke in sonorous tones filled with self-importance.

"We will now have the reports, Mausser."

Jonathan Mausser licked his fat lips, as though in relish of a recent meal. His little black eyes peered triumphantly from the white fat folds of his face. In five years he had risen to the post of Secretary of Law for the World Government.

"Airlines Company has just gone bankrupt," he stated. "Our suit against them was successful. They were very heavily fined for crossing one of our air lanes. Transport Corporation now hold the complete world-wide monopoly on all air routes. No plane leaves the ground unless Transport—in plain words, we sanction it!"

"Good," commanded Gordy. "Con-

trol of the skies in this era is control of the world. Asquith?"

Peter Asquith looked the part of an honest, upright citizen, for he carried an air of bland integrity. He was now Minister of Public Enlightenment for the World Government.

"Our agents are everywhere ready at a moment's notice to lay down a barrage of propaganda against the Government. Almost overnight we can label the present regime a slipshod failure, ready to be supplanted by our more vigorous one."

Gordy nodded. "Government must always be vigorous, even to the point of ruthlessness. The human race must be lifted from slothfulness. Von Grenfeld?"

Ivan von Grenfeld sat stiffly, his broad shoulders filling his blue-and-crimson uniform of the World League Police, whose High Commander he now was. He held his ruggedly handsome head high. One of his clenched fists lay on the conference table, the other rested on a sword hilt at his side.

"A million trained troopers of the Dictator Syndicate in Europe are now available, secretly trained for action. It is a far larger fighting force than any other in existence today, since the Disarmament Decree of 1985. The World League standing army numbers only a hundred thousand. We have the balance of military power."

Gordy's thin lips expressed satisfaction.

"When the Subatlantic Tube is officially opened soon, those Syndicate troopers can strike at Washington within ten hours. Perfect! Paxton?"

Sir Charles Paxton was nervously fidgeting in his chair. His hands, in his lap, were fitted with yellow kid gloves that he wore despite summer warmth. The muscles of his thin cheeks twitched.

"The money reserves of the world are now definitely in our hands. As Secretary of Finance, I control the stock exchange. Buried at Fort Knox, available to no one but us, are ten billion dollars, the world's total supply, in—" he hesitated, unwilling to finish the sentence—"in gold reserves."

The other four were staring at him now.

"You sound nervous, Paxton," remarked Gordy. "But about this gold reserve—"

"Gold!" It was almost a shriek from Paxton. "Don't say that word! It's driving me mad!"

"Paxton, what—"

PAXTON had arisen, eyes wild. He held up his hands. The yellow kid gloves were of a peculiar shade, like gold. He ripped them off. Then slowly, like a man in a nightmare, he brought his right hand close to an ash-tray on the table. The bright chromium dimmed and became a magnificent golden color.

"Do you see?" cried Paxton hoarsely. "I've got the Golden Touch, the Midas Curse! It's driving me mad. Everything I reach my hands for turns to gold. Clothes, paper, pipe, silver coins, even dirt—everything. Even the food I eat mocks me with the luster of gold. I thought it was hallucination at first. Now I know I'm cursed. It isn't real gold, of course. It's a false shine. False, mocking, maddening—"

The words had come out in a rush, though they represented twenty-four miserably slow hours of increasing torture. To Paxton's mercenary soul, it was subtle mental agony that the shine was false. For everything before him to assume temporarily a golden color which he loved, and which always faded, was irony beyond his appreciation.

"I can't stand it!" he shrieked. He was at the breaking point.

Gordy ran over and began shaking him.

"Control yourself!" he barked. "How did this happen?"

Paxton went on in a calmer voice, telling of his visit to Dr. Strato, and the subsequent miracle of the Golden Touch.

"Simple enough," snorted Dr. Gordy. "You probably touched some radioactive solution in Dr. Strato's laboratory. Did you go back to find out?"

Paxton shook his head. "No. I was



"Gold!" he whispered. "Pure gold!" (Chap. X)

hoping it would go away."

Gordy stared at him narrowly.

"You're going to pieces. With our plans coming to a climax, we need you in better shape. Call up this Dr. Strato right now and find out what can be done." He motioned the rest of the men aside. "We must not be seen together."

Paxton went to the corner and sat before the visi-phone set. In several seconds he had been connected, through central exchange, with Dr. Strato's home. The mysterious scientist's face looked inquiringly into his. Paxton told of the phenomenon.

"How unfortunate!" Dr. Strato exclaimed. "Yes, you must have touched one of my solutions. But the deposit is only on your skin. It will wear away." The lips drew up in a saturnine smile. "You recall I said the Golden Touch would be a curse? I think you will agree with me now."

Paxton shut off the machine and turned away with some relief in his face. They all resumed their places. But the interruption had disturbed the atmosphere.

"That is rather an amazing radio-active substance," Dr. Gordy mused. "New to science."

"What I would like to know, Paxton," asked Jonathan Mausser suspiciously, "is why you didn't inform us immediately of the million-dollar offer that man made? It isn't the money, but the principle of the thing."

"Were you thinking," chimed in von Grenfield gruffly, "of not telling us at all?"

"And with ten billion dollars in your control at Fort Knox," Peter Asquith said quickly.

Paxton glared at the accusations.

IMPLICATIONS hung heavily in the air. Five men who plotted unlimited world power could not help but suspect counterplot, even among themselves.

"Gentlemen!" Gordy's voice crackled authoritatively. "Let's not quarrel among ourselves on the eve of our great venture. I dismiss the matter of this Dr. Strato from the discussion. We must bend our every

thought and faculty to the coming events."

All nodded, but the cloud of suspicion had not entirely dissipated. They continued to shoot guarded glances at one another.

"About the gold," continued Gordy. "With most of it buried at Fort Knox, under our control, our transportation monopoly can't be broken. We control all transportation. Our first step will be to rapidly paralyze industry by holding up shipments of all kinds.

"Asquith's propaganda service will then blame the Government. Mausser's official statements will admit the Government's lack of a law to break the monopoly. Von Grenfield's police will quell riots ruthlessly, again giving the Government a black eye. Then our Syndicate troopers will move swiftly under the Atlantic and capture New Washington. Five steps and the rule of Earth will be in our hands!"

The Five looked at one another eagerly, suspicions fading. Even Paxton's nervousness eased at the approach of the great moment they had planned for ten years.

Gordy was about to resume when the visi-phone buzzer sounded.

They started. Only their most trusted agents knew the call-number for this set, and they had definite instructions to call only for something vitally important.

"It's probably for me," said Paxton, his nervousness returning. "The stock exchange was acting a little today."

He took the call, when the others had moved out of range. A wild-eyed man stared out of the visiscreen.

"Number twenty-one-B," snapped Paxton. "What is it?"

"The stock exchange, sir!" gasped the man. "Something has happened. Heavy trading and buying went on before closing. We just finished totaling and found that twenty-five per cent of Transport's stocks went into new hands!"

"Impossible!" shouted Paxton. "How could they buy? What security can they put up when we control—"

"But they have!" contradicted the

image. "A buying bloc stood there and bought with gold. I saw it. They wheeled it in in hand-trucks. It was like a madhouse. What shall we do, sir? If they have more gold tomorrow, they will take over even more of Transport stock."

Paxton thought rapidly. He shuddered a little, seeing the golden color to which his hand had transmuted the tuning knob. He was suddenly sick at the thought and sight of gold. He forced himself to speak through clenched teeth.

"Rush planes to Fort Knox. Bring back gold. I'll issue the warrant tonight. Buy the stock back—at any price!"

He clicked off and faced around, his skin pale.

"A rich gold mine must have been opened somewhere. With gold against me, anything can happen. They might even break the monopoly!"

"We can't let that happen. It would upset our whole program." Gordy bit his lip. "Prevent that at any cost."

"Could this Dr. Strato be connected with it?" rumbled von Grenfeld, looking at Paxton's hands.

"Of course not," snapped Gordy. "There is something bigger behind this than a puttering scientist who babbles about the Golden Touch and discovers some yellow fluorescent substance."

CHAPTER XIII

Hands of Iscariot

RICHARD HALE laughed when he heard that last statement in his spy ray screen. Puttering scientist! What if Dr. Gordy had known that his every word, and all that had gone before, had been faithfully pouring into the puttering scientist's ear? What would be their utter dumbfoundment to know the true story behind the mysterious buying in the stock exchange?

For weeks Hale had been manufacturing his cheap gold from cheaper lead. Through roundabout channels

he had contacted business men broken by the Five's monopoly. He had given them gold like so much free dirt. His only instruction had been:

"Buy out Transport, lock, stock and barrel, as fast as you can!"

Soon Transport would crash as a monopoly. His buyers, men who sought vengeance themselves, would raid the market. They would buy at any price. They had a billion dollars in gold at hand, and Hale had promised unlimited reserves. The men had not questioned the miraculous appearance of new gold. Gold was gold, whether it came from hell itself. And revenge was revenge.

In these dealings, Hale had kept his identity secret. It was not yet time to reveal himself, even as Dr. Strato. The Five would know less what to do while acting against an unknown agency. And Hale did not underestimate the Five's powers. Once they knew, they would crack down viciously.

The cat and mouse game—sabotage in five careful steps. . . .

Hale, only human, took a delight in planning it that way. They had five steps toward world power. He had five steps toward revenge. He must always stay one step ahead.

Peter Asquith hesitated at the door of Dr. Strato's home. Finally he pressed the button. The door opened so suddenly that it startled him. The politely smiling face of Dr. Strato peered at him.

"Come in." Hale felt that in effect he was saying: "Come into my parlor."

In the living room, Asquith spoke hastily.

"My niece, Laura, mentioned your visit to her two days ago. You are from some European state?"

Hale's faint outward smile was only a reflection of the deep grin within. The second of the Five had come to visit him! He had known it would be Peter Asquith. One was as good as another.

Looking at the bland, friendly face, it took effort to control the intense hatred that welled in his veins. This was the man who had acted as a friend

to Burton Hale and Richard Hale, leading them on to treachery. This man had betrayed him heartlessly, defamed his character at the trial, and used him as a pawn.

BLINDLY, Hale wanted to leap at the man, choke him, watch him die slowly and horribly. The moment passed safely. It must be done a better way. He must suffer. He must atone, in part, for Hale's three years of prison.

"I am a citizen of the world," returned Hale noncommittally, in his stiff, formal accent. "If you are curious about me, I follow only one creed—humanitarianism."

"Never mind." Peter Asquith's falsely frank eyes had narrowed. He leaned forward. "Sir Charles Paxton was here, and left with what we may call the Golden Touch. You gave it to him. Why?"

"It was purely an accident," Hale retorted, drawing himself up in feigned indignation.

"There's something queer about it all," interrupted Asquith, watching him closely.

"But why should I want to give any one the so-called Golden Touch?" countered Hale. "Isn't that a little ridiculous?"

"Which one hired you?" Asquith's voice crackled suddenly. "Paxton is eliminated. It's one of the three others!"

Hale grinned. That was Asquith to the core. An unscrupulous betrayer himself, he trusted no one else. "I don't know what you mean," Hale returned, enjoying the baffled look in his visitor's face.

Quite suddenly, Asquith's hand came out of his pocket, gripping a deadly AP-gun that could shoot out blasts of withering energy. He waved it threateningly.

"Do you understand this? Now talk, and talk fast!"

Hale backed away, as though the sight of the gun unnerved him. But his move was deliberate. He stopped with his back against the wall. His fingers found the small concealed switch along a molding. It closed

quietly. With no audible or visible sign, an anesthetic ray sprayed down from a ceiling projector. Asquith was caught directly in focus.

About to repeat his demands, his mouth remained open for a soundless syllable, then drooped shut. His body, instantly asleep, swayed forward. Hale caught the limp form, keeping himself out of the ray's range, and eased it to the floor. He placed the fallen gun aside.

Hale strode to his laboratory and returned with a small flask containing a blood-red liquid that was a powerful dye. Once applied to the skin, it would work its way down to the underlying derm. Its effect would be the same as tattooing, but without the use of needles. Moreover it would be permanent and precisely the color of blood.

HALE had achieved that peculiar shade after many attempts. The same type of dyes could be made in any color of the spectrum. Dr. Allison, exiled genius of Strato-prison, had conceived the formulae for these super-dyes, as yet unknown to industry. Though one of his lesser secrets, it was important to Hale for his present purpose.

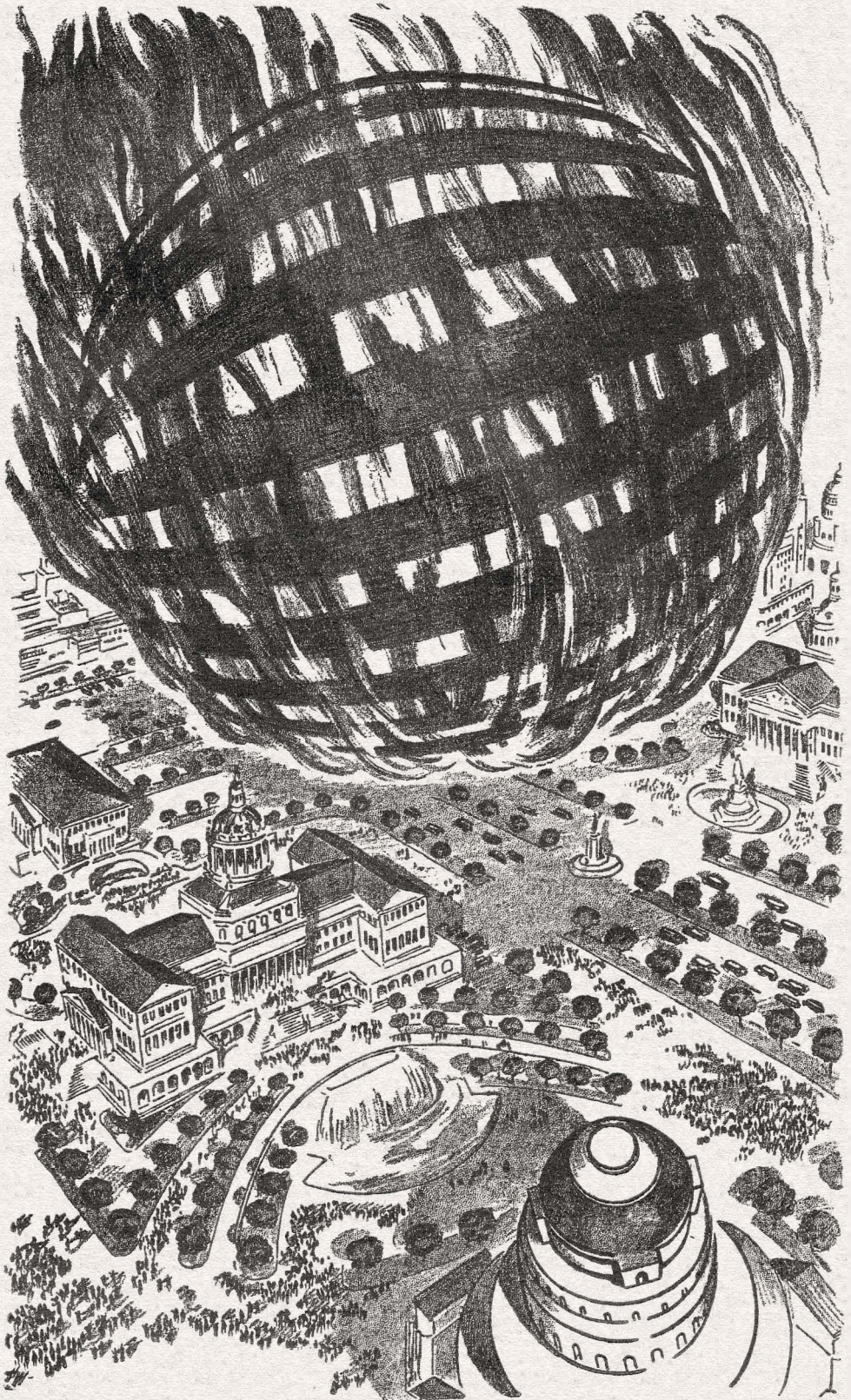
In the next fifteen minutes, Hale was busy over Asquith's hands. He dipped a soft-haired brush periodically in the flask of dye. At times he drew his head back, squinting his eyes, with the manner of an artist surveying his work. Finally he applied a volatile skin-colored reagent over the dye which would evaporate in an hour.

Hale looked down bitterly at the limp form.

"You can't wash the dye off, Peter Asquith. No more than you can wash off the guilt of blood and betrayal."

Hale returned the materials. He then hauled the body erect, reaching for the anesthetic ray switch. At the moment he released it, he sprang away from Asquith. The latter sagged momentarily, then straightened, wide awake again.

"You dropped your gun," Hale said, handing it back. "I'm a simple scientist. You have imagined things about



Burning like paper, the cosmically huge globe fell toward Earth (Chap. XX)

me. I am sure after thinking it over you will agree."

Asquith took his gun bewilderedly. Unaware of his short sleep, he was only puzzled at dropping his weapon.

"Perhaps I have," he muttered.

He left with his guileless face a little dazed.

Hale pondered deeply when he had gone. The cards had to be played right. Would the other three of the Five come to him? Or would he have to go out after them? He set his lips grimly. Either way, he would have to be careful.

"Two steps!" he breathed softly. "Three more to go!"

PPETER ASQUITH left with a web of confused suspicions running through his mind. The mysterious Dr. Strato might still be the focal point of something sinister. Of the Five, Asquith trusted none but himself.

When he arrived at his apartment an hour later, he reached nervously for a cigar. His hand remained outstretched, while his eyes fastened to it. What were those dim red spots over the skin? He strode to the bathroom, to wash his hands.

At the touch of soap and water, the spots sprang out in full relief. They were distributed over both hands, palms and backs, to the wrists. They were droplet-shaped, exactly like—spattered blood!

Asquith washed for ten minutes, scrubbing thoroughly, before he realized it was useless. The stains were as bright as before. How had this been done? By Dr. Strato? But why?

Asquith stood looking at his hands. He shuddered. It was as though fresh human blood hung there on the skin, ready to drop off the ends of his fingers. Blood that could not be washed off. Vaguely in the back of his mind while washing, he had been thinking of another man who had washed his bloody hands and never got them clean. In the Bible. . . .

Asquith felt a queer tremor of intangible fear. The betrayal of innocent blood! His hands were not free

of crime—ruthless crimes that he and the other four had engineered in their climb for power. They leaped starkly from his vigorously censored subconscious, where they had crawled and writhed ceaselessly.

Asquith shook himself. He mustn't let his imagination prey on him. Looking closely, he reasoned it was some kind of dye. Dr. Strato's work, evidently, however he had done it. Angrily, Asquith reached for the visiphone, then changed his mind. Which one of the Five had hired him? That was the thought that bothered him most.

He sat down to smoke his cigar, but his eyes kept stealing toward his hands, no matter how hard he fought against it. They were not a pretty sight, those marked hands. When the light struck them at certain angles, blood seemed actually to drip. He could not help glancing at the floor now and then, almost expecting to see a dark pool at his feet.

When he undressed for bed, he found himself involuntarily wiping at his hands with each garment. The crimson stains shone starkly against the white bedsheet until he turned out the light. He lay in darkness thankfully, no longer tormented by the sight of his blood-dyed hands. But they hung before his mind's eye more vividly than before, like specter hands in a nightmare.

Peter Asquith groaned. His tortured mind persisted in thinking back to what the bloody hands symbolized. Betrayal! Crime! Deeds that his conscience had thinly justified as necessary in his career. But his spotted hands— He knew he would sleep miserably.

WHEN the Five were seated, the following evening, Asquith's narrowed eyes swung from one to the other of his companions. His mind crawled with suspicion. He had spent a bad night. His eyes were bloodshot, his nerves jangled. It had not been restful, all during a busy day in his private office, to have a pair of bloody hands constantly before him.

Red dye, he had kept repeating to

himself. But his mind lent the illusion of blood—dripping blood that no amount of washing would ever efface. It had been mental torture pyramided high by a guilty conscience.

Dr. Emanuel Gordy was speaking.

"We will not have to meet in secret like this much longer," he observed. "After our coup, all the world will know us and obey us. Carefully as we have planned, it should be a bloodless campaign—"

Asquith jerked erect at the word "bloodless." He sprang up, revealing his hands, turning them over before their startled eyes. It was like an ill omen. As with all humans who sought power, they were superstitious.

Asquith stood trembling.

"How did that get on your hands?" demanded Gordy.

"That's what I want to know. How and *why!*" Staring from one to the other, Asquith told his story, as much as he thought relevant.

"This Dr. Strato must be investigated!" Ivan von Grenfeld pounded his fist on the table.

"First Paxton with his Golden Touch. Then Asquith with bloody hands. What does it mean?" Jonathan Mausser looked fearfully over his shoulder. Though no assassination plot had ever been uncovered against them, they knew their lives might be in danger.

Asquith was still staring around narrowly.

"Just who is this Dr. Strato?" asked Gordy.

"Don't you know, Dr. Gordy?" Peter Asquith's bloodshot eyes leered at him accusingly. "You're a scientist. You know solutions too—"

Tension leaped among the five men.

"Explain yourself, Asquith!" barked Gordy angrily.

"Perhaps you have hired Dr. Strato for your own purposes." Asquith's voice was cold, biting. "To break down our nerves, for instance, clearing the way for yourself to take sole control when the time comes."

"Preposterous!" grunted von Grenfeld.

Asquith swung on him.

"Or you may be the one, von Gren-

feld. We never liked each other. Or Mausser!"

"Or you yourself, Asquith!" snapped back Mausser.

Dr. Gordy held up a hand, silencing the sharp quarrel.

"Stop! This is no time for mutual suspicions. We must work together. We all need each other. With world power soon to be divided among the five of us—"

Sir Charles Paxton had sat silently all the while, staring at his golden-colored hands. Now he interrupted, with a quavering laugh.

"I wonder!" he said.

They turned on him. He looked gray, his lips pressed together as though he would say no more.

"I can't stop it!" he whispered finally. "Gold poured into the exchange all day today. Close to forty percent of Transport stock went out of our hands. If it keeps up, the monopoly will be broken. Tomorrow or the next day!"

"Good God, then we're ruined!" gasped von Grenfeld.

CHAPTER XIV

Step Three

GORDY looked at them all gravely. "Our hand is being forced. That's what it amounts to. The time has come for us to swing into action. Asquith, you get your propaganda machine ready for a blast at the World Government. Von Grenfeld, hold the Syndicate troops in readiness. We will act immediately after saving Transport."

"What about the mystery of Dr. Strato?" Asquith asked uncertainly. "If there is some kind of plot against us, he is in it." But Asquith's tone still held an undertone of suspicion against his companions.

"Some outside agency is after us," commented Jonathan Mausser worriedly. "We have been too confident that our plans were secret, and that no one would find out."

"He had gold. I saw it," reminded Paxton. "He must be connected with this stock exchange debacle."

"I say arrest him!" boomed von Grenfeld. "I will go there with my men and we will make him talk!"

Dr. Emanuel Gordy was pacing up and down, his brow lined in deep thought.

"You always think of the direct, crude method, von Grenfeld," he said witheringly. "We must act carefully. Premature exposure of ourselves is what we must guard against. Some powerful group is behind this Dr. Strato. He is a pawn. What *one man* would dare challenge us as openly as he has? No, we'll get at those back of him. Von Grenfeld, you will assign several of your best plainclothes agents to watch his place. Have his every move recorded."

"But what about the stock exchange?" cried Paxton. "I tell you by tomorrow we may lose the monopoly!"

"We'll have to use emergency methods," Gordy returned decisively.

He whirled on Jonathan Mausser.

"Issue a decree tomorrow closing the stock exchange. Push it through, as Secretary of Law. Say the market must be investigated. Say anything, but stop the buying. It will give us time. We'll get at the bottom of this. Gold is coming from somewhere. And as soon as we've traced down this Dr. Strato's activities, we'll know where. Von Grenfeld, use your best men. Dr. Strato must not go anywhere or do anything we fail to know about."

WATCHING in his spy ray screen, Hale saw the conference of the Five break up. They went off in separate directions, to set in motion the powerful machinery they had built up in ten years.

Hale laughed. Dr. Gordy thought it inconceivable that *one man* would dare oppose them. Two years before, Hale had been a haggard, trembling wretch in a rainy forest. Now, by virtue of a dead genius' secrets, he was a power at least equal to the Five—and the only such power in existence. Hale's thirst for revenge was tempered by the sober thought that

perhaps he alone stood defensively before a helpless world, facing the Five.

Hale reflected deeply. He must plan with infinite care now. The Five were aroused. They suspected him. The one great advantage Hale had was his spy ray. With that he knew their plans, and could keep a step ahead.

Tomorrow Transport Corporation, part of the Five's stranglehold on Earth, would crash. That is, unless Jonathan Mausser succeeded in closing the stock exchange . . .

That made Jonathan Mausser step three.

Hale arose. Then, remembering, he strode to the darkened living room and peered out the window. He searched for several minutes before he saw the dark figure slouched against a tree, cupping a cigaret in his hands. From a side and back window, Hale saw two more watchful figures. He could not move from the house without being noticed and followed. Undoubtedly they had dark-vision opti-sets which would tell them instantly when someone moved through the dark.

But inexorably Jonathan Mausser would be number three—tonight!

Sometime after night fall, Hale stepped out of the house carrying a briefcase. Dark countryside lay all about, illuminated only by the starlight. He walked down the front path, as though unaware of the watcher who crouched nearby under a tree's shadow. But suddenly he turned, facing around, just at the moment the man stepped to follow.

The shadower had no chance to duck back. Hale strode up to him.

"Have you a match?" he asked casually, grinning at the startled surprise in the plainclothes man's face.

The detective fumbled awkwardly in his coat pocket. Hanging by a strap from his neck was his dark-vision opti-set, much like binoculars. They showed night scenes as clearly as in daylight, by amplifying starlight. Hale would not be safe from being followed unless they were gone.

The man held forth a lighted match finally. His other hand was still in

his coat pocket, gripping a conspicuous bulge. Hale stretched out his hand. But instead of taking the match, his hand paused, its fingers wrapped around a tubular device with a flaring end.

The plainclothes man took one backward step, gave one muttered oath and half-drew his gun. All these actions stopped before completion. His mouth sagged shut, his gun dropped and his knees buckled. He fell to the ground silently, asleep.

Hale kept the hand anesthetic ray focused over the other's head while he stooped. He took away the dark-vision binoculars. Chuckling, he ran swiftly and silently down the dark path. Over his shoulder he saw the man rise, rub his eyes bewilderedly, leap erect. But then it was too dark to see any more.

And by the same token, the man could not see him, without his optiset. By the time one of his companions answered his call, Hale would be far out of range.

Hale kept running. With the dark-vision binoculars before his eyes, he could run as though it were daylight. The scene was weird, for amplified starlight lacked blues and greens. Trees were black, the sky white, and all bits of red and yellow stood out gemlike. But everything was sharp and clear-cut. He ran swiftly.

A half mile down the deserted road he turned off into a grassy stretch. Hidden among trees was a crude hut. Inside was a powerful 16-cylindrical car of tear-drop design. Hale had not been unprepared, before starting his grim game with the Five, for moments like this.

The almost-silent motor carried him down the rough road smoothly, without lights. Within fifteen minutes, Hale had lost himself in the general traffic of an elevated highway leading to New Washington. He had successfully escaped the detectives.

Now he was free to go on to step three.

* * * *

Jonathan Mausser returned from his office a little after midnight.

He had prepared the necessary

papers. Tomorrow he would officially sign them, shove the decree through, and close the stock exchange. New Washington would protest, but he would devise excuses. He rubbed his plump hands. It always gave him a sharp pleasure to manipulate sweeping affairs of law. It was wonderful to have power like that. Soon he would have greater power in his grasp.

He let himself into his bachelor apartment. The Five had pledged themselves to remain unmarried, so that marital affairs would not hamper them. Fanaticism, the world would have called it, but to themselves it was a belief in their higher destiny.

Hardly had he settled himself for a smoke before bedtime when the front door buzzer sounded. Wondering who his late visitor could be, Mausser snapped a switch beside the closed door. A two-way visi-screen mirrored the outside person.

He did not recognize the man revealed—tall, dark, wearing horn-rimmed glasses.

"What is it?" he asked, making no move to open the door.

"I'm from your office," the image replied. "Mr. Beckwith sent me."

MAUSSER sighed. Did his office affairs always have to follow him to his bed? This must be some clerk he hadn't noticed before, but then there were so many. The name Beckwith at least was bona fide, and he knew that part of the office force worked all night. Mausser held the door open.

Seated opposite one another, Mausser eyed his visitor quizzically. He had a slight suspicion of possible danger in admitting an unknown man late at night, but no fear of it. His hand rested carelessly on his easy chair's arm, an inch from a concealed button. Pressed, the button would instantly summon an armed attendant from the room across the hall.

"Well?" he queried.

"I don't understand, sir." The visitor was opening up his brief-case. He looked puzzled. "Mr. Beckwith told me you had called for a clerk to take

something back. Some paper."

"What?" Mausser was puzzled, in turn. "I made no such call." Suspicion leaped into his face. "Who are you?" he demanded. "You don't look like a clerk—"

The last word trailed away into a deep sigh. Mausser's eyes closed and his head lolled. He was sound asleep, under the influence of the projector in Hale's grip. Hale had slipped it out while talking, and pressed the button for the anesthetic ray to stream forth.

Holding the projector, Hale glowered at the limp form. As with Paxton and Asquith, bitter hatred surged through him. This man had been the prosecutor at the trial. Step by step he had led the jury through a morass of half-truths and outright lies. Hale remembered how his fat white face had leered triumphantly, how his oily, smug voice had declaimed against the helpless defendant. He had not had one shred of pity for a young man being sent to lifelong exile.

"You have a black heart, Jonathan Mausser," Hale hissed at the unhearing man. "But it doesn't show through your white, clean skin."

Hale stirred.

He placed the ray projector on a nearby end table, propping it with books so it kept Mausser's brain in focus. Then he was free to work with both hands. From his brief-case he took a sealed ampule that held an amber liquid whose amazing property had first been conceived in the mind of Dr. Allison.

FOR a moment Hale hesitated. Did even black-hearted Jonathan Mausser deserve such a fate? Hale shrugged grimly. This was not just revenge. It was a blow against the Five's sinister plot.

Hesitating no longer, Hale broke off the glass tip of the ampule. He held open the limp jaws and let the liquid trickle down the unconscious man's throat. The reflexive throat muscles swallowed automatically. All the liquid was gone in one moment.

Hale put the empty ampule in his case, straightened the books. Snapping off the ray projector, he quickly

dropped it into the case.

Mausser jerked to attention, blinking his eyes. He had the same confused air Paxton and Asquith had had. He also did not realize he had been in a sound slumber for several minutes.

It was Hale's opportunity to go.

"Mr. Beckwith must have made a mistake," he said, and moved to the door.

"Wait a minute!" muttered Mausser. "I've seen you somewhere before. I—" He rubbed his forehead, utterly bewildered.

"You aren't feeling well, sir?" Hale smiled saturninely. "I'm sure you'll feel better after a night's sleep."

He left almost abruptly, yet with undeniable courtesy.

Jonathon Mausser sat frowning for a moment. He didn't like the mysterious episode at all. How could Beckwith have made such a childish blunder? Then Mausser gasped.

He certainly had seen that face before, in the visi-screen when Paxton had called—Dr. Strato!

Mausser pressed the button on his chair's arm. Instantly an electric mechanism flung open the door, and the one across the hall. The guard who had been seated there, reading, leaped up and ran into Mausser's presence, gun in hand.

"Quick! Get the man who left here a minute ago." Mausser described him hastily. "Hurry!"

The guard returned in five minutes, shaking his head.

"Can't find a single trace of him, sir," he said apologetically.

Mausser dismissed him, and sat down to think. He looked at his hands suddenly in fear. Paxton and the Golden Touch, Asquith and his blood-dyed hands. Had the mysterious Dr. Strato done anything to his hands?

But nothing showed. Nothing was wrong. Jonathan Mausser wiped his hot forehead in relief. Whatever strange reason the sinister Dr. Strato had had for coming, he had done nothing. Nevertheless he must be apprehended. It was too late now, but tomorrow von Grenfeld and his men

would have to arrest the man and fourth-degree him into revealing his motives.

Mausser went to bed wearily, vaguely aware of a sweetish taste in his mouth. Too much rich food lately, he told himself.

When he awoke in the morning though, he felt strange. He had the peculiar sensation that something had been working within him all night. He cursed himself, sitting at the edge of the bed. Imagination prodded into overactivity by Dr. Strato's visit. He arose to wash.

IN the white-tiled bathroom, he turned on the water faucet. And then he saw his hand. His sleep-puffed eyes opened wide for the first time.

him were white—white holes set in a black face!

It was a ghastly effect. Cringing in fearful anticipation, Mausser drew up his pajama arms. His arms were black. He ripped off the pajama suit and stood naked.

He was black from head to toe!

The full realization of it swept over Mausser. In a frenzy, he grabbed soap and water and tried to wash off the horrible black color. When he gave up, he was sobbing like a scared woman. He reeled away from the damning mirrors, threw himself on his bed. It was something within himself, some cursed change in his very skin. The diabolical Dr. Strato had changed his white, fair skin to an incredible, unrecognizable black. How, it did not matter. It had been done.

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His hand was black—as black as coal against the white porcelain basin!

Like a man in a nightmare, he raised both hands before his eyes, turning them in slow dread. They were both inky black!

Dr. Strato had done something to him, after all.

Mausser could hardly bear the thought of the slightest mutilation. He had always been extremely fastidious. Now he held his black hands at arm's-length, half gasping and half sobbing, striving somehow to disown them. Had Dr. Strato beaten him with a whip, he could not have hurt Mausser more.

"Good God!" he moaned.

And then he shrieked.

His bulging eyes stared in the mirror. The eyes that stared back at

Jonathan Mausser wept wretchedly.

WATCHING in his spy ray screen, Hale felt no slightest pity for him. Up in Strato-prison, for an eternity, Richard Hale had been the most wretched being alive. Mausser was paying in a considerably lesser coin of misery.

Even Hale was amazed at the overnight change of white skin to black. However, his albino guinea-pigs, experimented on months before, had changed that almost miraculously. The amber liquid was an elixir of pigmentation. Working through the bloodstream, it had deposited its melanine in the capillaries.

Dr. Allison had also propounded the reverse of the process, in their long scientific discussion in Strato-

prison. He had suspected the existence of an agent that could absorb melanine. He had talked rather enthusiastically of using this to make all the human race white in color. Perhaps he had surmised that it might one day bring about a true brotherhood of the white and colored races. But that had been sheer speculation, to while away time in their lonely cell. The black-producing agent had concerned Hale most, for revenge on Jonathan Mausser.

Hale continued to keep the black-skinned figure of Mausser in his screen, in the following hours. . . .

CHAPTER XV

Black Doom

JONATHAN MAUSSER became somewhat calmer, presently.

But a thought sent cold shock through his mind. There was no time to waste. The decree closing the stock exchange must be issued this morning. Later he would contact his companions and deal with Dr. Strato. Right now, black skin or not, he must rush to his office.

He shuddered sensitively at the thought of venturing out in this condition, but there was no help for it. He hastily washed and dressed, trying to keep his mind off the fact that every inch of his skin was melanoid. Nevertheless he could not resist taking a last look at himself in the mirror.

A black, strange face peered back at him. His normally black, wavy hair suited well—too well—giving him the appearance of a respectable colored gentleman. He hardly knew himself. The cast of light on black skin had even seemed to blunt his features.

He took a breath before opening his apartment door. His pulses hammered in a sickening fashion. He hated to expose himself to the public eye, but he resolutely stepped out. Guiltily he looked up and down the hall before going to the elevators. While he waited for an elevator, another man

strolled up. He gave Mausser only a casual glance. Mausser breathed a little easier.

Down in the street, the hurrying morning crowds paid him no attention. For the moment, Mausser basked in the thought that soon these people, and everyone on Earth, would know him as one of their five rulers. Then he saw his hand. A dread thought shook him. What if the black color were permanent? It was too frightening a thought to continue. His only immediate concern must be to reach his office, issue the decree.

His limousine as usual stood at the curb, ready to take him to the office. Mausser strode to it, opened the back door, and was about to step in.

A hand clutched his arm, pulling him back.

"Just a minute, sir," said his chauffeur. "I think you've made a mistake. This is Mr. Jonathan Mausser's car."

"Good Morning George. Drive me to the office quickly. I'm—Jonathan Mausser."

The chauffeur smiled, as if at a child.

"I'm sure, sir, that we don't have to discuss that point."

"You fool, don't tell me who I am!" Mausser's nerves had snapped. "Can't you see I'm Jonathan Mausser?"

"Mr. Mausser is a white man," replied the chauffeur evenly.

Mausser stood gasping. He thought of going on, then changed his mind. He didn't want people ogling him. Nor did he feel, at the moment, like explaining patiently to his driver about the weird transformation of his skin.

Turning away from the polite but firm driver, he took a taxi.

At the Federal Building he made his way toward the inner sanctum of the Secretary of Law—his offices. He was stopped by a polite clerk.

"Whom do you wish to see, sir? Do you have an appointment?" the clerk asked.

"I'm Jonathan Mausser, your employer. I know I have a black skin, but look at me and you'll see I still have the features and body of Jonathan Mausser."

MAUSSER became panic-stricken when he saw the refusal to believe in the clerk's face. A knot of people gathered from the large outer office. He tried to appeal to them, naming some. His words made no sense to them. His voice and general demeanor might be puzzlingly like that of Jonathan Mausser, but his black skin destroyed the illusion.

As Mausser himself had noticed, even his facial features were alien because of different shadings. Stage actors did wonders with a little grease-paint and coloring. A totally black face was no more recognizable than that of a black-face comedian.

A policeman politely took his arm and firmly guided him away. Mausser thought of demanding to be taken to Ivan von Grenfeld, police chief, but realized he would again have to run a gauntlet of lesser officials.

Out on the street, he thought frantically. Time was flying. The decree must be signed. Soon it would be too late. He must get in touch with one of his colleagues somehow. His eyes lighted as he spied a public visi-phone booth. That was the answer.

He dialed the offices of Asquith, von Grenfeld and Paxton in turn. In each case polite under-officials who knew Jonathan Mausser stared at his black face and argued with him, refusing to connect him. It seemed hopeless. Mausser began to have the nightmarish feeling of being trapped in an invisible net.

Then, seemingly by a miracle, he was given direct connection with Dr. Gordy.

"Mausser?" barked Gordy. "For God's sake, where have you been? Why haven't you signed that paper? Do you realize the stock exchange is a madhouse and—"

He stopped. His image stared out of the visi-screen.

"Why, you aren't Jonathan Mausser!"

"But I am!" quavered Mausser. "Listen, Gordy—"

With an angry snort, Dr. Gordy's face vanished. He had hung up. That had been his last slim chance, Mausser realized, and now he turned away

with sagging shoulders.

The devilish maddening situation he was in was sheer agony. He had to bite his lips—black lips—to keep from screaming aloud. When he walked, every store-window reflection showed him the image of a black-skinned man. Mausser's sensitive pride felt that sharply. His fastidious soul squirmed.

He did not know how long he walked among jostling crowds who accepted him as a black man. But he did know he suffered an eternity of misery.

Suddenly he jerked himself alert. In his personal concern he had almost forgotten the greater issue of the stock exchange. He must not give up. There was still a way. Back in his apartment he would wait for a call from one of his companions. They must be trying constantly. And there, in his own apartment, he could convince them his black face was Mausser's.

He let himself into his apartment with a sob of relief. All he had to do was wait for his visi-phone to ring.

Then he looked around and saw the figure standing there.

"Dr. Strato!" he gasped.

HALE smiled sardonically. "I know you, Jonathan Mausser," he said pointedly. "Even though you have a black skin!"

"You gave me this curse!" Mausser choked. His pulses throbbed in fear and rage.

"You look rather well in a black skin. It matches your black heart!" drawled Hale.

"You won't get away with this, Strato. I'll—" Mausser's eyes darted about wildly.

Hale stood before the chair with the guard-summoning button. He might be armed, though he stood stiffly, with his hands empty.

"Don't do anything rash," cautioned Hale easily, as if reading his mind. "Listen to me for a moment. It is already too late for you to sign that decree. At the stock exchange, majority stock in Transport passed into new hands five minutes ago. The

Transport monopoly is broken!"

Mausser groaned. The worst had happened.

"But how do you know all this?" he cried, his brain whirling. "Who are you?"

The tall, dark man's eyes burned.

"I'm your enemy. The enemy of the Five. I know all your plans, all your moves. I know your scheme to take over the Government of Earth. I will stop you Five. I gave Paxton his Golden Touch, Asquith his bloody hands, and you your black skin to match your black heart. You will go through life with a black skin, Jonathan Mausser. It will never go away. Never!"

Mausser backed away as Hale slowly advanced.

"You have the soul of a coward, Mausser. You couldn't stand going through life with a black skin. You would go mad. And you will never have the rule of Earth you planned. Your life is ruined. What have you to live for?"

Mausser was moaning as the words bit deeply into his tortured mind. Then back of him he felt the drawer of a writing-desk. In it lay a gun. Frantically he pulled the drawer open and snatched up the weapon. Leveling it, he shot again and again at Hale.

Dr. Strato was no more than ten feet away. He had not moved or brought up a weapon. Yet he stood there smiling, unharmed.

Mausser stared hypnotically. He could not have missed. The energy charges had ripped viciously against the wall directly behind Dr. Strato. Yet there he stood, alive and unharmed!

"Save one shot for yourself!" Dr. Strato snapped.

Then, slowly, he took off his glasses. He turned his face up to the fullest light.

"Look at me, Jonathan Mausser. Look at me!"

Mausser stared in horror. His shaken mind received one more staggering shock. His lips formed three silent syllables, as though he feared to speak them aloud. Deliberately, then, he raised his gun and fired his

next-to-the-last charge pointblank at Dr. Strato's chest. The shot struck the wall behind, but made not the slightest mark on the projected three-dimensional figure.

Mausser's voice came, hollow, croaking, while his hand raised.

"You—are—the—ghost—of—Richard Hale!"

The last charge hissed out of his own gun, destroying the brain of Jonathan Mausser. He fell lifeless.

When the guard from the room across the hall burst in a moment later, he found only the body. The visiphone was insistently ringing. The guard snapped it on.

Dr. Emanuel Gordy's face peered out tensely.

"Is Mausser in? Tell him he *must* sign those papers, before it's altogether too late!"

* * * * *

BACK in his laboratory, Richard Hale grimly complimented himself. It had been necessary to drive Jonathan Mausser to self-destruction, not as part of his revenge, but to prevent Mausser from closing the stock exchange at the last moment.

Hale had known the susceptible Mausser would succumb. The Golden Touch to Paxton meant deep misery. The blood-dyed hands to Asquith would slowly drive him mad. But in the case of the fastidious Mausser, a black skin meant certain suicide. Hale had only hastened the process.

Mausser had seen his gun shots fail to touch the projected image of his tormentor. And at the last moment, recognizing the true identity of Dr. Strato, he could only think he was haunted by the ghost of Richard Hale. For Richard Hale had died, unquestionably, trying to escape Strato-prison two years before!

Hale laughed. He broke off his ruminations. There was no time to be idle. He turned back to his spy ray screen, tuning the range dials. His spy ray probed out, to keep watch on the Five, and their next move. The Five? It was the Four now!

The Four, in Mausser's apartment, stared down at the body.

"It's Mausser, all right," grunted von Grenfeld. "With a black skin."

"Dead!" Paxton shivered. "While the decree remains unsigned, I can't stop the stock exchange raid."

"It's the work of Dr. Strato!" whispered Asquith. "First Paxton's Golden Touch. Then my blood-dyed hands. Now Mausser's black skin!" He looked at Gordy and von Grenfeld significantly. "If his plans include you two—"

They exchanged worried glances. For the first time they began to realize the magnitude of the forces against them—clever, almost weird science—and swift, unexpected blows.

"We have been lax," Gordy grated. "Some powerful group is striking at us. We must crush them. Von Grenfeld, gather a squad of your men, fully armed. You and I will go and have this Dr. Strato arrested. We will bring him back for questioning."

He looked down at the body again.

"No," he added. "We'll take no chances. Three squads of men. He has some devilish science at his controls. Three squads of police though, will be more than he can handle alone, unless he's none but Lucifer himself!"

Dr. Gordy knew now that they were opposed by a formidable enemy. But he did not realize it was Dr. Strato, one man.

"NUMBERS four and five together — a nice catch!" Richard Hale told himself in grim humor.

The door had opened on Ivan von Grenfeld and Dr. Emanuel Gordy. Behind them stood a dozen police, pistols in hand. They pushed their way into the living room. Outside were two other squads of armed men, on guard watchfully.

"You're under arrest, Dr. Strato!" barked von Grenfeld peremptorily. "Come with us."

Hale thought rapidly. His blood tingled, but he was not alarmed. It was a game of wits and certain advantages were on his side. He had known they were coming, and in what

force. He knew they knew nothing of his anesthetic ray. As a last resort, the hidden switch within reach would spray down the anesthetic ray from the concealed ceiling projector in this room. The switch was also wired to operate a more sweeping ray before the house itself. It would include all the men outside.

But Hale, enjoying the role of cat-and-mouse, as they had once sadistically enjoyed sending him to prison, decided to maneuver them to the laboratory, without the men.

"What for?" Hale pretended indignant surprise.

"For questioning."

CHAPTER XVI

Five Steps—or Six?

IT was Dr. Gordy who had retorted. Their eyes met. Gordy was staring curiously. A man of science himself, he wondered how this mysterious scientist had touched his three companions with his strange curses. Hale stared back with a different interest. He hoped the hatred within him did not burn in his eyes.

"I have the right to know about what," Hale countered.

Von Grenfeld glared, but again Gordy spoke.

"Your air of innocence won't save you. We want to question you about a certain Golden Touch, a pair of blood-dyed hands, and a dead man with a black skin!"

Hale smiled slowly, mockingly.

"Why not question me here?" he asked easily. "Shall we go to the privacy of my laboratory? Or are you perhaps afraid?"

Von Grenfeld bristled at the word. He was a big, strong man of action who had always prided himself on being able to handle any situation. Dr. Strato's challenge and derisive smile lashed that pride.

"You don't scare me, Dr. Strato," he rumbled. "I'm no weakling or coward like—"

"Shut up, you fool!" snapped Gordy. It was not yet the time, nor before the police, to reveal the Five's connection. He looked at Hale steadily. "We will question you—alone. I would like to see your laboratory."

"Don't try any tricks, Dr. Strato," warned von Grenfeld. Turning to his men he said loudly: "If we are not back in five minutes, follow."

He stepped forward confidently with Gordy. Hale led them to the laboratory, where they were out of ear-shot of the police.

Von Grenfeld stood warily, ready for action. Dr. Gordy looked around the room, his eyes appreciative of the laboratory's excellent facilities. Then he faced Hale.

"How did you give Paxton his Golden Touch, and Asquith his bloody hands, and Mausser his black skin? Who are you, Dr. Strato? Who is back of you?"

Hale smiled slowly.

"You'll talk, or else," boomed von Grenfeld. His craggy face glanced around uneasily. The laboratory, with shades partly drawn, was ominously gloomy. His voice sharpened. "Let me warn you I am a fast draw with a pistol, and a deadly shot. Now talk!"

"I'm in your hands," shrugged Hale. "I'll have to talk. I'll just say this—"

He turned casually.

"Stop! Don't touch those switches!" cried Gordy. "Von Grenfeld, watch him!"

The latter was already drawing his pistol.

Hale froze for an instant. The sharp-eyed Gordy had spotted the switches. If von Grenfeld held him at bay with his gun . . . Fleetingly, Hale cursed himself for taking any chances. His thoughts raced on. He was nearer von Grenfeld than the switches. If he hesitated he was surely lost—

ALL this he realized in lightning thought, with everything at stake for which he had suffered and planned. Actually, Hale moved almost at the same instant Gordy spoke,

and toward von Grenfeld. His fist crashed against the big man's chin.

Von Grenfeld staggered back. He recovered, snapped up his gun and fired at Hale. But Hale had turned catlike and leaped toward the switches. The shot skimmed past Hale's ear, crashing into the far wall. Von Grenfeld had missed in the gloom—gloom that to Hale's prison-conditioned eyes was normal.

Von Grenfeld, with an oath, began to squeeze the trigger again, but the shot never came. His finger relaxed. His tall form toppled to the floor as the anesthetic ray projector's beam stabbed forward in a spreading cone. Dr. Gordy, within its influence, crumpled to the floor where he had scurried forward.

Hale knifed down two more switches in quick succession.

In the room beyond the laboratory he heard the thud of falling bodies. The anesthetic ray there had caught all the police in mid-stride. And when he stepped to the window he saw that the men on guard outside lay prone under another invisible cone. In the isolated house and near vicinity, not a soul was awake except Hale. Even a bird outside, near the men, had fallen in the middle of its flight.

Hale nodded in satisfaction. Dr. Allison himself, though he had conceived the anesthetic ray, had not realized its possibilities.

Hale worked swiftly now. He moved up an apparatus that looked like an iron-lung with its top rolled away. It took considerable exertion to lift von Grenfeld's limp figure into the machine while keeping his own head out of range of the sleep-beam. He closed the cover and turned its outside switch. An AP-unit hummed to life, shooting all its surging power through the apparatus. A glow surrounded the body of von Grenfeld.

Hale watched a meter closely. Fifteen minutes later he turned the droning machine off, took out the limp form, and propped it in a chair.

Hale stood back, wearing a smile that was half triumph, half bitterness.

"You are proud of that fine, strong body of yours, von Grenfeld," he

murmured. "Yet you were willing to let mine rot away in Strato-prison!"

Dr. Gordy was next—and last.

As a matter of precaution, Hale went again to the front window and looked out. No one stirred out there. Then he noticed the fourth car. There had only been three squad cars, in which the police had come. The fourth must have arrived and stopped a moment before Hale had switched on the anesthetic ray barrage. He had failed to notice it the first time he looked out. Who was in it?

Hale left the house by a side door and strode to the car. He saw the figure there, half-leaning against the open door, caught in artificial sleep just in the act of stepping out.

"Laura Asquith!" Hale gasped.

HE stood for a moment, thinking. Then, knowing the range of the beam, he was just able to keep out of it and grasp her limp, outflung hand, and drag her toward him. As she passed out of the sphere of influence, her eyelids fluttered open. Blue eyes looked bewilderedly into his.

"Dr. Strato!" she cried. "I had to come to see you. It's about my uncle, Peter Asquith, and his hands—"

She drew in her breath in alarm when she noticed the limp forms of the police.

"What happened?"

"Come with me," Hale said gruffly, taking her hand.

He led her into the laboratory by the side door. Her eyes widened as she saw the inert bodies of von Grenfeld and Dr. Gordy. She faced him with quiet firmness.

"Now I'm certain of it," she said. "You are avenging—Richard Hale!"

Hale started. Did she know the full truth? But her next words quieted his pulse.

"You must be some old friend of his. I thought I had met all he knew. Still, you seem vaguely familiar." She peered at him intently.

Hale was glad of the half-light. He spoke slowly.

"Yes. I am the avenger of Richard Hale. Five men sent an innocent man

to Strato-prison for life. Five men—and a girl!"

Laura's hand went to her throat.

"You mean me, of course," she said softly. "You did something to three of the men. You have two here. And I suppose I'm on the list. Well, I came here to tell you I know he was innocent too. I know that now. My uncle lied to me, convinced me that Richard Hale was a traitor by a hundred half-truths and false statements. But I've had time to think it all out. Too much time, for five years. I loved him, but I turned against him. And I've hated myself for it!"

Hale rocked back on his feet. She had been a dupe at the trial, herself a pawn in the Five's cunning legal trap. She had not, as he had bitterly thought for five years, turned against him in full knowledge of the Five's plot. She was not the cold, scheming woman who had been promised a high place in the new regime! She was the sweet, wonderful Laura he had known prior to New Year's Eve of 2000!

The giddy thoughts whirled in Hale's brain. He took a step forward eagerly — and stopped. His lips twisted. The truth suddenly struck him like a sledge blow.

"You lie!" he grated in a dry, cold voice. "You knew you were next on the list. You've come to save yourself. You hoped I'd be deceived and thus relent. I *didn't* have you on the list, though. I had decided to let you go."

The girl drew back from his blazing eyes.

"No, Dr. Strato! Please!"

Brutally he pushed her. She stumbled back into the influence of the anesthetic ray. Her mouth still open in appeal, she dropped limply. Hale caught her, sat her in a seat.

He stood back, his blood pounding. Had he for a mad moment believed her, and believed that he still loved her? Had he been fool enough to forget those three long frustrated years? But the remembrance hung before him now, charging his veins with bitterness.

He shook himself. No time to waste. Dr. Gordy was next—but *not* last!

RICHARD HALE finished with Gordy in ten minutes. He had injected a crystal-clear chemical within the pineal gland at the back of Gordy's head. An open surgery book showed him the exact method of operation so there would be no injury to nerves or brain.

Then he turned to the girl.

The liquid he now held in his hand was a concentrated solution of a hormone. The hormone of old age, Dr. Allison had termed it, an agent that would rob the skin cells of their lymph. They would become dry, old, wrinkled. Laura, at the age of twenty-four, would have the skin of a hag of ninety!

Hale had made the hormone and then set it aside. He had decided not to use it—until today. But now, after she had come here to add lie on lie, he saw that he must do it. He would make her ugly, ruin her lovely face and fair skin. Had she cared for him while she realized he was dying a slow death up in Strato-prison?

He came close to her, holding a hypodermic loaded with the old-age hormone that would destroy her youthful beauty. He bared her arm.

Then suddenly he flung the hypodermic away, with a groan.

He could not do it!

In that moment, staring at her, Hale realized he had not learned to hate her. In spite of what she had done, and what he knew her to be, all the old love for her remained.

His revenge against the Five, now completed, seemed empty. What mad spirit had prompted him to act the part of an avenging monster? The whole fantastic web of it seemed the delirium of a dread dream. He had taken the science treasures of long-suffering Dr. Allison in good faith, and used them meanly, basely. The old scientist had meant them as blessings. Hale had used them as instruments of torture.

For five minutes he stood, his thoughts a damning squirrel-cage. Then he shook his head to clear it.

His motives had not been purely personal. At least there was the saving grace of his opposition to the

Five's plot. And he must go on now as he had planned. He glanced once more at Laura. When she knew who he really was, he knew she could think of him only as a fiend.

But Hale set his lips in a straight line. He opened the switch of the anesthetic ray bathing the three limp forms. Instantly they sat up, eyes blinking and dazed. Finally they focused on Hale and the gun he held.

HALE spoke slowly and grimly. "I am your enemy, Dr. Gordy. You wish to be dictator of Earth. I will prevent you. There is no organization behind me. I work alone. Yet I have scientific powers, already demonstrated, which you can't oppose. I know all your plans and moves. Transport is now broken as a monopoly. If you foolishly choose to go on, despite that blow, I'll defeat you step by step. Will you pledge now to give up your aim at world power?"

The ringleader of the Five seemed to recover quickly from the bewilderment of the last episode. Defiance shown from his eyes.

"No!" he snapped. "You can't stop me!"

"You seem to forget," Hale said coldly, "that at this moment I could kill you!"

The scientist blanched. Von Grenfeld growled, though his undertones were those of fear. Laura stared silently, without expression.

"But I don't take it upon myself to dispose of human life with my own hand," Hale went on. "And I am certain of stopping you in my own way. Every move you make is known to me in advance. And each will bring my counter-move. I will let you think this all over for a time. When you are finally convinced of your helplessness before my power, you will come to me."

"Bluff, pure bluff, my theatrical friend," von Grenfeld retorted loudly. "We are not the sort to be intimidated by mysterious words, or threat of death!"

Hale smiled enigmatically. "You also forget Paxton's Golden Touch, Asquith's bloody hands, and Mausser's

black skin! I'm putting you to sleep again. A timed mechanism will wake you in an hour. I'll be gone. I have another more secret laboratory. I leave you this one."

With his hand on the switch, he looked at the two men mockingly before his glance flicked over Laura.

"When you are ready to acknowledge defeat," he concluded, "contact me by radio on fifteen hundred megacycles and offer personal surrender."

He closed the switch. The three forms instantly collapsed into the limpness of induced sleep.

CHAPTER XVII

The Invisible Brain

VON GRENFELD awoke to the sound of a muffled explosion. He sprang to his feet, peering around quickly in the half-lighted laboratory. The mysterious Dr. Strato had gone, as he had said he would. An hour had passed. Dr. Gordy and Laura were staggering to their feet. Von Grenfeld strode to the windows, raised the blinds.

When he turned, Dr. Gordy was running his eyes over a shambles of broken apparatus, the work of a series of gun shots. The vital heart of every instrument was shattered. A tiny AP-pellet had exploded within the ray-projector that had mysteriously held them asleep.

"He left nothing of his science," Gordy gritted in the tones of a curse. "I had hoped to examine his apparatus. He is a menace to us."

"We'll get him," rumbled von Grenfeld angrily. "I'll send out my men to search for him, thousands of them if necessary—"

Dr. Gordy was staring at him strangely, in the full light of the afternoon sun.

"Von Grenfeld! There's something changed in you!"

At that moment the door burst open and the police who had awakened from their long sleep rushed in, eyes dazed.

Von Grenfeld faced them with hands on hips, his anger transferred to them.

"Very prompt action!" he roared. "The house could burn down before you dense-witted—"

His bull voice stopped. He choked. His eyes were wide and his strong features went loose. For the men towered over their commander as though they were giants.

Von Grenfeld's eyes swung to Dr. Gordy beside him. The scientist had been a man of a scant five and a half feet. Yet even he loomed almost a full head over the police commander. Had they all suddenly grown a foot?

And then the stunning truth struck von Grenfeld like a blow against his skull. He was shorter! He had been reduced from his six-feet-two to a pygmy five feet! Every person in the room, even the girl, was taller than he was now.

Von Grenfeld's features twisted in anguish. The pride he had always had for his handsome and impressive figure fled like a wailing ghost. He felt as though he had been cut physically in half. He scampered to a mirror, found he had to strain to reach it.

"Good God!" he screamed. Even his voice had lost its former virility. "Dr. Strato has done this to me—made me small, insignificant. . . ."

Gordy looked at him pityingly. But suddenly he started in fear. He looked down at his body, felt his arms, searched for signs of what might have been done to him. The Golden Touch, bloody hands, black skin, reduced stature—In what way had Dr. Strato cursed him? He drew a sigh of relief after a moment. Nothing, apparently.

"We'll go," he said. "This matter of Dr. Strato has to be discussed very seriously."

GORDY had to take the arm of von Grenfeld and lead him away almost like a frightened child. Von Grenfeld was suffering the tortures of complete shattered pride. The bottom of his universe had fallen out. His uniform still fitted him nattily. But on his short figure it gave him the sensation of being a strutting, pom-

pous little bantam, with no more impressiveness than a half-grown boy in a play uniform. Even his men, he noticed, had to hide uncertain grins. Rage howled in his brain.

He lunged at one man, whose lips had twitched in an amused smile. Von Grenfeld hammered up toward the man's chin. Before, the blow would have landed solidly and laid the man out full length. Now the short arm missed its mark. Von Grenfeld half spun around. The man clutched him by the shoulders to restore his balance, then held him easily as von Grenfeld flailed at his face, but never reached it.

"Stop, you fool!" commanded Dr. Gordy.

Von Grenfeld subsided with a half sob, and the man let him go. All the police were smiling now, forgetting their amazement at the phenomenon in favor of grinning joy. Von Grenfeld had always been a domineering, blustering, bullying commander. Now, in one brief moment, he had become a puny little wretch who couldn't reach a chin. Von Grenfeld felt it all and his soul writhed.

Gordy looked around at the door. "What happened to Miss Asquith?"

At that moment they heard her car drive swiftly away. She had slipped out without a word. The police cars also left. Von Grenfeld had gone into a trance of silent suffering. Dr. Gordy kept nervously glancing at parts of his body—and wondering.

Richard Hale, in his secret hide-away, had watched the tableau in another spy ray screen. Von Grenfeld's reactions had fed again the hunger of revenge. The pride-shorn man added the fourth part of atonement for Hale's three years of prison.

It had been simple enough, behind its amazing effect. Matter, as science had long known, was largely empty space. By reducing that space in his compression machine, Hale had brought the atoms and molecules of von Grenfeld's body closer together. It was condensation of matter.

As Dr. Allison had expounded it, in Strato-prison, the potential of strain between atoms could be altered.

Heavy stars did it by stupendous pressure. But the same thing could be duplicated in the laboratory, using a super-gravity field, the opposite of the zero-gravity field. In the super-gravity field atoms would quietly move closer together and take up a new system of motions, without changing relative position.

Von Grenfeld's body, in the compression machine, had simply been reduced in proportion, uniform and all. His original weight was still there, but packed in a lesser space. The process of course, would be fatal beyond certain limits. Hale had reduced guinea-pigs to the size of small mice, but found them dead. Von Grenfeld, reduced only one-sixth, would very likely live as long a life as otherwise.

Step four was done. It had been singularly appropriate in the case of von Grenfeld, Hale thought, to make him insignificant among men and thus undermine his self-pride. But there remained Dr Gordy—step five.

He went back to his spy ray.

SOME time later, as evening threw its shadows over the white spires of New Washington, the Four held a grave meeting.

"We must destroy him!" von Grenfeld said again.

He had been muttering the same phrase over and over, like an automaton, as though it were his single purpose left in life.

"Yes, but first we must find him," reminded Gordy. "Your men have been searching the countryside without result. His secret laboratory is cleverly hidden. Before we find it and destroy it, we can't feel safe."

Gordy's voice faltered slightly on the last words. Paxton glanced at him bitterly.

"It's odd that Dr. Strato did nothing to you. Why has he left you out?"

The scientist waved a nervous hand.

"It's as bad or worse this way, waiting in suspense. I'm beginning to believe he planned it just that way—letting my own fear play on my nerves. His whole purpose, in this, has been to make nervous wrecks of us all. But we've got to fight and keep calm."

Peter Asquith gave a strange mirthless laugh. He held up one of his blood-dyed hands.

"My niece, Laura, told me an odd story. We all have blood on our hands, but particularly the blood of *Richard Hale!*"

A dead silence filled the room.

That name, more than any other, stood out in the list of crimes that had been necessary to their rise toward power.

Gordy did a strange thing. Motioning the others aside, he went to the visi-phone and signaled Strato-prison. Warden Lewis' brutal face appeared. He answered Gordy's question with surprise.

"Richard Hale, number Y-fourteen-eighteen, absolutely died attempting to escape two years ago. Two guards were witnesses and a dozen prisoners. His body was charred to ashes on the atomic grid. But what—"

Gordy clicked off without explanation, and turned to his companions.

"Just a precautionary checkup," he said imperturbably. "Now, who is this Dr. Strato?"

"An avenger for Richard Hale!" Asquith returned nervously. "He told my niece that himself."

"Nonsense!" barked Gordy. "But it shows clearly the subtle, clever game this Dr. Strato is playing. He is preying on our nerves and minds that way. Somehow he knows all about us, and is opposed to us, possibly to take over world rule himself! He boasted that he would counter-move our every move.

"He took Transport from our control, but we still control propaganda and the secret Syndicate troops. Let him stop those if he can! Now look, here's our move. We'll turn the tables on him. Asquith's propaganda will immediately term the stock market a conspiracy.

"Transport's beneficent public service was torn apart by wolves, and the World Government failed to prevent this shoddy affair. Thus we still give the Government its black eye, mass public opinion on our side, and lay the groundwork for a military coup!"

Dr. Gordy's voice rang imperiously.

He stood there with face lifted, as though expecting their awed admiration. He had always been the brain behind the Five, solving all difficulties, leading on toward their goal. Soon he would be the actual dictator supreme, the invisible brain behind whatever insignificant figurehead they chose to put in apparent power.

Gordy started from a trance, noticing the others were staring at him.

"Your skin!" said Paxton. "It's becoming—transparent!"

Gordy lifted his hand before his eyes, startled. The skin seemed to be slowly but steadily vanishing. Veins began to show as tiny tubes. Muscle tissue and tendons grew visible. Second by second, as though an intangible acid were at work, his skin became more and more transparent.

They all watched in stricken fascination.

DR. GORDY suddenly ran to the huge wall mirror, peering at the reflection of his face. He saw a ghastly image. Cheek-bones lay bare and white. The tight muscle cords around his mouth twitched in full view. His eyes appeared to be two balls hanging unsupported. The heavy cords of his neck were mirrored in their knotty entirety.

And he knew that if he stripped off his clothes, he would stand before his fellowmen like a repulsive anatomical model in a medical classroom, all muscles, veins and organs exposed to prying eyes.

But one thing brought a sharper gasp of horror from his transparent lips. Underneath the beetling bone of the brow he could see straight through to the back of the skull. His entire brain was invisible!

Gordy's swift mind instantly leaped ahead. He pictured himself standing before a mass of humanity, in a public square, addressing them as advisor to their dictator. And they would shout and jeer and laugh and turn pale at the sight of him, with the mixed emotions of a crowd. His death's-head face would be flashed via television all over the world, and people would turn away in loathing or disgust.

No one would see the noble case of his brow, the autocratic look in his eye. They would only see an empty-skulled thing, unrecognizable as human. They would shout against him, depose him, revolt against rule by a thing fit only for the morgue.

Gordy groaned. How could he face the future in his horrible condition?

Back in his laboratory, Hale grinned humorlessly at the image in his spy ray screen.

"You are now the 'invisible brain' you always wanted to be, Dr. Gordy!" he said savagely. "It was your brain that threw an invisible net around me and cast me into Strato-prison."

Hale laughed aloud at the repulsive figure. All its skin and fatty tissues had become very nearly transparent, as with jelly-fish. Dr. Allison's mind, turning often to biology, had speculated that some gland product present in all lower forms of life accounted for their transparent skins. One isolated, the hormone would do the same for opaque skins, devised by evolution to hide vital organs from eyes that wished to kill.

Hale had injected his hormone extract, from jelly-fish, into Gordy's pineal gland. The ductless gland had then gradually trickled the hormone out into his body, along with its usual hormone. No hormone worked alone. The whole secret of it had been to let the new hormone join with the usual ones, and have them combine forces in altering cell structure from milkiness to a watery texture. Nothing else of vital nature was changed.

Hale watched, more calmly after a moment.

Step five was done. Paxton with the Golden Touch that made him miserable. Asquith with his bloody hands that would slowly drive him mad. Mausser with the black skin that had sent his shuddering soul into the escape of eternity. Von Grenfeld with his broken pride hanging in shreds about him. And Dr. Gordy with a face he wouldn't dare show in public.

So Hale had planned, and so it was done. The five men who had ruthlessly cast him to exile from life were repaid. After five years of blighted

existence he could once again face the future—Tomorrow.

And yet, what about Laura?

He forced his thoughts away from that. He turned back to the screen. His campaign against the Five had turned a corner, passed into a new phase. The personal was done with, except for final revelation. What remained now was a grim struggle with Earth's fate hanging in balance.

CHAPTER XVIII

Rebirth of Richard Hale

GORDY recovered most quickly of all the Five. He wheeled around from the mirror.

"He won't stop us with these scientific tricks!" he shouted. "I'm a scientist, too. What can be done by science can be undone by science. I'll take away this Golden Touch, the red-dyed hands, reduced stature, and my own transparent skin. But later. Right now, we'll push through our program. The time is ripe. Asquith, the presses, television and all centers of public enlightenment are to be informed tonight and tomorrow that the World Government is collapsing. A new government is needed to prevent even worse debacles than the stock exchange upset. Get that started now!"

Asquith scurried out as if glad to be away from that hideous skinless face.

Gordy turned to von Grenfeld.

"You have the Syndicate troops massed near the European end of the Subatlantic Tube. Keep in constant touch with them. In three days, when the Tube is officially opened they will strike swiftly!"

Gordy's gargoyle face drew up in a challenging smile. But it was recorded only as a movement of exposed muscles.

"Dr. Strato has nothing but little scientific tricks in his bag. I control great world forces. He'll find it harder to fight those!"

Paxton, who was left, shrugged fa-

talistically. The petty agonies of his Golden Touch and the collapse of his gold empire had left him a listless, defeated spirit.

"He will strike in some unforeseen way," he muttered. And at dawn of the next day, it was seen how that thrust would come.

Asquith's sleepless eyes, after a night of work, looked out of the window of his office, to which a clerk had called him. He looked up. There, written across the sky in giant smoky letters, was a message. The words sprawled across a fifty-mile area, exactly like the running-word advertising signs in shops.

People of Earth! You are being poisoned with propaganda, not enlightenment. The propaganda of a clique of Four who wish to rule Earth. The present World Government is not responsible for the stock market affair. Nor has it wantonly thrown Transport Corporation to snarling wolves of finance. Transport was a monopoly held by the Four, to serve their ends.

The Four are as follows. Peter Asquith, the Minister of Public Enlightenment. Sir Charles Paxton, Secretary of Finance. Ivan von Grenfeld, Commander of World Police. And Dr. Emanuel Gordy, Director of Science.

These Four must be deposed from their high stations before they accomplish their ends. Above all do not believe the insidious propaganda that is now pouring from every newscaster and visi-screen. Leaders of the World Government, ask these Four why Jonathan Mausser died by his own hand!

ASQUITH watched the incredible message spelled out across the blue sky. Even clouds did not hinder it, for the smoky letters only fuzzed slightly at the edges. When the full text was over and began to repeat, the whole gigantic area moved westward.

Millions of eyes, from Maine to Florida must be reading the colossal sign, gaping at it open-mouthed. Millions more would read it, across the entire continent, as the sign moved steadily westward. Public opinion so close to home would not accept Asquith's propaganda without serious discussion.

In his laboratory, Hale tuned in the sky-writing with his spy ray. He nodded in satisfaction. It was perfect though merely an extension of the

spy ray principle. An ordinary movie projector cast three-dimensional letters through a spy ray system. Adjusted for a height of a hundred miles, and expanded to a fifty-mile area, the letters unreeled in keeping with the film-rate of the movie camera.

Hale watched the clockwork that slowly twisted the focus of his projection ray from east to west. All the people of central North America must see. Then, since his ultra-penetrating ray could take in any earthly dimension, he would whisk the message across to Eurasia, and sweep it over that teeming continent. Within a day, more people would have read his message than had heard Asquith's outpourings from his network of communications.

Hale was again a step ahead — a fifty-mile step.

DR. GORDY realized it instantly. He had Asquith stop the visipresses immediately. And when the Four gathered, within an hour, the sky-writing stopped also.

"He meant what he said," Gordy stated. "That he will counter-move at our moves. And he wants personal surrender from us. That is shown by the fact that he stopped when he did."

The Four looked at one another bleakly. Fighting an unknown, unseen power was inhumanly terrifying. Searching police had not found the slightest clue to Dr. Strato's hide-away.

Gordy's exposed face muscles did not show the strain and fury written over his features, after a sleepless night. But the large white eyeballs were bloodshot.

"We won't try any more half-measures," he grated. "Von Grenfeld, are the Syndicate troops ready?"

The stubby little five-foot man, repressed humiliation in his face, nodded.

"A million men, fully armed. They are quartered a mile from the Tube's European terminal."

"Good!" Gordy's face, had it been visible, would have shown utter ruthlessness. "Following the opening

ceremony, day after tomorrow, the troops will march under the Atlantic to New Washington and occupy the city. What can even the clever Dr. Strato do against a million armed men?"

Some unrest arose among the people after the mysterious episode of contradictory messages from higher circles. But it was smoothed over by an announcement that the World Government authorities were investigating. It took the most adroit argument by Asquith to keep himself from being clapped in custody for the brief barrage of propaganda. He insisted it was sabotage, a dark plot by others, a sheer accident. Any lies would do for the time being.

The Four had only one thing in mind—the opening of the Subatlantic Tube. They staved off suspicion against themselves for the few hours left.

All the world then sat eagerly before its visi-sets to watch the opening ceremonies. For five years the great tunnel had been in the process of being dug under the Atlantic. It caught the popular imagination. It was easily the most stupendous engineering feat in history, comparable only to the canals of Mars.

World Government officials orated. Bands played. A singing group chorused out a song dedicated to the project. A ribbon-decked rocket ship slowly eased past the half-way mark between Europe and North America. All this occurred miles under the middle of the Atlantic Ocean, in the huge, tile-lined tunnel that stretched for two thousand miles in both directions. Ike-operators were flashing the auspicious scenes to the world's visi-screens.

Incognito, the Four stood below the speakers' platform. One would have had to look closely to see their respective afflictions. Asquith had easily covered his red-dyed hands with cosmetics. Paxton kept his hands in the pockets of a tan suit, against which the golden glow was not noticeable. Von Grenfeld wore shoes with extremely high heels to offset some of his shortness. Dr.

Gordy had grease-painted his transparent skin, which made him look like a pale-skinned invalid.

THEY kept sharp watch on the crowd. Known only to them, many of the men crowding out of cars from the European side were Syndicate troopers in street clothes. Soon they would outnumber the official police, who were there to keep order. Rocket trains, installed and put on running schedule a week before, had been busy all morning, bringing passengers to the ceremonial location.

"The zero hour approaches," whispered von Grenfeld. "At my signal, the troops will take over control of the Tube."

"It's our last chance," replied Asquith.

"But our best chance," said Gordy confidently. "Military power, in the last analysis is always the ace card."

"I hope Dr. Strato doesn't know of *this* coup!" whispered Paxton, shivering.

Then he let out an incredulous gasp.

The enigmatic figure of Dr. Strato stood five feet away! Four pairs of startled eyes focused on him.

Dr. Strato smiled.

"I told you I would be here, Sir Charles!" he said mockingly. "Even without paying the million dollars!"

Then, before they could think or act, Dr. Strato had moved off into the press of the crowd. A moment later he appeared on the speakers' platform, before the battery of microphones and incinosopes.

A speaker had just finished eulogizing Transport Corporation for giving to the world the great Subatlantic Tube.

Hale was there before any one thought to stop him. He spoke, electrifying the vast world audience.

"The true story of the Subatlantic Tube is not known! On New Century's Eve of two thousand, the project was started by a company under Richard Hale, whose father, Burton Hale, had conceived the plans. Shortly after, through trickery, Transport Corporation took over the project. Richard Hale was sentenced

to prison on the false charge of plotting treason. Five men schemed this. Four of them are here now!"

Dr. Strato stared down at the Four accusingly.

"Let's get closer to the platform," Gordy hissed to his companions. "We can rush up and make sure he doesn't get away. Dr. Strato has made a mistake this time. He doesn't know he won't get out of this alive! Give the signal, von Grenfeld!"

Hale had gone on with his denunciation, for all the world to hear.

"The Four are present now, the Four who plot world rule. Sir Charles Paxton, Peter Asquith, Ivan von Grenfeld and Dr. Emanuel Gordy. Four human freaks, both mentally and physically. Look at them! Paxton has the Golden Touch because he worshipped Mammon. Asquith has bloody hands which he can never wash free of the taint of treachery. Von Grenfeld is as small in stature as he is in mentality. And Gordy is exposed to the eyes of the world as the repulsive being he is—"

PANDEMONIUM broke loose in the tunnel under the Atlantic. At von Grenfeld's signal, the disguised Syndicate troopers pulled guns from their pockets and herded the crowd aside. One shot rang out. One policeman fell. The rest were taken by surprise, with no chance to resist. The radio-operators and ike-men were pushed away from their apparatus, and the instruments turned off. In hardly more than a minute, the Syndicate troopers had complete control of the situation.

Stung and raging at Hale's words, the Four had leaped up the steps of the platform. Here within reach was the man who had visited them with scientific blights, who had given them sleepless nights and tortured days, who had all but disrupted their chance at world power. They came at their Nemesis with clutching hands. And the fool stood there, not realizing they would kill him on the spot with their own hands. Then their troopers would move on to victory. . . .

Dr. Strato stood there smiling, wait-

ing for them. How could he be so utterly unconcerned?

The Four's eager, vengeful hands clutched at Dr. Strato—but clutched only empty air! Von Grenfeld, in the lead, rammed his fist forward, nearly fell headlong when he met no resistance. Paxton distinctly saw his golden-glowing hands go around an intangible neck, but they met themselves. Asquith, true to his nature, had come up from behind, grasping the figure around the middle. But he found his arms hugging themselves. Gordy, more observantly, passed his hand through a non-existent arm and saw his fingers clearly beyond.

The Four stepped back, frustrated rage choking them.

"He isn't there!" gasped Paxton.

The figure of Dr. Strato continued to smile at them derisively. It was seemingly solid, seemingly real. The Four felt again the chill of the Unknown. From their close range, they could see now that it shimmered and looked vaguely insubstantial.

"No, I am not here, in the flesh," the figure explained to them. "Jonathan Mausser shot five times at me point-blank. He did not harm me. And at the last, before he died, he realized who I was."

Dr. Strato's eyes flashed.

"It is time now for you Four to know, here in the completed Subatlantic Tube." The voice changed, dropping the precise accent of Dr. Strato. The tone became fuller, more natural. "Look at me! Look at me closely!"

As with Mausser, Dr. Strato removed his tortoise-shelled glasses, then a false mustache, exposing his upper lip newly shaven.

The Four stared, recognizing now the haunting familiarity of the face.

They stood stricken. It was a strange tableau under the Atlantic Ocean. Their minds leaped back to a stunning revelation. And then the figure tore open its shirt front, to reveal the glowing numbers tattooed there. Y-1418. It was like lightning striking.

Peter Asquith gaped at his blood-dyed hands in sudden understanding.

Paxton recoiled a step. Von Grenfeld gave a startled oath. Gordy bit an invisible lip and a drop of red blood trickled down his chin. But none of them blurted the name that burned in their brains. Another voice had to give name to the horror.

"Dick! *Dick Hale!*"

CHAPTER XIX

A Mile Below

IT was a high-pitched voice from somewhere in the crowd. A feminine figure broke from the guarding troopers and flew up the steps toward him. Laura Asquith threw her arms around him wildly, but found him no more tangible than the others had. She reeled back with a choked sob. The image of Hale looked at her coldly.

"*Richard Hale!*" gasped von Grenfeld finally. "But you were killed, trying to escape Strato-prison, two years ago—"

"Richard Hale," Asquith half moaned. "Back from the dead!"

"It's the ghost of Richard Hale," croaked Paxton uncertainly, not knowing whether to believe himself or not.

It was the supreme moment. Hale drank of it to the full. In the startled reactions of the Four—in their dazed faces, their shocked nerves, their whirling minds—his revenge was completed. And the setting was appropriate, here in the mid-spot of the finished Subatlantic Tube. The world should be acclaiming the name of Hale, father and son, for the wonder. The Five had robbed him of that. But now he was robbing them, in turn, of their most cherished dream.

Gordy recovered first from the shock of the revelation.

"Of course not!" he snapped, answering Paxton. "It's merely a three-dimensional image, cast somehow from a distance."

"Naturally," agreed Hale's image. "I'm safe in my laboratory. As for Strato-prison, I succeeded in escap-

ing, the only one to do so. My single thought up there, for three years, was revenge, and the downfall of the Five. Both are accomplished. If you will surrender your persons to me, I will undo what I've done to you physically. After that you will be tried by due process of law for treason. If you plead guilty, you may escape sentence in Strato-prison!"

"Surrender?" Gordy waved his arm in a grand sweep. "I'm in control here. My troopers will ride into New Washington in a few hours."

"It won't succeed," Hale returned quietly. "If you go on sacrificing human life, I will withdraw my offer. Your afflictions will remain, and all your pathetic science will not find the antidotes. All your life you, Dr. Gordy, will recoil from your mirror image. Von Grenfeld will wear clothes cut to a boy's size. Asquith's marked hands will haunt him. And Paxton's false gold will mock him. All your lives!"

"No, I couldn't stand it!" came a hoarse shout from Paxton. "Anything to get rid of this damnable curse in my hands!" He appealed to the others. "We're through. Hale has beaten us."

"Paxton, I warn you."

Gordy had drawn a pistol, his face set dangerously. The moment was tense. Nerves were cracking. Wild-eyed, Paxton yelled on.

"I won't go through life this way, with the shine of gold in my eyes. Every mouthful of food, everything I touch. I won't. Hale, I surrender to you. Where are you?"

A shot rang out, echoing hollowly down the giant tunnel. Paxton's voice ended in a death-gasp, as the energy charge destroyed his brain. His body thudded to the platform.

SWINGING on his two remaining companions, Gordy's cold, implacable eyes warned them the ruthless act would be repeated if they showed any sign of weakening. Asquith and von Grenfeld nodded dumbly, to show their acceptance of the deed.

The crowd around shuddered, seeing in the act the future type of rule to be expected under Gordy. The Syndicate troopers, trained in a tradition of violence did not relax their vigilance. For a moment the crowd seemed about to break in rising hysteria and rage. But something interrupted.

Down the endless length of the Tube sounded the hollow rumble of a rocket train. It appeared from the direction of Europe and hurtled past with a hissing roar. It was the first trainload of armed Syndicate troopers, bound for the New York terminal. The crowd relaxed, realizing its helplessness.

Gordy turned back triumphantly to Hale's image.

"There's my answer!" he said fiercely. "We have a million men. They will storm through the small forces of the standing army. If the terminal is blasted down, in desperation, we have AP-excavators with which to dig through. We can't be stopped!"

Hale's image had not spoken a word, watching the death of Paxton. Now its glance clashed with that of Gordy.

"You will gain nothing."

Then the image faded.

Back in his laboratory Hale waited calmly.

His laboratory, the one they had scoured the vicinity for, was located in the lobby of the New York terminal, a mile below ground. Hale had known it would be the last place they would think of looking. Months before he had rented a space among a horseshoe of shops, directly facing the end of the tunnel. In effect, he commanded the exit.

With cannon they would be able to rake every inch of the shops. But first they had to bring the cannon up. One man, with the proper instrument, could hold off an army, and Hale had the proper instrument. With what he knew of the terminal, he had picked the most strategic spot in what promised to be one of the queerest military engagements in history.

He made no attempt to reveal himself or his plans to the Government.

They were duly alarmed over the past week's happenings—in the stock exchange, the writing in the sky, and the ominous blinking out of the televised scene in the Tube. They were rushing troops down. They would fight in their way, Hale in his.

Hale looked out over a hundred yards of marble flooring that stretched from the shops to the beginning of the arched tunnel. He could look a hundred yards into the tunnel, before its downgrade cut off his vision.

Hale waited tensely, but it was not till seven hours later that he saw the massing of troops, after several rocket trains had hurtled back and forth from Europe, bringing up the main army. It was the quickest transfer of an army in history, made possible by the connecting Tube under the ocean.

That had been Gordy's chief threat all the while, in his aim to power. They could strike at the seat of World Government with paralyzing rapidity. The million Syndicate troopers were an overwhelmingly superior military force in a world that had been almost completely disarmed, under its federation laws, for twenty-five years.

Suddenly the attack began. Troopers disembarked from the mouth of the tunnel. . . .

The battle was on!

THE first few went down under a withering gunfire of AP-blasts from the Government defenders. But those behind, well trained for these special conditions were quickly setting up sandbag emplacements. From behind these, gunners poured back blistering charges. Small cannon, the largest known since disarmament, were being wheeled up. Soon, under a protective barrage, sorties of Syndicate soldiers would scurry forth and capture strategic posts.

All this went on a mile underground, within a giant steel-and-concrete pit. The hollow thunder of the first few shots beat through the confined space. It was the beginning of a small-scale war that earlier times would have laughed at. But a world hung in the balance.

"It will be so simple!" exulted von Grenfeld to his two companions. He was directing operations from the rear. "Our men will quickly—" He stopped.

The barrage of increasing battle roars had abruptly ceased. Startled, the three men raised their heads to look beyond the upcurve of the tunnel. They saw a strange sight.

The Syndicate men who had just been scurrying out of the tunnel mouth swayed on their feet, then sprawled over the marble floor. They had not been touched by gunfire. The men piling sandbags let their burdens drop, and quietly crumpled up. Those operating machine guns and grenade-catapults leaned against the silent weapons, arms hanging. The cannon scraped to a stop as the men pulling them dropped limply.

And for a hundred yards back, thousands of uniformed troopers toppled over as though a mysterious wind had blown them down. Nothing was visible. Nothing gave a sign. But in one moment something had stopped the attack, like turning off a light!

"Have they all been killed?" gasped von Grenfeld stupidly.

"They look like they fell asleep!" breathed Asquith. He shrugged, as though expecting it. "Dr. Strato again—Richard Hale!"

And as if he had conjured him up, the image of Hale materialized beside them, his expression stony.

"I said I'd stop you," he stated quietly. "My laboratory commands the exit. My sleep ray, or anesthetic beam, covers the entire area. You can never win through, even with a million men. If you send more forward into range of the ray, they will pile up and eventually choke the tunnel. And all your powerful armament is useless, with sleeping men behind them.

"Now that this quick stalemate has reached, I'll contact the Government. I have a duplicate anesthetic ray projector ready to be flown across to Europe. The European terminal will be also sprayed with the ray. Thus you are bottled up!"

Hale smiled grimly. It was soul-satisfying to have his enemies and

their army trapped in the Subatlantic Tube they had wrested from him.

"In behalf of the World Government, I serve you this ultimatum. Your troops are to drop arms and come out, to be taken into custody. You Three surrender personally to me! When you are ready contact me by radio."

The image vanished.

The Three exchanged stunned glances. Richard Hale had thrown an invisible net over them, as they once had over him.

"Bottled up!" muttered Asquith, shuddering as though the walls were closing about him. "We're done!"

"They can't fly the other sleep projector across and set it up in less than five hours," observed von Grenfeld. "In that time we can get some of our troops out. The Tube train is faster than strato-ships. Perhaps a hundred thousand—"

"What good would that be?" snapped Gordy. "The Government troops in Europe could defeat that force!"

They avoided one another's eyes. One thing only loomed—personal surrender to the lone man who had crushed their power.

FIVE hours later, Hale's radio signal buzzed at fifteen hundred megacycles, waking him. He had wearily taken a nap, after the vigilance of long hours. He snapped the switch eagerly.

Dr. Gordy's voice sounded dry and defeated.

"You have won, Hale. Turn off your sleep ray. The Three of us will come out of the tunnel mouth, alone, in surrender."

Hale felt the giddiness of triumph, but steadied himself.

"Don't try trickery of any sort, Gordy," he returned. "I'll lift the sleep ray, but I'll have my hands on the switch. You don't know which shop facing the tunnel mouth is mine. It would take a complete barrage to hit the right one. At the first shot, I'll turn on the sleep ray again."

Hale moved his hand to the spy ray controls.

"No, Hale, we won't try anything," Gordy's voice was low, enervated. It lifted slightly. "Laura Asquith is coming along to settle your suspicions. There is one thing you deserve to know about her. She was not told the truth at the trial five years ago. She testified against you in the belief that you were guilty. She was convinced by our lies."

"What!"

Hale roared the word. His blood was suddenly pounding in furious joy. His whole universe turned over. Though the Sun was hidden a mile above, it seemed to shine all around him now.

"She still loves you, Hale. Somehow, it gives me a strange pleasure to reveal this."

"I'm lifting the sleep ray immediately," Hale returned. "Come forward out of the tunnel. But remember—just you Three and Laura."

Trembling, Hale opened the anesthetic ray switch, disconnecting the projector from its powerful AP-motor. But he kept his hand on the switch and peered out alertly over the marble floor to the tunnel mouth.

All went as it should. The sleeping forms there sat up, bewildered, and then walked back at commands relayed from the Three. Looking down the tunnel, Hale saw the awakened ranks of the troopers parting to let the Three pass through. The Three—and Laura.

They emerged from the tunnel mouth, came across the marble floor, four tiny figures under the arched immensity of the terminal lobby. Laura was in the lead. She hastened forward suddenly, calling his name.

Hale ran out to meet her.

It no longer meant anything to him that the Three remaining of the Five were surrendering to him in person. The rewards of revenge were a bitter draft, as he had come to know. But Laura, returning to him after harsh fate had kept them apart for five years—that was the true beginning of his Tomorrow.

It was not till he had come close to her that Hale noticed how white and strained her face was. He crushed her

to him, murmuring. She struggled wildly, broke free.

"Didn't you hear?" she shrilled. "Didn't you hear what I was saying as I came—"

SHE had been shouting, Hale remembered, but he had not distinguished the words above the pounding of his pulse.

"I didn't hear anything, darling," he sang. "I only knew that you were coming."

"But there's danger," the girl moaned. "They're at the guns!"

Hale started. "They won't shoot. The Three are between us and the line of fire—"

"It was a trick!" the girl shot back. "Images! The Three—*look!*"

Hale swung his eyes about. There was no other figure on the marble floor. The forms of the Three, who had been fifty feet behind Laura, were gone.

Hale stood stunned. Trickery! Images! Three images had followed Laura. The Three had duped Hale with his own trick. Stark fear struck into Hale's nerves. Here he was exposed, fifty feet from any concealment. Already, as he could see, guns were pointing his way. He would be shot down ruthlessly. A cannon was being hastily wheeled up to blast the shop out of which he had stepped.

Realization had come a split-second after Laura's warning. Hale's thoughts leaped. He waved frantically at the Government gunners in concealed niches to cover him. They understood. The first burst of gunfire from the tunnel mouth brought a withering blast from the defenders in retaliation.

Hale had instantly thrown himself and Laura flat. Energy charges hissed over their prone forms. Hale wriggled forward toward the horseshoe of shops, yelling to Laura to do the same. It was their only chance. As flat targets, they might escape being struck. . . .

When they reached a store front, nearer than the one Hale had left, he realized a miracle had saved them. Only one charge had touched Hale.

His left arm hung bloody and useless. But Laura was untouched. The Government gunners had kept the enemy gunners too busy to take careful aim.

Just as Hale darted in the doorway to concealment, he heard the first thump of a cannon shot. The shop he had recently quitted, his laboratory, splintered into broken debris.

The anesthetic ray projector was destroyed!

CHAPTER XX

Dawn of Tomorrow

A HUNDRED yards back from the tunnel mouth, von Grenfeld peered through binoculars over the heads of the troops. His miniature craggy face turned triumphantly.

"The first cannon shot destroyed Hale's laboratory! His anesthetic ray projector is wrecked!"

"What about Hale?" cried Gordy anxiously.

"He escaped. Slipped into another store with Laura."

"We'll get him later—alive!" Gordy exclaimed. "I want to see his face when I tell him how he was duped. He forgot I am a scientist, too. And he forgot that before he could bottle us up at the European end, we had five hours. Five hours in which we brought an image projector, which had recently been perfected, from the Syndicate laboratories. Our images weren't as clear-cut and perfect as his, nor could they talk. But for our purpose, as decoys, they and Laura drew him out of his laboratory."

He looked down at the stripped body of Peter Asquith with a shot through its brain from Gordy's gun.

"In fact," he grinned, "one of the images wasn't even Asquith, if he had noticed. Just another man, in Asquith's clothes. But I knew the young fool would be too love-blind over Laura to suspect."

"It was cleverly done," nodded von Grenfeld. "Now I'll issue the order to attack, as previously. With the

anesthetic ray gone, our troopers can storm as planned. New Washington will fall to us!"

The two men looked at each other.

"Well, now there are just the two of us left of our original five," von Grenfeld said in a low voice. "Two of us to rule Earth together."

There was almost a question in his voice.

"Does there have to be two of us?" asked Gordy mockingly.

For a frozen instant they stared at each other.

"I thought so." Von Grenfeld, pale and trembling, snatched for his holstered gun. But he knew he would fumble awkwardly, as he had been fumbling in all actions since his size had been reduced.

The shot from Gordy's gun stretched him beside the corpse of Asquith. Gordy glanced down a moment. Then he turned to issue the attack order that would make him sole dictator of Earth.

He had no chance to give that order.

As though it were a play given for the second time, the roar of battle died. In the tunnel ahead, the syndicate troopers dropped, eyes closing. The army lay asleep.

And as before, Hale's mocking image appeared.

"I had a third anesthetic ray projector ready all the time—and a fourth and fifth," Hale said simply. "The third was three store-fronts from the other, where I arrived after escaping gunfire. It also covers the total tunnel mouth. In all my campaign against you Five, for two years my plan was always to stay a step ahead. The situation is the same as before. When you are ready—and I see you are alone of the Five, Gordy—surrender."

The image faded.

Gordy's exposed face muscles sagged. Victory had again been snatched from him. Then a gleam came into his eyes, a deadly, fanatic gleam. . . .

LAURA ASQUITH talked as she bound the wound on Hale's left arm.

"They forced me to go out with the

images," she explained in a strained voice. "Dr. Gordy threatened to shoot me if I didn't. Peter Asquith, my uncle, objected. Dr. Gordy shot him dead." She shuddered.

Hale said nothing. At least, he reflected, Peter Asquith had died doing one noble thing. His treacherous nature had cleansed itself with a single unselfish act.

"I would have let Gordy shoot me, too," the girl went on dully, "before leading you into the trap. But he would have sent the images, anyway. You might have come out in any case. I thought perhaps I would be able to warn you. But you didn't hear me."

"Do you know why?" Hale returned gently. "Because through my mind other words were ringing—glorious ones, about you—"

Their lips met. To Hale, the bitterness of five years dropped away like dried scales.

After a moment he straightened.

"You were brave, dear, and nothing was lost. Gordy and his million useless troopers are bottled in the Tube. He'll have to surrender. I've won."

The girl's eyes were uneasy. "He's not the kind to give up quickly. He is down there yet scheming—"

Hale laughed, crushing her to him with his one good arm.

Three hours later the girl's uneasiness fulfilled itself.

A government officer came to him with a portable visi-set and hastily connected it.

"Call from the upper dome, sir!"

Another officer's face appeared in the visi-screen.

"Something is descending from the sky!" His voice was worried. "It's coming down directly toward the dome of the terminal."

"Turn your screen," Hale barked. "Let me see it."

The screen's view wobbled crazily as the outside iconoscope was turned upward. Then it settled. The wide sky was mirrored. Hale stared. A black globe was steadily enlarging, like a slow meteor. Instantly he knew what it was. He had seen it before, too much of it.

"Strato-prison!" he gasped. "Strato-

prison dropping down from its stratosphere position!"

He tuned his spy ray screen. His movideo attachment projected his image before Dr. Gordy, in the tunnel.

"Strato-prison is dropping," began Hale.

"Yes, I know." Gordy spoke tersely, almost quietly. "When my lab men came down, before the European terminal was blocked I had them bring along a portable beam radio. With that I signaled Warden Lewis. He has always been my staunch but secret supporter. I told him to maneuver Strato-prison down. All the prisoners have been removed, and most of the guards, so that no rioting would occur. A skeleton crew, also my secret supporters, handle the generators. I gave him the plans long ago, for emergency. The zero-gravity field is being slowly withdrawn."

The scientist's face gleamed.

"Perhaps you realize, Hale, that Strato-prison is a mighty weapon. Or call it a bomb, a mighty, mountain-size bomb. Landing on the dome, even gently, it will crack the dome open like an egg-shell. Then, as its zero-gravity field is entirely released, its tremendous weight will crunch down. The entire terminal will be crushed—and you with it!"

HALE felt Laura shuddering against him. His nails were digging into his moist palms.

"I will escape, of course," Gordy went on. "I and the troopers will be far back in the tunnel, out of harm's way. We will dig our way out of the debris, perhaps in a week. We will emerge with Strato-prison still hovering as a threat over New Washington. If there is resistance, Strato-prison will crunch down on other buildings like a great hammer.

"Strato-prison is too big to be destroyed. I thought of it years ago, as a way to gain my ends. But I saved it as a last resort—"

Hale waited to hear no more.

Face set, he raced for the elevators. The anesthetic ray projector would have to remain unattended. The

new threat from the sky was the greater problem. Would he have time? Would he be able to reach the surface before Strato-prison arrived? Would he be able to use the small instrument he had carried in the past week?

It was not till he was half-way up that he noticed Laura stood beside him.

"You shouldn't have come," he protested. "Any second, the whole terminal may crack about our ears."

The girl stood closer to him.

"I wouldn't have been any safer below. And if it happens, I want to be with you."

He squeezed her hand. He was glad she was with him to share that horrible moment—if it came. That horrible moment of tumbling walls and death would leave Gordy victorious. But it must not come! It must not!

Hale tried to hurry the elevator, by sheer force of will. His veins throbbed sickeningly, wincing before a doom that might crack down at any given second. It was agony, that ride.

But the doom did not come.

Panting, Hale emerged on a balcony of the upper dome. He looked up, shielding his eyes from the Sun.

The half-mile globe of metal hung like a gigantic moon overhead. No more than a mile above it was slowing down under its manipulators, would land in perhaps a minute. Its cosmic weight would make a shambles of anything it touched, even lightly.

Laura turned her horrified eyes away. She clutched Hale's arm.

"We haven't much time to escape—"

Then she noticed that he had raised his unwounded right arm. In it he held a small tubular instrument.

"Dick! What are you doing?" She tightened her grip on his arm wildly, thinking him mad.

Hale shook her off.

"I'm going to destroy it!"

"With a pistol?" Laura knew now that he was mad.

Hale pressed the trigger mechanism of the little instrument. With a slight *zing* a pellet, propelled by an AP cartridge, sped invisibly for the monstrous globe.

Hale had made up his mind instantly. In destroying Strato-prison, he would be destroying the lives of Warden Lewis and his crew of men. But it must be done, for they had aligned themselves with Gordy. Strato-prison itself had no right to exist. Its prisoners, now on Earth, had been held in living-death.

Hale did not know exactly how it would happen. He watched with the fascinated interest of the unknown. Alone of Dr. Allison's secrets he had never tested it—had never dared. He only dared now, forced to do so by the emergency of the moment. He had hoped never to have to employ its awful power. Even down below, trapped before the guns, he had taken his chances against them rather than use the little firing-tube.

WITHIN the pellet were two radioactive materials, separated by a partition of wax. At the impact, the wax would melt. The two radioactive specks would collide, merge, explode into a supernal spark. . . .

The pellet struck seconds after its firing.

The supernal spark flashed out like a diamond against the broad dull metal of the hull. It grew. Like a swift fire, it sent rills of incandescence around the hull.

And the hull *burned* like paper!

Hale had seen the old, preserved pictures of the hydrogen filled *Hindenburg* Zeppelin burning with numbing swiftness. But this was far swifter. One moment the gigantic globe hung solid and real. The next it was a puff-ball of black ash that billowed out in the winds and dispersed.

The tiny spark of the pellet had lit an atom-flame, a flame that ran from atom to atom with the speed of light, and turned matter into the ash of dead neutrons. Dr. Allison had propounded that only a thinner medium, like air or water would stop it. Thank God, he had been right, Hale breathed, his nerves easing.

A wave of heat thrust down from the vanished globe. It was like the blast of a furnace. Hale and Laura

fell, lay in a pool of their own perspiration. Their skins turned almost a boiled red. Blood pounded in their ears till their brains reeled. For a long minute the tide of heat poured down from the sky, over them and over all New Washington.

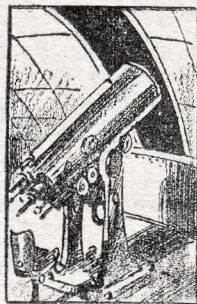
Then it stopped, and breezes cooled their tortured bodies. Laura was clinging to Hale's arm.

"It's over," she whispered. "That

was Gordy's last hope."

Yes, it was over. Five years of madness and revenge and struggle against the Five. A new tomorrow had dawned, for him, for Laura, for all the world. At last Dr. Allison's treasures could serve their true use.

All except the last weapon of pure destruction. Hale would never let the world know that secret. There was no place for it in the new Tomorrow.



Next Issue: THE KID FROM MARS, Complete Book-Length Novel by OSCAR J. FRIEND—Plus Many Other Stories and Features

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LUTHER BURBANK MASTER OF PLANT LIFE



BY JACK BINDER



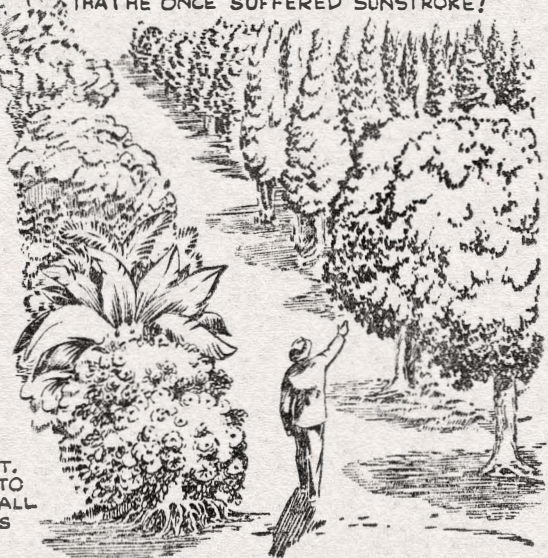
LUTHER BURBANK
BORN 1849
DIED 1926

LUTHER BURBANK WAS THE WORLD'S FOREMOST PLANT WIZARD. BORN IN THE YEAR OF THE FAMOUS CALIFORNIA GOLD RUSH, 1849, IT IS SAID THAT BURBANK'S CONTRIBUTIONS TO THE HUMAN FOOD PROBLEM ARE GREATER IN VALUE THAN ALL THE GOLD TAKEN FROM THOSE RICH MINES! AMONG THE THOUSANDS OF NEW PLANT VARIETIES ARE ... THE THORNLESS BLACKBERRY, PAPER-SHELLED WALNUTS, PLUMS WITHOUT PITS, THE "POMATO" (POTATO WITH TOMATO FLAVOR), THE GIANT SHASTA DAISY, AND THE FAMOUS BURBANK POTATO!



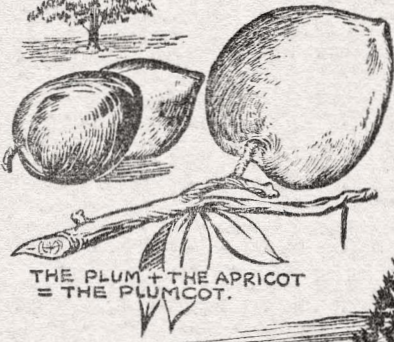
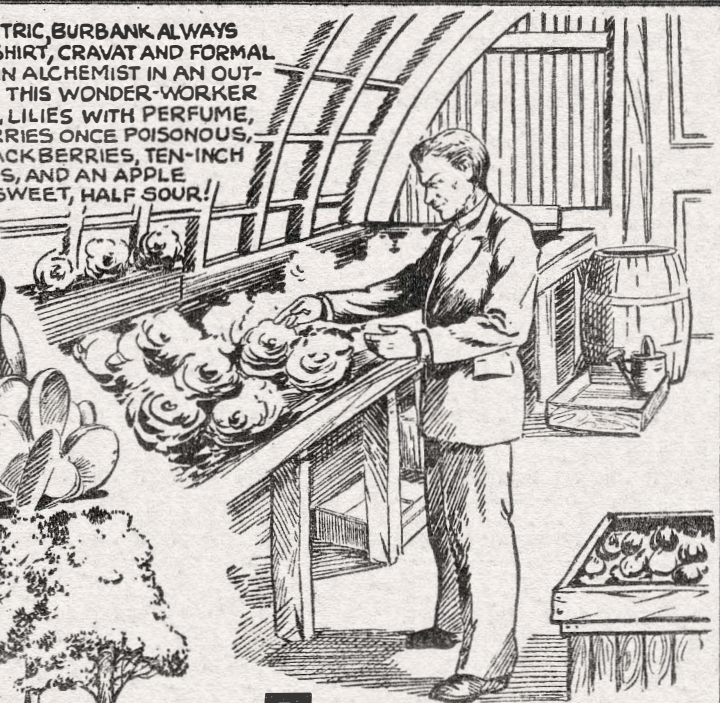
BURBANK'S CROWNING ACHIEVEMENT WAS THE POTATO NAMED AFTER HIM. AT 17, ALREADY CHOOSING HIS LIFE-WORK, THIS YOUNG GENIUS BEGAN DEVELOPING THE LARGE NEW (MODERN) POTATO BY SELECTIVE BREEDING, THEREBY DOUBLING THE PRODUCTION OF THE WORLD'S MAIN FOOD STAPLE. HIS METHOD WAS TO PLANT THOUSANDS OF POTATO SEEDS, YEAR AFTER YEAR, AND PROPAGATE THE LARGE "FREAKS." HE WORKED SUCH LONG HOURS IN THE HOT SUN, THAT HE ONCE SUFFERED SUNSTROKE!

IN 1875, AT 26, BURBANK MOVED FROM NEW ENGLAND TO CALIFORNIA, FORESEEING IT AS A GREAT FRUIT STATE. HERE HE BEGAN HIS ASTOUNDING CAREER, THROUGH FORTY YEARS, "TRAINING PLANTS TO SERVE MAN", AS HE PUT IT. HE OFTEN GREW 100,000 SHOOT'S TO GET ONE DESIRED SPECIMEN. AT ALL TIMES, HE HAD 3000 EXPERIMENTS GOING ON AT ONCE!



Next Issue: THE LIFE-STORY OF GALILEO,

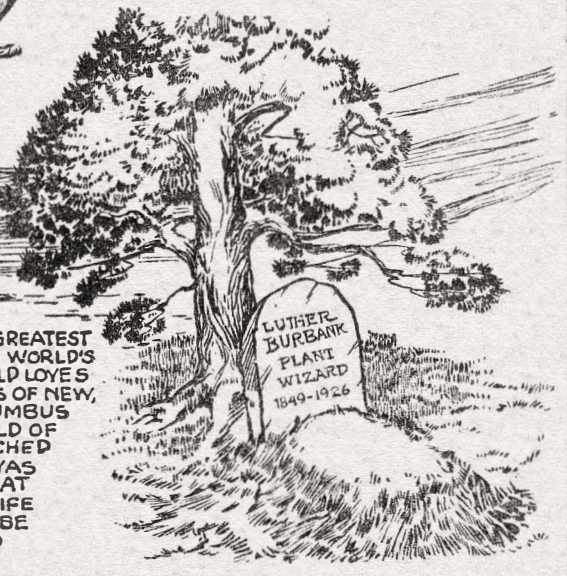
SHY AND ECCENTRIC, BURBANK ALWAYS WORKED IN A STIFF SHIRT, CRAVAT AND FORMAL BLACK SUIT! LIKE AN ALCHEMIST IN AN OUT-DOOR LABORATORY, THIS WONDER-WORKER BRED BLUE POPPIES, LILIES WITH PERFUME, EDIBLE BERRIES ONCE POISONOUS, WHITE BLACKBERRIES, TEN-INCH FLOWERS, AND AN APPLE HALF SWEET, HALF SOUR!



THE PLUM + THE APRICOT = THE PLUMCOT.

BURBANK USED INFINITE PATIENCE. AFTER SIXTEEN YEARS OF EFFORT, HE PRODUCED THE SPINELESS CACTUS, FOR CATTLE FODDER. HE DEVELOPED A WALNUT TREE THAT GREW SIX TIMES FASTER THAN ANY OTHER TREE IN THE WORLD. HE FINALLY DID THE ABSOLUTELY IMPOSSIBLE... ACCORDING TO DUMBFOUNDED BOTANISTS... AND CROSSED TWO SEPARATE SPECIES, THE PLUM AND THE APRICOT, TO GET THE "PLUMCOT"! A NEW FRUIT!

RATED AS ONE OF THE TEN GREATEST AMERICANS, BURBANK IS ALSO THE WORLD'S MOST LOVED MAN, FOR ALL THE WORLD LOVES FLOWERS. HE PRODUCED HUNDREDS OF NEW, BEAUTIFUL VARIETIES. LIKE A COLUMBUS LEADING THE WAY TO A NEW WORLD OF PLANT LIFE, BURBANK HAS ENRICHED THE WORLD INCALCULABLY. HE WAS BURIED UNDER A CEDAR TREE, AT HIS OWN REQUEST, SO THAT HIS LIFE WOULD GO INTO THE TREE AND BE PART OF THE NATURE HE LOVED SO WELL!



PIONEER ASTRONOMER AND PHYSICIST

THE CITY OF THE LIVING DEAD

By LAURENCE MANNING and FLETCHER PRATT

CHAPTER I

Lost Valley

THE sun sank behind the far-off crags, throwing a last red glare like a shout of defiance as the white tooth of Herjehogmen mountain blotted the beams from Alvrosdale. A deep-toned copper bell rang across the evening. Young men and girls left their dancing on the ice, came trooping up the path to the Hall of Assembly. Their gay colored clothes stood out brilliantly against the white background of snow.

At the door of the Hall they parted, not without sadness. For many it was the last parting. Some went into the Hall. Others passed on up the path to the line of houses. Those who entered were grave, though they had laughed and talked not long before. Yet they were a goodly company for all that, some three-score in number and all in the fire of youth.

Within the hall stood benches. A great fire roared against one wall, and against the other stood the moldering remains of those Machines that were the last relics of the days of old. At the center was a dais with places for the elders of Alvros. Midmost among these sat a man, strong, stern, white-headed, who bore on one arm the silver band of authority. In his hand he held a small, shiny Machine, round in shape, with a white face which bore twelve characters written in black. As the youth took their places, he twisted this Machine, so that it rang a loud and strident bell.

Then there was silence, and the old man rose to speak.

"My friends, you will leave Alvrosdale tomorrow. Your skis are even now prepared. Your glider wings await you outside. This Hall of Assembly was once the House of Power. Here we are met tonight, as is the custom of our people, that I may tell the story of the last of the Anglesk and warn you of the dangers you will meet.

"Some of you—God grant it will be few—will be caught in treacherous winds and flung against the Mountain of the South to die. Some may be caught by the Demon Power, whom the Anglesk worshipped. Some will find green fields and prosperity,

EDITOR'S NOTE:

Some stories are forgotten almost as soon as they are printed. Others stand the test of time.

Because "The City of the Living Dead," by Laurence Manning and Fletcher Pratt, has stood this test, we are nominating it for SCIENTIFICTION'S HALL OF FAME.

In each issue we will nominate—and reprint—another favorite of the past.

Will you vote for your favorite? Write and tell us what it is.

We hope in this way to bring a new permanence to the science fiction gems of yesterday and to perform a real service for the science fiction devotees of tomorrow.



and will meet the others of our folk who have gone before. . . .

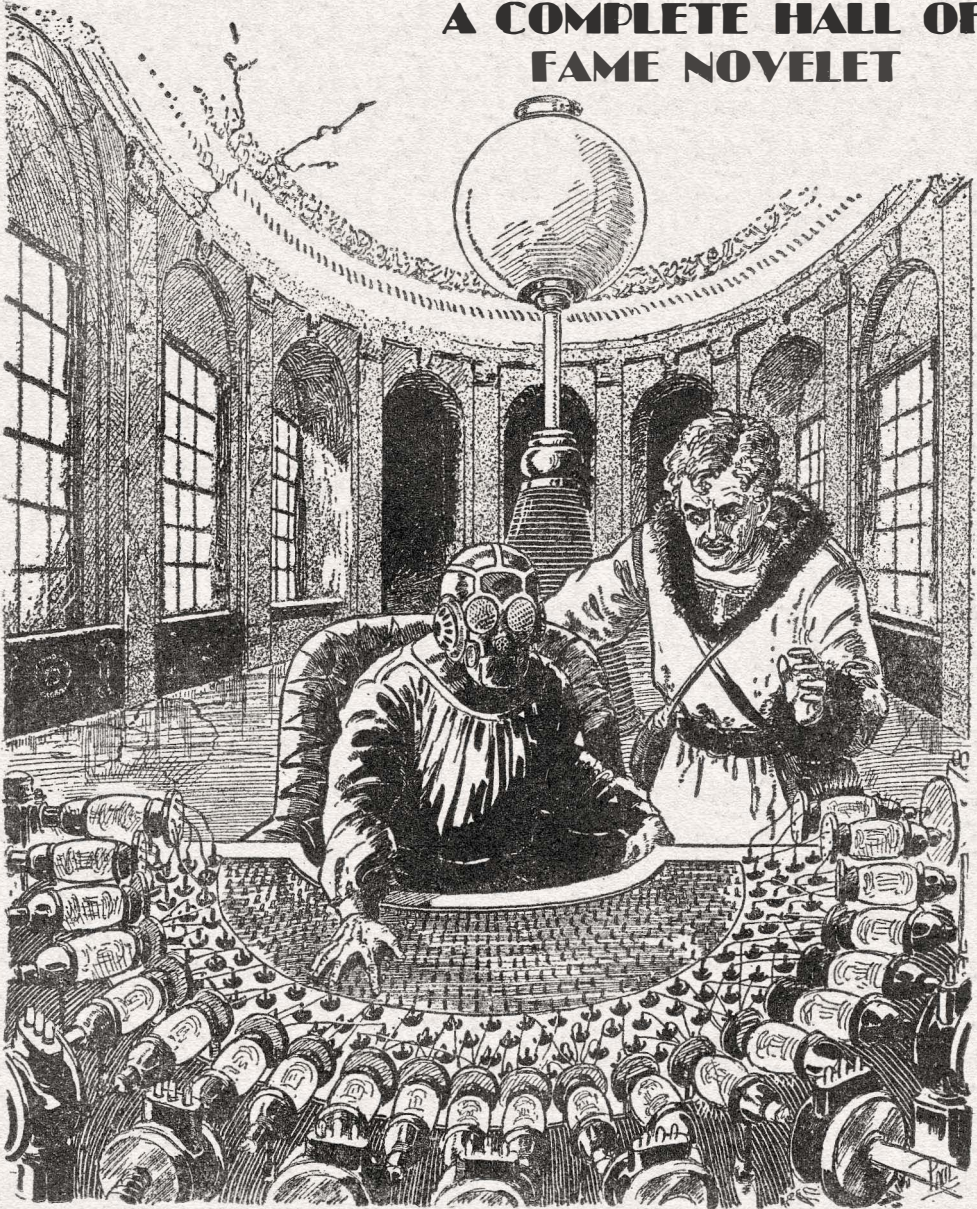
"But a few of you will wish to return. To these I now say—stay behind! You are better off here. I cannot go on with my tale till I have asked whether you would prefer the life of this quiet dale to that of the outer world, with its Power, its mountains, and its living dead."

HE made a pause, and for a breathing space none stirred. Then a maid of the company arose, sobbing. She cast her shawl over her face and cried that she would live and die in Alvrosdale. Then she went forth from the Hall with the young man of her choice. As the door of the Hall clanged to behind them, the rest sat closer, and gave ear to the old man.

"There are none now left alive," he said, "who remember Hal Hallstrom in his youth. But I give you my word that it was as lusty a youth as any of yours. I was light and gay and would roll the flavor of adventure under my tongue. In those days there were

A Machine World Yields the Secret of Its

A COMPLETE HALL OF FAME NOVELET



The man with the metal face was busily pushing buttons

legends of the lords of old, and how the Demon Power drove them through the skies and over the waters and under the earth. But they were the rusty legends of those who tell a tale without understanding its meaning.

"This very Hall of Assembly was held to be the home of the Demon Power, a place so accursed that none dare approach it. This Demon was believed to be the same who had so dealt with the Mountain of the South

that it fell across the neck of our dale and cut it off from the world in long past ages. We know now that this is not true, but men thought otherwise then."

He paused, then went on:

"In those days I heard also legends that when the Mountain of the South closed off the dale, the Anglesk sent men through the air to bring us this thing and that. Such tales were held foolish beyond words. Now we ourselves fly through the air, though not

Doom and Foreshadows the Destiny of Man!

as the Anglesk with the aid of the Demon Power.

"Also there were legends of the splendor of the villages of the Anglesk. They piled stone on stone to make mountainous dwellings in which the night was bright as day by suns of their own contriving. They quarreled and slew each other from afar with thunderbolts. The voices of men long dead spoke to them from Machines, and the voices of men far away spoke to them through the clouds.

"Old wives' tales! But I was young, and youth must ever test the false and true by the touchstone of experience, even as you now go forth to do. One who has reached my age seeks neither for truth nor beauty any more, but only for rest."

Herewith one of the elders touched the arm of the old man, who looked around. Recalled to his narrative, he went on.

* * * * *

I WAS in charge of the flock close by the brink where Oster Dalalven plunges under the Mountain of the South. I was seized with a great longing to see these dwellings where men once moved in light and music.

Thereupon, so hasty was my mood, I slung my quiver over my shoulder without more ado. With staff in hand, I set out for the Mountain of the South, making a wide circuit to the east to go around this very House of Power.

In those days few in Alvrosdale and none outside could equal me as a cragsman. But I had need of all my skill. As I advanced, the edges of the Mountain of the South became ever more rugged, torn into heaps and pinnacles as sharp as daggers. All morning long I clambered among the rocky screes, tearing clothes or skin.

At noon I made pause and ate sparingly of the bread and cheese I had brought for my lunch. Of water there was none, nor did I see any sign of trees or other life. The Mountain of the South is a vast wilderness of stone, hard and desolate, not mellowed with age like our summits of the Keel.

But still my heart was high, and I took to climbing again. My road grew worse. Thrice I was near to death, as some ledge I was on ran out into sheerest precipice without room to turn back. The loneliness of the place weighed down upon my spirit. All that day I saw no living thing, and I had always known the kindly dale of Alvros, where the cow-bells tinkled ever within hearing. At night I made camp just below the edge of the line where the snows mantle the rugged pinnacles.

In the morn, as I started on, I still saw the summit towering far above me. Now I dared not turn back, for fear of the rocks and avalanches. All day I tramped the snow. Toward afternoon I found a glacier that eased my labor somewhat. Yet up it I must move with utmost caution. Great crevasses ran down for miles into its heart, often so hidden that not until I thrust my stick through the crust of snow did they become visible. That night I built myself a cairn of ice in the lee of a rock, and camped.

I awoke so stiff that the third day of my

ascent was like to be my last. A storm had come up and veiled the head of the mountain. I was weak with the chill. The wounds in my hands were nipped by the icy blast. My hunger had become a terrible gnawing pain. The glacier petered out and I had to clamber among rocks that were covered with a glare of ice.

The wind shrieked about me among the rocks. The storm blotted out all knowledge of the Sun. I knew that if another night found me on that bleak summit, all nights and days would end for me. Yet I kept on. I came at last to a place where a wall of ice-covered rock rose sheer before me. To right and left there seemed no passage, and I halted, ready to lie down in despair. But as I stood still, I caught sight of a black shape amid the gray of the whirling snow. A great golden eagle swept down on the wings of the wind past me, swung off suddenly to the left. Just at the limit of my sight, it turned again over the rocky wall.

I TOOK it for an omen and followed down the wall to where the eagle had disappeared. Sure enough, there lay a narrow chimney through the rock, that might not otherwise have been seen. I leapt into it, stumbling and slipping on the loosened stones, but going upward. A few minutes later I had reached the top of the wall, and with it the crest of the mountain! It is unlikely that any, however expert cragsmen they may be, will follow my path. We now have wings and soar over that perilous tower with never a break. But if you should wish to attempt it, I warn you—do not venture! For I am convinced that only by the favor of the most high gods and by the omen of the golden eagle did I come through unscathed.

I had followed the eagle through the pass and stood indeed on the highest crest of the Mountain of the South. Now the storm cleared away as if by magic, and far beneath me I saw the Mountain spread out. Beyond the Mountain lay a smiling valley, like Alvrosdale, but broader and deeper. Through the heart of it trailed our own river—Oster Dalalven—after it burst foaming from the rocks beneath the Mountain.

Beside it was a white ribbon of a road that ran off into the distance. Along the road I could see the habitations of men, gleaming in the afternoon sunlight, and forests that ran down almost to the houses and at times hid the road. I shouted for joy and began the descent of the mountain. In that moment I knew that the tales of a world of splendor were based on truth.

Half an hour later I shot a ptarmigan and tasted meat for the first time in three days. This was the greatest luck, for the descent was worse than the climb on the other side had been. For a day I floundered amid the drifts, and came at last to a place that dropped sheer for half a mile. There was no descent, so I had to turn back and try this way and that.

Three days I spent thus, going down and coming back, climbing and descending, before I reached the bottom. On the second day I knew once more the kindness of the gods. My foot touched a stone that touched

another and suddenly set off a landslide that cleared my path down the worst of the steeps.

At last I stood at the base of the mountain, a place by no means lacking in piled rocks, but with no more dizzy descents. For a time I lay on my face, prostrate, and clasped the fair grass with my bruised hands. That grass felt softer to them than after the longest winter!

Then I arose. With such strength as I had left, I staggered to the brim of Oster Dalalven and plunged my face in the water. By the brim of the stream I fell asleep, though the Sun was still high in the heavens.

I woke in the chill of dawn, with the memory of a sound ringing in the back of my head. As I started to my feet, I heard again the sound that had roused me—the baying of a dog. In a moment it was answered by multiple voices, as when a pack of our Alvrodale hounds track a rabbit.

“Surely,” I thought, “there must be men not far away in this dale, since there are men’s dogs here.”

I climbed onto a boss of rock the better to see my way and the dogs that had bayed.

AS I reached the crest of the stone, the hounds swept into view from the road not a hundred paces to my left. They came tearing along among the stones. They were dogs indeed, but such as I had never seen, strong and terrible of aspect. Nor were they on the trail of a rabbit, but a great antlered deer. In a moment they were past. But two of the pack paused when they came to where I had passed, sniffing and growling over the place where I had slept.

“If all the Anglesk are as great as their dogs, then theirs is indeed a mighty race,” I thought.

The road itself was curious, all overgrown and the stone pushed apart by grass and weeds. The dried grass of other summers lay among the fresh, as though it had been there for a long time. Yet I mused not overmuch on it, for the road led up under the Mountain of the South. All men knew how that hill had risen between Alvrodale and the world in a single night, breaking sheer across the road and all else.

Perhaps a mile or two farther along, I saw houses clustered in a hamlet between road and river. Among them all there was no sign of life. While it might have been the earliness of the hour, I remarked it because of the other signs of desolation on that journey. My heart misgave me.

As I drew near, I was more surprised than ever. In all that village, which by the legends of the dale should have been a great and splendid place, there was neither sound of voice, bark of dog, nor sign of smoke in the chimneys. A fear came upon me, and I ran forward, weak as I was. But at the first house my fear was confirmed. The door hung all awry with rust marks at its side. The door-sill was split by the frosts of winter, and the broken windows looked in on ruin and desolation.

I hastened to the next house and the next, and all through the village. Some dwellings were of stone and some of purest glass, but all alike were empty. It was a village of the

dead, but with no sign of dead or living. Only at the end of the village did I hear the bleating of sheep.

Going to the spot, I came upon a flock—not well kept, fat sheep such as we house in Alvrodale. These were thin and lank, their coats filled with briars. At my approach they made off toward the forest. I bent my bow against them and slew a ewe.

Taking of her meat, I went to one of the houses, thinking to cook the meat in that ruined town. But in no house that I entered was there so much as one fireplace. All were filled with Machines, now fallen to dust and rust, and other appliances whose use I did not understand. So I built my fire in the open, using dead branches from the trees.

The food refreshed me much. Packing in my scrip as much more of it as I could conveniently carry, I followed the road onward. Farther down I came upon another House of Power, so like this that the two might have been built by the same hand. With fear strong within me I swung wide around it. Yet that was not needed. Like all else in this dale, it was lifeless. Had it held raving monsters, their screams would have been welcome.

CHAPTER II

The Dead City

EVEN now in retrospect it is sad to think of coming to that place after that journey. In all the land of the Anglesk I found no living man nor heard any voice save those of the wild dogs as they bayed now near, now far. For days I journeyed thus. Many villages I passed, all well built and strong and beautiful, testifying to the glory of the Anglesk. All were filled with Machines of much marvel—and all were fallen to ruin and rust. At night I often lay in the cellars of these houses. By day I walked, killing now a sheep and now a hog.

One day I came to a place where the houses grew thicker and the forest had retreated until the village was the greatest ever seen by the eye of man. Some of these houses were like those I had heard of in legends—mighty towers whose tops soared to the clouds, built all of stone and bronze so that the tooth of time had hardly touched them. But all were dead and deserted like the rest, with only birds to nest behind the broken windows, and swine to root among the melancholy streets.

As twilight fell, I made preparations to find a cellar for the night. But I saw among the myriad towers a single one that held a light in its window. A great, fierce hope sprung up in me that living men might be here, though mingled with it was the fear that it was only a trap of the Demon Power. However, for what purpose had I come so far in such a melancholy land—but to adventure? So I made for this tall tower as rapidly as I might through all the tangled maze of streets.

Night had come when I reached it suddenly. The tower rose before me—a mountain of stone and glass, like the Mountain of the South in size. There were bright lights in four or five windows near the base, and

a whole floor high up. I drew near. A flight of steps led up to a great bronze door that would not yield to my push, nor was there any answer to my knocking. It was already late. I looked for a place to spend the night.

When the sun gilded the towers of the great village, I rose to try again. As before, I found the bronze doors locked fast against me. But the building was of great extent as well as height. I did not desist, thinking there might be some entrance. I had not looked far when I came upon another and smaller door, set level with the street. This gave a little to my push and I set my shoulder against it. Door and lock burst open and I plunged in.

I STOOD in a long hall, lit dimly by tall, narrow windows. At either side there was a long row of doors. With my mind now made up to follow the venture through, I tried the first. It would not open. But I understood the trick of its movement. Sliding it to one side, I stepped in.

I found myself in a room like a closet in my father's house in Alvrosdale, windowless and very dark. The door had slid into place behind me. I groped for it, and I must have touched some Machine within the wall of the room. Forthwith there rose a humming sound. When I put my hand out again, it touched a wall in rapid motion. The whole room was moving!

My friends, you cannot understand the terror of that moment. I felt that I was in the very grip of the Demon Power. Though Power is an old and feeble demon now, in those days he was strong and malignant. In real life men do not faint or go mad with terror, when in such situations. They seek for some means of escape. But even as I sought to escape, there came a louder buzz and the room stopped as suddenly as it had moved. A filtered shaft of light from the top showed me that it had halted before a door. I flung it open. Anything was better than that cagelike moving closet. I stood in a long hall. Sunlight streamed through the glass walls, dazzling back from row on row of great ingots of silver.

So much wealth neither I nor anyone in this dale has ever seen. Yet there was something curious about those ingots, when I looked at them a second time. Each one was laid on a table by itself, and each seemed rather a close winding of many wires than a solid piece of that precious metal.

Dumb with astonishment at the sight, I approached one of them, thinking that they might be a dream wrought for my undoing by the Demon Power. I noted that the form of the silver winding had, from a little distance, a certain likeness to that of a man. From one side, many of the wires were twisted through holes in a slab of stone on which the form lay.

The likeness to the shape of a man increased as I approached. When I stood directly over it, I saw that it was indeed a man, but a dead one—all swathed and wound in silver wires. As they drew near his body, the wires grew finer and finer till right over the skin they were spread out like silver spider webs, half concealing his features. The dead man had a grave and reverend as-

pect, like a priest of the gods. No hair grew on his head or face, for even here the silver wires covered him.

All this I took in at a glance, and realized that each of these piles of silver was a man, dead like the first. I stepped back in horror. As I did so, my hand touched the tangle of silver wires from one of the dead. All up my hand and arm ran a frightful tingling! The dead man I had touched stirred ever so slightly!

WITH the horror of that moment my tongue was loosed. I shrieked and fled. Around and around the room I ran, like a rat trapped in a cage. At last I reached a door and flung it open, not on another narrow room, but on a stair. Up this I scurried without taking account of direction. . . .

I thought that these dead were under the shadow of the Demon Power, that the jar I had received was a warning not to disturb their sleep, lest I become like them.

But the staircase up which I fled gave on another hall. Like the first, it was filled with row upon row of corpses, lapped in silver. The walls were likewise of glass. The coiled silver cables, where the thin wires of this most precious metal untied, were twisted from the sides of the bodies and passed through holes in the slabs.

Yet all this I hardly noted, for I ran on to another hall, and another, and yet another. Up and down the stairs I scampered, seeking only to leave that accursed place. I do not know how long I ran thus up and down. I only know that at last, stumbling downward, I came to a door that led upon a long passage.

Down it I went. Though it was narrow, at one side a Machine hung over the edge of the passage to grip the passer-by the instant the Demon Power should will it.

At the end the passage divided in two. Not knowing which turn would lead me from the building, I chose the right. But I had hardly gone twenty paces when before me I saw the low flare of a light and heard a mighty clanking.

"Surely," I thought, "this is the very abode of the Demon Power himself."

I turned back with a new fright to add to the old. This time I took the other branch. As I went down it, I again saw a light ahead—but to what purpose would it be to turn back? Moreover I had now gained some control of myself.

"A man who is fated to die will surely die, whereas a man fated to live shall walk through perils," I said, and strode on.

The shaft of light came from a room. Near the door of the room sat a living man on a chair!

He held a board before him, on which he moved small carved figures.

As I entered, he turned to me a face that was not a face, but a metal mask. He said some words to me in a tongue which I did not understand. Overcome with fatigue, I fell at his feet. . . .

When I finally awoke, I was lying on the floor. It seemed that the man with the metal face looked upon me with kindness. In his hand he held vessels, which he extended to me, making signs that I should

eat and drink. Though the food was strange I ate and was refreshed. I spoke to him quickly.

"What is this city of the dead? Where are the people of so glorious a town? What became of the Anglesk?"

But he only shook his head and sat down again to his board, which was marked out in squares of alternate black and white. Then, taking one of the carved figures from the board, he held it up to me.

"Rook," he said.

I examined it. It was in the likeness of a tower of stone, but it conveyed no meaning whatever to me. I handed it back with a smile for his courtesy. Therewith the man with the metal face sighed deeply and motioned me to a seat beside him. He went on moving the carved figures here and there, making notes on a piece of paper.

I looked about. The room was long rather than wide. Along one wall ran a great board, from which loops of wire jutted, entering little holes. Presently a red light shone from the board and the man with the metal face arose. With slow and halting steps, like one of great age, he went to the board and transferred a loop from one hole to another. Then he returned to his table.

For a long time I waited, watching the man with the metal face. He said no more, nor did I. But after a time he arose. Motioning me to follow him, he led me into another room. There he showed me a narrow, low bed, covered not with blankets but with a single web that was marvelously fine, softer to the fingers than anything I had ever touched. The room was filled with a pleasant fragrance like the woods in spring, though there was no window and we were far from trees.

He gestured that I should lie on the bed. When I had done so, he brought from some corner a Machine like a cap, and this he placed on my head. It fitted close, with special parts to cover the ears. I struggled in fright, for I thought it some new device to trap me deeper into the lures of the Demon Power.

But the man with the metal face spoke kindly. He placed the cap on his own head to show that no harm was intended.

With that I lay down on the bed and slept. My sleep was shot with dreams in which the dead rose and spoke to me in the tongue of the Anglesk, and told me of frightful things. . . .

To you, my friends, it will seem strange that men should speak in another tongue than ours. Yet so it was in the days of the Anglesk. Men in different dales had different words for the same thing. They could no more understand one another than we can understand the babbling of a child or the bark of a fox.

IN the morning I awoke fresh and rested after my sleep. The man with the metal face was bending over me. I lurched upright in the first wild surprise at finding myself in this unfamiliar place. He bent over and detached the Machine I had been wearing through the night.

"Do you play chess?" he asked, not in our own words, but in the tongue of the Anglesk

of old. Wonder of all wonders, I understood him!

"What?" I cried in astonishment. "How is it that I now understand what you say, though it is not my own speech?"

"Oh, that is the radio helmet," he replied, treating the matter as of no import. "But tell me, do you play chess?" His speech was thick and slow, as though passed through lips unable to form the words properly.

"Chess?" I answered. "I don't know the name. Is it a game of the Anglesk?"

The man with the metal face sighed deeply and spoke half to himself.

"For twenty years I have been bringing my Sayers gambit to absolute perfection—my legacy to the world!" Of this I understood nothing, but he said aloud: "Yes, I am one of the Anglesk, as you call them, though our name is the English. I am the last." And again the man with the metal face sighed.

"Then what does all this mean?" I asked. "Who built this glorious village and these shining towers with the spiderlike bridges from one to another? Where are those who should live in them? And who are the dead that lie above?"

"They are the English," said the man with the metal face. "All that are left of them. Let us eat. I will explain it to you after you tell me how you came here, ignorant of Machines and civilization, and yet with a white skin."

I fell in with his humor and with him partook of his curious foods. We sat in the room of the board and table, where ever and again the red light flashed. Then the man with the metal face ceased his talking and changed a loop of silver wire from one hole to another.

I told him of Alvrosdale and of our life there, how we hunted and tilled the ground and tended our flocks. I told of the Mountain of the South and how I had climbed over it with the aid of the most high gods. It was a tale of which he did not weary. He plied me with meat and drink, and learned what I knew. Then he told me his tale in turn, which I will repeat to you.

CHAPTER III

The Story Metal Face Told

KNOW, man of Alvrosdale, that I am old beyond a hundred summers, and so is the youngest of those sleeping dead above. Much have I seen and heard and read, and of one thing I am sure. You are of a race which for thousands of summers has been shut away from the progress of civilization. You have no business in this dying world. When you have heard how it is with us, you had best go back over your mountain, there to stay. Or perhaps you will gather companions, and come out of your dale to people a new world.

Long centuries ago, the world held countless hundreds of millions of people. There were men whose skins were black, and men with yellow skins and even with red skins. But I thought all men with white skins had died long ago. The men with white skins spread out and conquered all the rest of the

world, so that the black and yellow and red men toiled for them. They founded colonies, and the colonies grew to be greater than other nations.

In older ages men quarreled, and fought destructive wars in which thousands were slain by guns, which hurled great pieces of steel that rent and tore asunder all that stood in their path. But scientists designed Machines called Radio, fashioned so cunningly that a man had but to speak in them to be heard by many men in distant lands. Now in the days of which I speak, the English spoke into their Radio and their tongue spread across the whole world. Then the quarreling of nations ceased, for there is no quarrel that may not be settled by simple words.

That was long after the Mountain of the South had risen to shut off your dale. The people of your dale may have heard of the wonders of our civilization, though it is not likely. We had Machines that flew through the air and bore many passengers across the oceans. Machines grew crops for us, tending them carefully and driving away the insects. Machines transformed these crops into food without the intervention of hands. We built majestic cities, of which this is one of the least, cities in which men lived lives of ease and pleasure.

Pleasure! That was the tragedy of our world. We did not know that the pursuit of pleasure alone, which had become our guide, was to be our ruin.

CAN you imagine, barbarian of Alvrosdale, what it is to be free from the necessity of earning your bread? You cannot, for you belong to another age and another race. But the English all over the world, and the men of other races who had become English, now had nothing to do. The sources of Power were inexhaustible. The amount of work necessary to make them available was so slight that half an hour's labor a day sufficed to earn a man his living. And the Machines continued to grow ever more complex and more ingenious.

Adventure disappeared when war became obsolete. For some people, art filled the vacant hours. But as the scientists grew in knowledge, the Machines they made executed the arts better than the artists themselves.

Music was the first of the arts to disappear. First there were Machines that recorded the performances of great musicians and reproduced them to individual hearers at any time. Then came Machines that gave these reproductions to vast audiences. Others showed the audiences such lifelike pictures of the musicians that they seemed to be present in person. And finally Machines were invented that altogether eliminated the musician. They created the correct tones and shades of tones with scientific accuracy.

The picture Machines brought an end to music. They destroyed the art of the theater. You can't know what a theater was. It was a place where people acted stories. With the going of theaters, too, there were fewer and fewer artists, and finally we had mere puppets. Sculpture, which was a kind

of carving, was the next art to cease. The scientists made Machines that felt gently over living persons and carved their likenesses out of enduring stone or wood.

But why tell you more? You have heard enough to understand that art, the last refuge of leisure, was destroyed by the very Machines that gave man the leisure to enjoy art. So it was with everything. Adventure of all kinds died. The last depths in the earth were plumbed. The last mountains were climbed or flown over by the might of the Machines. Men even made Machines to reach the other planets that circle around the Sun. They went to them, found them all inhospitably hot, cold or airless.

Even here the Machines did away with all those occupations which provide adventure. Adventure is always the outcome of some lawless act, and the scientists had eliminated lawlessness by eliminating criminals soon after the coming of universal peace. Machines tested every child and supplied the proper remedies to make him a good citizen.

You must picture, my barbarian friend, a world in which Machines had deprived men not only of labor, but of amusement, adventure, excitement—in short, of everything that makes life worthwhile. Those were terrible days of boredom!

WHAT was left? Only the frantic pursuit of artificial pleasures. And men did pursue pleasure to a degree which seems fantastic even to me. Men became connoisseurs of odors, of clothes. Even I spent a month's income on a new perfume, and a thousand dollars for a single piece of cloth of original design. But even here the Machines followed us, doing things better than we. We had nothing but leisure—endless, meaningless leisure.

Then the institution of Adventure Insurance arose. It began with a Japanese named Hatsu Yotosaki. He was hired to furnish new amusement—"thrills" they called it—to a party of Australians who had gone on an extended air voyage over Antarctica.

This Jap conceived the idea of letting each member of the party know, indirectly, that some other one of the party was a criminal lunatic who was scheming to murder him. Long before their six months' cruise was up, they were all eying each other with suspicion and fright, prowling about the corridors of the airship at night and doing all the things men do under the influence of fear. Three of them were even killed by mistake.

When they got back to Melbourne, Yotosaki told the survivors how he had manufactured their fright. Instead of jailing him for murder, they hailed him as a deliverer, the founder of a new idea. The idea was taken up with enthusiasm. Everywhere men were hired to involve people in wild and impossible, often bloody, adventures.

But even here the scientists tried to intervene with their Machines. "Why," they argued, "go to all this trouble and expense to provide adventures for oneself? You can obtain them vicariously by attending the mechanized theaters."

The answer of the public was that the vicarious adventures of the theater were in-

spid, without the element of personal contact. They gave the spectator none of the personal thrill that is part of a real adventure. This led to the formation of great companies to furnish adventures to people.

Now the governments of the world grew worried. With the coming of universal freedom from labor, pleasure and its pursuit had become the main concern of government. They accordingly set the scientists to find an antidote to the adventure companies, which had succeeded in eluding government control. The result is this building and these people who are the living dead.

It did not come all at once. You see only the finished product. At first the scientists sought nothing more than to make their mechanized theaters more perfect. They had already perfected the reproduction of sound and motion in the early ages. To this was now added a device that added the sense of smell. If the picture story was laid in a woodland the scent of piny branches swept through the audience. If at sea, there was the tang of the salt spray.

BUT the people tired of these shows. They came and were amused for once, but never came again. The scientists then produced the sensations of heat and cold. People went to winter pictures wrapped in furs as though for a trip to the arctic regions. Vast artificial winds stormed through the theaters to the tune of the swaying boughs in the pictures. Clouds of smoke and tongues of veritable burning flame were rolled out over the audience. At last devices were introduced which gave the sitters gentle electrical shocks at emotional moments in the performances.

And now came the great discovery. A man had had his hand cut off in an accident. It had been the custom previously to provide such unfortunates with artificial limbs of marvelous ingenuity and dexterity. Now the man's surgeon, whose name was Brightman, suggested a metal hand. It should be controlled by silver wires. The ends of the silver wires should be drawn out exceedingly fine, and attached to the nerves controlling the motions of the fingers.

The nerves of the body are themselves like wires. They carry the messages of the brain to the muscles and those of the muscles back to the brain. Brightman proposed that the brain should deliver its message to the artificial metal nerves, thus causing the metal hand to move as a live hand would. It was his theory that all nervous impulses are delivered by electrical means, and if this was true the process would work.

The theory was not new. Previously though, there had been lacking any means to connect the metal wires to the nerves. This time it was done by building human protoplasm. The connection between the silver wire and the nerve was made. It was placed in an electrical bath and given an atomic bombardment. And behold! The connecting end of the silver wire became a nerve wire of the same material as the rest of the nerve!

Thus the plan worked—at first, not well nor rapidly, but it worked. And as it was tried in succeeding cases, it worked better

and better until a perfect artificial hand could be produced.

The next step came when the plan was applied to a man who had hopelessly lost his sight. For this man they made a new pair of eyes, fitted with Machines called photo-sensitive cells, such as those I bear on my own face. In them is a metal called potassium. When light falls upon it, potassium alters its resistance to an electrical current. For every speck of light there was a change in the electrical current that ran through the Machine. That change was communicated to a set of wires, which in turn communicated it to the nerve of the eye. Then the man, though without eyes, could see!

IN time, this grew to be the common treatment for those who had lost their eyes, just as mechanical hands and feet replaced those members. And to one of our scientists, Professor Bruce, there came a new idea. If a man could by these means see what really happened, why should he not see also things that have never occurred?

Do you understand?

After long experimentation, Bruce found that if the photo-sensitive cell of a blind man were removed, and the silver wires that led to his optic nerve were attached to other wires, electrical currents could be sent down these other wires that would make him see things that were not actually there at all.

When the adventure associations sprang up, the scientists had achieved a high state of perfection. The blind could be made to see almost anything, even a whole series of non-existent events.

This was the situation when the growth of the adventure associations began to threaten the basis of organized government. For the adventure associations promoted disorder among those very elements of the people who should most desire security. The head of a great food company, for example, was involved in an adventure. In the course of it he was attacked by several men who struck at him with clubs. One of them struck a trifle too hard. The food company owner was killed, and his company suffered.

In an evil hour, some scientist suggested to the New Zealand government that the people should be offered plays they could witness through their optic nerves, and thus experience them as actualities. This would be a substitute for the adventures of the associations. The government accepted the suggestion, though it would necessitate removing the eyes of the subjects, and providing them with photo-sensitive cells. A man who trusts his whole life to an adventure association would certainly be willing to submit to the slight inconvenience of seeing through a mask instead of through his eyes for the rest of his life.

At first there was no great rush on the part of the people to accept the operation. A few did so, and gave glowing accounts of the results. But submitting to the operation meant permanent disfigurement. For the sake of a few hours, or even days, of visual pleasure that did not appeal to the majority.

It was at once apparent, though, that electrical impulses could be arranged so the subject could see things that were not in existence. Other impulses were then similarly arranged to reach the senses of smell, and even of feeling, taste or what you will. Like the original operation on the eyes, the process of development was slow. It was over a hundred years from the New Zealand government's offer to the date when the completed Adventure Machines such as you, have seen were produced in all their complexity.

The type of electrical impulse needed to produce the desired sensation on every nerve had first to be found, then applied. Finally it had to be woven into a complex record to be placed in a Machine with other records to provide the Machine Adventurer with a complete series of sensations.

The final process was that the subject was operated upon by skilled surgeons. Every nerve in the body was laid bare, one after another—eyes, ears, nerves of feeling and taste, nerves of motion. To each was attached the tiny silver wire, and each was given the atomic treatment, then led down with the others to form a cable. During the first part of the operation the subject was placed under anesthesia. But at the end, until his record was connected, he experienced no sensations at all.

He merely existed in an inert state, devoid of animation or feeling.

CHAPTER IV

End of a World

AS one set of nerves after another yielded its secrets to the scientists, the government Adventure Machines began to grow popular. They had enormous advantages over the adventure associations. The associations offered personal adventure that was often deadly. The government Machines were absolutely safe. The adventure associations were costly. The government device cost nothing.

When the subject submitted to the operation, he was regarded as legally dead and his property passed to the government. The adventure associations could offer only violent physical adventures. The government method could give the adventurer whatever he wanted. They could enable him to get the most out of life in whatever way he wished, for records of every sort were prepared, suited to the psychology of the individual.

Thus if the operator wished to make the adventurer feel that he was hunting, the record of a hunting adventure was placed in the Machine, and the cable leading from the adventurer's nerves was connected to it. The nerves of the adventurer's foot would assure him that he trod the mold of the forest. The nerves of his eyes would bring him a vision of the dim vista of trunks and wild animals bounding through them. The nerves of his hands and arms would tell him he was making the correct motions to take aim and bring the animal down. And through the nerves of his ears, the Machine Adventurer would hear the dying scream of the beast he had slaughtered.

These records are of an immense complexity. All the lower stories of this building are filled with them. The Machine Adventurer chose his general type of adventure. His psychological charts, made when he was young, showed the type of mind he possessed, and what his reactions would be under certain stimuli. With the charts and his choice before them, the government operators would lay out a course of adventures for him. After the operation, he would pass through them in succession, one following the other.

There was a large number of adventures to choose from. Did he wish to know what the distant planets looked like? He would be given an adventure in which he was the head of an expedition. Under the spell of the Machine he gathered men and materials. With his own hands he worked on a space ship. He saw friends and companions about him. All his senses reeled to the shock as his ship sprang away from Earth. He even felt that he ate and drank during the trip. At last he saw the new planet swimming in the skies as his ship approached it.

You see the advantages? Men could achieve everything possible in actual life, and many things that actual life never holds even for the most fortunate!

They could, if they were the proper type, return to the cave-man period of existence. Or they might float as disembodied spirits down endless corridors of an artificial Nirvana.

THERE was but one thing the Machine Adventurer could not do. He could not return to the world. The operations were irreversible. They involved laying bare every nerve of the body and by atomic bombardment making it an integral part of the silver wire that carried the false messages of sensation to it. To reverse the operation would naturally leave the returned Machine Adventurer deaf, dumb, blind and helpless, a mere living jelly.

But nobody wished to return. The Adventure Houses contained a vast store of records. The adventurers themselves were practically immortal. They could pass the rest of their days in a series of pleasing and thrilling experiences that always ended happily. Some of the more complex adventures, like those in which the subjects found themselves in the roles of world conquerors, lasted over a period of years. As soon as one was ended, the operators of the Adventure Houses switched the subject onto a new adventure.

People readily abandoned the outside world. It was rapidly growing depopulated. Whole groups of people were undertaking Machine Adventures.

At this point the very scientists who had developed the Machines became alarmed at the great rush of people to use them. They advised the destruction of the machines and the substitution of some other method of providing thrills and adventures. But the governments of the world, secure as no governments had ever been before, turned their backs on the scientists and built more and greater Adventure Houses.

The scientists attempted to appeal to the

people over the heads of the governments. The people laughed at them. The governments paid no attention until one group of Oriental scientists destroyed the great Adventure House at Chien-po by concentrating destructive rays upon it. This roused the governments to action. They rounded up all the disagreeing scientists. But instead of being executed, they were forcibly operated upon and placed in Adventure Houses.

The battle was a losing one from the start. One after another the scientists grew old and abandoned the hopeless struggle. They eventually preferred to enter the Adventure House and have a couch of ease and pleasant experiences.

I cannot picture for you the universal decay of every kind of life save that furnished by the Adventure Machines. Adventure Machines for even little children were produced. . . .

After awhile it became difficult to find operators for the Machines. Cities and towns were practically depopulated. In the Machines, every man found every pleasure enhanced to the nth degree.

* * * * *

WITH these words, the voice of the man with the metal face trailed off and he sat babbling in his chair like one grown mad. I let him babble on, while I sat in silence. And after a time he rose and prepared meat for us and we ate.

But still some doubts and questions troubled my mind.

"How came it that you escaped to tell this tale?" I asked him.

"I did not escape," he said, touching the metal mask that covered all his face. "Don't you see this? It is the badge of my own servitude to the Machines. I, no less than the rest, underwent the operation. And oh, the delight of it! For I was born by the shore of the sea, and in my adventure I swam forever among the green depths and saw strange monsters. I would willingly have been left there.

"But a day came when the last of the operators of this Adventure House died. The three surgeons, who were all that were left, took me from the Machine and brought me back to this cruel world. I was an engineer and they needed me to operate the Machine. For my eyes they gave me these Machines, for my ears other Machines, and the tips of my hands and feet—all, all, I am a Machine!"

He cried these last words so wildly that I was fearful he might again fall into his insensate babbling.

"But these adventurers," I broke in hastily, "how do they eat?"

His lip curled with scorn of my ignorance. "In truth," he said, "you are a barbarian of the early ages. You do not know of the D'Arsonval diathermic method? Among the silver wires on each adventurer's leg is clamped the end of an electric circuit. At such times as meals are necessary, they are given electric meals of low and high frequency currents. I tell you because you ask, not because you will understand."

"Ah," I said, for in truth I did not under-

stand. "And what does your work consist of here?"

"I change the adventures and see that the machinery does not break down."

"But there are thousands of the living dead above. Do you change all the adventures as they run through them?"

The man with the metal face hesitated and stammered as one in embarrassment.

"I am supposed to," he said finally, "but I am all alone now. It is too much. These few"—he waved his hand at the board on the wall—"were friends of mine once, and their adventures I change."

"But what makes the Machines run?" I asked, seeing that he was ashamed and wishing to draw him from his thoughts.

"Power," said he.

And I shuddered, for I knew in good truth that I was in the very lair of that Demon.

"But where does Power come from, and who is he?" I asked, as boldly as I might.

For answer he took me by the hand then led me out of the room and down a dizzy flight of iron stairs—down—down to the very bowels of the earth. Finally he stopped and pointed. I saw a long shaft with a ruddy glow far at the base. As I leaned over the iron rail, a pebble dropped from my pocket and fell downward. I never heard it strike.

"There is the source of Power!" cried the man with the metal face. "The Earth's central heat—for this world is fiery-hot at its core. Our scientists learned long ago how to tap it. I doubt not that the first tapping was why the mountain rose against your dale."

With that we fell into conversation on this thing and that, and I stayed with him for many days.

In the end I was anxious to return to my own place. But I knew not how to surmount the Mountain of the South again. So I begged the man with the metal face to help me with the wisdom of the Anglesk.

He thought on it for a time and said that he would help me. But when he would show me how to escape over the mountain by means of Power, I refused. So he offered to show me how to build these wings we now use, on condition that I take him with me. He wanted to look again upon the faces of living men and women, and hear them talk. I agreed to this, and we left the living dead to repeat eternally their empty adventures.

The man with the metal face was stricken by the brilliance of the day. Yet the thought of meeting living people sustained him. He showed me the trick of these wings he called gliders. I learned to soar down the currents of the wind like a bird. Thereupon we set out for the Mountain of the South and for Alvrosdale.

ERE we reached the place, the man with the metal face sickened and died. We had exhausted such of his food as he brought with him from the tower, and the flesh of sheep and swine was over-rough fare for him. So perished the last of the Anglesk. On his death he gave me this Machine with a voice, which he called an "alarum clock," to be a perpetual memento of the terror of Machines and the folly of the Anglesk.

The man with the metal face I sadly buried by a pile of stones. Then I buckled my wings to my back and soared away.

But when I returned to Alvrosdale, bearing on my back the wings that were the proof of my tale, there was great hurry and bustle. Many would have taken the eagles' causeway outward as I had taken it inward. In those days the dale was so crowded with fold that many could not have good fortune. Nevertheless the land would lie fallow if most went, and some must remain behind to care for those who returned broken in spirit or in body.

Therefore this ceremony and the examinations through which you have passed were instituted. Each year the dale chooses of its best and boldest. To them is told this tale before they start on the long journey.

Now I leave you—and good luck attend your flight. But bear in mind that the villages and Machines of the Anglesk are accursed. They belong to the living dead until

their towers shall topple to the ground. Farewell."

* * * * *

WITH these words the old man sat down, exhausted with his long speech and the memory of the trials and terrors of the past.

Dawn streaked palely along the eastern windows of the Hall of Assembly. The hearers of the tale arose and made their way gravely to the door.

In the doorway each was met by one who gave him a scrip of food, a pair of skis and a set of wings. One after another they sped down the snowy hill, to gather speed and finally to soar aloft in the clear wintry dawn.

Over the Mountain of the South they flew with their cargo of new hopes, fears and aspirations. And the world they glided over was dead, silent, empty, but that they must prove to themselves.

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NEXT ISSUE

THE WORLD WITHOUT

A Hall of Fame Story
By BENSON HERBERT

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Thrills in SCIENCE

Thumbnail Sketches of Great Men and Achievements

By MORT WEISINGER

THE ROYAL ROAD

ETIENNE PASCAL sat at the candle-lit dinner table, silently enjoying his food. Seated at his right was his only son, twelve-year-old Blaise.

But Blaise was not eating. He stared unseeingly at his roast, lost in speculation. The elder Pascal stopped chewing, addressed his son.

"You're not eating, lad," he said sharply. "What's the matter—isn't the food good enough?"

Young Blaise Pascal started, his face flushed. "I'm — I'm not hungry, father," the boy stammered. "I'd rather play in my own room."

"Play!" thundered Etienne Pascal. "You call studying Latin, Greek, history, geography and philosophy, play? You'd rather read your books than eat?"

The boy nodded, eyes shining brightly. "Yes," he said quickly, "I am reading about Alexander the Great. His life was very thrilling. You know, father, besides being a great general, Alexander was a mathematician. Or rather, he was interested in mathematics."

Etienne Pascal frowned. "Eh?" he muttered. "Alexander the Great was interested in mathematics?" he repeated.

"Yes, father. My book says that when Alexander's teacher, Menaechmus, sought to teach him geometry, Alexander ordered his instructor to teach it to him in a hurry."

Etienne Pascal smiled at the erudition displayed by his youthful son.

"Well, what happened? Did Menaechmus teach him geometry in a hurry?"

"No, father. Menaechmus told Alexander: 'There is no royal road to geometry.' I guess he meant that Alexander couldn't conquer geometry the way he conquered worlds."

Etienne Pascal went back to his roast, munching thoughtfully. Was there anything his son didn't know?

As if in answer to his unvoiced question, young Blaise spoke again.

"Father. What is geometry?"

Etienne Pascal stood up, glared at his son as though the youth had confessed to the crime of murder.

"Son," he roared, "geometry is the science of making true diagrams, and of finding the proportions between them. And that is all you will ever learn from me concerning that subject. I forbid you to study mathematics! First you will learn all the classical arts. When you have mastered them to my satisfaction, only then shall I permit you to study geometry. Now you can go to your room. And don't ever let me hear you mention mathematics again!"

In vain Blaise pleaded with his father for

a chance to study the mysterious geometry, much as a child would whine for candy. But his father was adamant. Not only did he warn his precocious son to forget his interest in mathematics, but he locked up all



Blaise Pascal

his textbooks on the subject, cautioned all his friends against mentioning mathematics in his son's presence.

The reason for Etienne Pascal's iron-clad ruling regarding the absence of mathematics from his son's curriculum? He was a drill-master by trade, vitally interested in the education of his children. He taught his children the various classical subjects, selecting their courses of reading, giving them assignments, etc.

Astonished at the ease with which young Blaise absorbed the stock classical knowledge of the day, Etienne Pascal tried to hold the boy down to reasonable pace to avoid injuring his health. Mathematics was taboo, on the theory that the young genius might overstrain himself. Geometry espe-

cially was outlawed, for its charm might prove fatal.

But Etienne Pascal, although an excellent drillmaster, was a poor psychologist. His ban on geometry naturally excited the boy's curiosity. And, all alone in his playroom, young Blaise made diagrams on the floor. His Latin and Greek text-books lay discarded, and young Blaise, remembering only his father's one-sentence definition of geometry, began the Herculean task of solving its laws and theorems.

Young Blaise set himself problems, invented satisfactory methods by proof, or demonstrations. Profiting by his training in the use of reason, he proceeded from step to step, until he reached the thirty-second proposition of Euclid: the sum of the angles of a triangle is equal to two right angles! Alone, unaided, the youthful, twelve-year-old genius had formulated accurately more than thirty of Euclid's immortal propositions. It was a feat that no mathematician since the year 1635 has been able to duplicate.

As the boy worked busily with his latest problem, meditating deeply as to how the theorem could be proven, his father entered, unperceived.

Blaise realized the game was up. He jumped to his feet, smiled fearfully.

"Father," he said clearly, "I have been trying to find the royal road!"

Etienne Pascal wasn't angry. He was

mystified. How could anyone teach geometry to himself? For there was a parlance to geometry—angles, congruency, chords, secants—how the devil could his son have mastered that unusual terminology, when he had no text-book on the subject?

Questioning the boy, Etienne discovered that the lad had invented his own terminology. Straight lines the boy called "bars." Circles, he had named "rounds". And so on.

Realizing that he had begotten a mathematical genius, Pascal senior wept with joy. He took his son by the hand, led him to his great bookcase in the library of the house. Silently, he gave his son the key to the case, watched interestedly as the boy's hand darted for a copy of Euclid's "Elements."

And young Blaise Pascal received the thrill of his life as he turned page after page in the great volume and discovered that he had, single-handed, created every one of the first thirty-two propositions of his brilliant predecessor.

Etienne Pascal was never to rue the fact that he had forgiven his son for pursuing mathematics as his life's work. For Blaise went on to new heights. At nineteen he invented and constructed the first calculating machine. He gave Pascal's law to physics, proved the existence of the vacuum, and helped to establish the mathematical theory of probability.

Blaise Pascal had found the Royal Road, indeed!

THE MAN WHO CAME TO DINNER

THE vast hall was crowded with distinguished scientists. The foremost chemists, physicists and statesmen of Europe had gathered together to pay homage to one man, the greatest chemist of that age. That man—Dmitri Ivanovitch Mendeléeff.

Mendeléeff surveyed the fine food and wines on the banquet table before him. He lifted his aged, rheumy eyes and studied the more than two-score dignitaries in the huge hall who had come to honor him. Ah, this was his day!

The magnificent dinner over; the head of the English Chemical Society, whose organization had sponsored the banquet, spoke, outlining the great discoveries in the field of chemistry made by the aged Mendeléeff. Finally he finished, awarding the coveted Faraday Medal to the guest of honor.

There was a thunderous ovation from the assembled scientists. They knew they were in the presence of a great wizard of science, a man so great that his fame would outlast that of any other person in the hall.

But the chairman of the English Chemical Society had not finished. He waved his hand to the scattered guests, waited until the applause died down.

"Professor Mendeléeff," he said impressively, his voice ringing throughout the hall, "it gives me and my associates great pleasure to bestow upon you this added token of our admiration for you and your work."

As he spoke, the chairman handed the Russian scientist a small silk purse worked in the national colors of Russia. It contained an honorarium of golden coins.

Up to this point the old scientist had not spoken a single word. Now he stood up, reached for the silk purse. With a quick

gesture, Mendeléeff opened the purse, showed the golden sovereigns out on the table.

"I won't accept these!" he said dramatically.

If someone had tossed a hand-grenade into the hall, the effect would have been less astounding. More than three dozen scientific graybeards and monocled statesmen gaped wide-eyed at the strange foreign scientist who had spurned their offer.

He is bitter, they thought. Watching the calm, impassive face of the eccentric Russian scientist as he stroked his patriarchal beard, the various assembled luminaries virtually stopped breathing as they contemplated the heresy signified by Mendeléeff's gesture. Time stood still.

Well, thought one of the scientists, maybe the old bird isn't to be blamed. Just think, working alone for years in his laboratory, studying the various elements, making charts of all their properties. He was bound to crack up, when you consider all the discouragements and jeerings he had encoun-

tered. Even if he did make good in the long run, the hard years were bound to leave their scars.

That was true. For Mendeléeff had blazed a trail in chemistry. With his charts of the atomic table, he had accomplished what no astronomer could do without a telescope, no bacteriologist without a microscope. Dmitri Mendeléeff had predicted the existence of three brand-new elements—and all without a single experiment!

The world has disbelieved, had laughed. But Mendeléeff, working from his infallible charts and tables, knew he was right. He told the world to wait. And while he waited, for six long years, listening to the taunts of contemporary chemists, who called him a prophet without profit, his heart grew bitter.

Then one day the new element, gallium, was discovered. Upon examination, its properties proved to be exactly similar to those predicted for it by Mendeléeff. Coincidence! shouted the world. But a year later another new element, germanium, was discovered. This, too, had been predicted in exact detail by the Russian seer. And now the world began to believe.

When the third new element was discovered, the world was not surprised to learn that it corresponded perfectly to the description the Russian had given in advance. The Russian scientist, working in a method all his own, had made good. He had been able, by studying the relationship of the various elements to each other, to prognosticate the properties of those missing from the atomic table of that time.

Was the aged Russian still bitter? Was he to scorn the gift of the English Chemical Society? The guests in the great hall didn't know. All they did know was that this mo-

ment was to go down in scientific history.

Finally, breaking the profound silence, the aged scientist spoke again.

"I do not want these coins," he repeated firmly. His eyes scanned the surprised faces of the men before him, but they never wavered for a second. "Nothing can induce me to accept money from a Society which has paid me the high compliment of inviting



Mendeléeff

me to do honor to the memory of Faraday in a place made sacred by his labors."

There was a brief silence once again as the many men in the hall leaned back in the chairs, too dazed to realize that Mendeléeff was not bitter . . . only humble. When they had collected their wits, thunderous applause once more greeted the great scientific prophet.

The guests had been right. This moment had gone down in history!

OF HUMAN HEARTS

THE elderly, gray-haired man propped himself up on the pillow of his bed, smiled bravely into the eyes of his visitor, the distinguished Doctor Rene Laennec, chief physician of Paris' Hospital Necker.

"See, Doctor Laennec," the old man said cheerfully, flexing his arms back and forth, "I am not sick. I am strong. This morning I walked to the kitchen. Tomorrow—tomorrow I will be able to go back to work!"

Doctor Laennec shook his head sorrowfully, gazed about understandingly at the bare, cheap furnishings of the small, dingy room.

A sweet-looking, frail woman, the gray-haired man's wife, tugged gently at the doctor's elbow.

"Tell me, Doctor," she said timidly, "is Henri all well? He will not rest; he insists he is strong enough to go back to work. But I am afraid—his heart. . ."

"My heart is like iron," the old man interrupted. "Is that not so, Doctor?"

Dr. Laennec shrugged his shoulders. He bent his head to the chest of the old man, listened attentively for the faint sound of heart-beats with his ear. The gray-haired man's wife stood by attentively, her lips quivering.

Finally, Dr. Laennec finished his examination. He raised his head from the breast of his patient, turned to the woman.

"Madame Pieter," he said shortly, "your husband's heart seems to beat normally. But I would recommend that he stay in bed

for another week at least."

The gray-haired man jumped out of bed with surprising agility, reached for his trousers.

"What did I tell you, Marie?" he said exultantly. "I am not sick. My heart is like the lion's. I will go to work today. Soon we shall have plenty to eat, new clothes!"

Dr. Laennec sighed. How could he argue with his patient, point out that over-exertion would prove fatal to his aged heart? What evidence had he to offer the old man?

True, he had listened to the man's heart. But what did that mean? What could he hear through all the layers of tissue between it and his ear? Very little. The man's heart, hidden behind skin, muscle, bone, and living

tissue, defied medical investigation. For to diagnose intelligently the condition of a patient's heart, one had to know whether or not the blood flowed properly through the heart valves. That was the only way one could surmise the accurate condition of the life-organ.

Dr. Laennec knew his anatomy. He knew that when the heart pumped blood throughout the body, it created a sound—a noise of activity. If the heart was strong, that sound was loud. If the heart was weak, the sound was faint.

But no man could hear that sound! The auditory senses are not superhuman. And it would require extraordinary powers of hearing to be able to detect any sounds coming deep from within a patient's body!

"Doctor, we owe you many francs," Madame Pieter was saying. "We will pay you when . . ."

"Forget it," Dr. Laennec said abruptly. "Why should I take money? For placing my head against your husband's chest? You could do that yourself!"

Dr. Laennec went back to his hospital, went about the task of examining other patients. That day was Monday. On Wednesday Monsieur Pieter was dead—stricken by heart disease.

Seated in his office, studying the diagnosis of other cardiac patients, the news of old Pieter's death came as no surprise to Doctor Laennec. It was an old story. People affected with heart trouble refused to accept medical advice. They refused, because that advice was based upon the simple routine of the doctor placing his head against the patient's chest, listening for heart-beats. If only doctors could bolster their diagnosis with some authority, only then would their verdicts carry some weight.

But how? Dr. Laennec didn't know. The heart, imprisoned deep in the human body, locked its secrets from the outside world. And man's weakly developed auditory senses could never surmount the barrier imposed by flesh and bone. If only some means could be discovered by which these sounds could be made more clearly audible!

Dr. Laennec reached for his coat. He had one more call today, a visit to the home of Lafarge, the jeweler. His wife had suffered a slight stroke recently, and her husband feared it was due to a weak heart.

Outside in the street, walking thoughtfully over the rough pavement, Dr. Laennec passed a lumber yard. The cries of youthful voices caught his ear, and the medical man paused in his stride, to watch some small boys at play.

Two dirty-faced street urchins were struggling with a long board, about ten feet in length. The taller of the two boys, a lad named Jacques, inserted a pin into one end of the board. The other boy, a red-headed youngster, picked up the other end of the long board, held it against his ear.

"War! Code One!" the tall boy shouted at his companion, and began tapping sharply at the pin inserted at the board's

end with his finger-nail. He tapped several times, then stopped.

"How many, Jean?" he cried out.

"Six!" reported the red-headed lad, drawing his head way from his end of the board.

Dr. Laennec was intrigued. What was going on here? Was the small boy, ten feet away from his friend, actually able to hear the inaudible taps made on the pin by the other?

"Boy," he yelled out. "Come here. Tell me, what is this game you are playing?"

The red-headed lad grinned embarrassedly. "Oh, it's an old game, *Monsieur*. When I tap on this pin, the sound travels through this wood, and Jean, at the other end, can hear how many times I tap. We use it for a code. Six taps means the enemy is coming."

The austere Dr. Laennec drew a silver coin from his pocket. "Here, this is for both of you," he said. "Now, may I play this game with you?"

Five minutes later, and Dr. Laennec was convinced. The vibrations of sound really did pass through the wood from one end to the other. He had heard sounds the ear could not ordinarily detect—had heard them through more than ten feet of solid wood!

Dr. Laennec tossed the boys another coin, hurried away to the home of Lafarge, the jeweler. Miraculously, he had found the answer to his problem. Now, if only his theory would work!

At the luxurious home of Lafarge, Dr. Laennec was ushered into the bedroom of the pretty Madame Lafarge. Dr. Laennec turned to the anxious Lafarge.

"Get me a large sheet of paper," he ordered mysteriously.

Puzzled, *Monsieur* Lafarge left the room, returned a moment later with the paper. Wordlessly, Dr. Laennec rolled the sheet of paper into a tight roll. Placing one end of this crude cylinder against his patient's chest, Dr. Laennec listened eagerly. If one could hear through many feet of wood, then one should be able to hear through this—

And he was right! For, his ear pressed against the end of the paper cylinder, Dr. Laennec heard the heart of his patient beating strongly, beating as he had never heard a human heart beat before. He heard the rushing of the blood as the arteries functioned smoothly in their life-long duty.

"Your wife's condition is splendid," Dr. Laennec told the watching husband as he unrolled his paper cylinder. "Her heart is in excellent condition. Never have I heard a heart beat so strongly."

But Dr. Laennec was wrong. His own heart beat more strongly, beat at a tripphammer pace because of his thrilling triumph. For Dr. Laennec, applying the principle used by two small boys playing a game, had, in 1819, invented the first device able to diagnose the true condition of the heart. Years later, Dr. Laennec perfected that first crude device. Today it is used universally by doctors the world over and is known as—the stethoscope!

The Worms Turn

By OSCAR J. FRIEND

Author of "Robot A-1," "Mind Over Matter," etc.

Deimos and Phobos Belonged to the Planet Mars But They Saved the Earth from Destruction and Chaos!

IT was Deimos who first became aware that the wispy-haired old gentleman with the piercing gray eyes was deliberately taking measurements of the two freaks. He stood there steadfast in the eddying crowd before the platform of Castor and Pollux, the Heavenly Twins, and just measured them with his eyes. He used neither tape, rule, calipers, or gauge. He just memorized each detail of the monstrous twins bit by bit, a most uncanny thing to do—and an evidence of remarkable brain power.

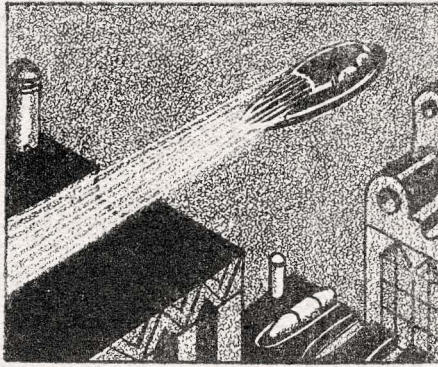
But the most amazing thing about the whole matter was not the camera-like quality of the old man's eye, the mathematical accuracy of his mind, and the retentive brilliance of his memory. No! It was the fact that Deimos noticed the old man—and *understood what he was doing!* Just like that, without words or actions or anything apparent to the most expert observer, Deimos perceived exactly what the old man was doing.

For Deimos and Phobos, found a year previous in the wilds of Texas, were on display in the Broadway "Believe It If You Can" museum as congenital idiots. In spite of the fact that their origin was unknown, they were billed as Castor and Pollux, the green giants from space.

Seven feet tall, green of skin, with hydrocephalic-appearing craniums and bulging eyes which had red pupils,

these two brothers really had come from Mars. They had burned out their mentality in a successful attempt to stop Earthly warfare by a sort of mental raying, wrecking their mind-powered space machine and nearly losing their lives in Texas.

For nearly a year, like automatons, the two twin brothers had lived and breathed and eaten and slept here in



The space ship shot into the air

this freak museum. As helpless as worms, as harmless as cigar store Indians, they had been on view for the curious to marvel at. And now, suddenly, Deimos became aware that he was thinking with a feeble approach to his old-time brilliance; he was correctly interpreting that wispy-haired spectator's

acts.

He turned his head and gazed at his brother. Phobos stood there beside him, a dejected scarecrow with drooping head. But was there a faint luminance about his cranium, or was it merely the garish reflection of the overhead lights? Deimos stared, but he couldn't be sure. His own re-awakening faculties were pretty weak as yet.

But the next day he was positive. There was a slight purplish glow about Phobos' head. And when he held up his own right hand he saw the faintly pulsing sheen of that vanished aura of force building back—that delicate, pulsating aura which mantled every healthy Martian. After all, what could

A Sequel to "Mind Over Matter"

have been more logical? They still lived. Their depleted nervous force was at last building back because the brain tissue had not been permanently injured, merely drained. It was like a storage battery which builds slowly back its charge during a complete rest—at least, some of its charge, overnight, as it were.

And it had been a period of night, a horrible night of mental blankness and vacuity. Laboriously, Deimos' brain took up the process of thinking where it had left off. Mercifully, most of the twelve months just past were complete blanks.

"Phobos!" he feebly sent out the mental telepath. "Phobos, my brother, are you aware of this thought impulse?"

"Deimos?" came back the weak impulse. "It has been such a long and dreary time. I—I feel as though I have been wandering through the black caverns of eternal night. Where are we?"

"In a freak museum on Earth—the very fate we fled from Mars to escape."

"The various wars on Earth? What of them? Were we—"

"Successful? I think so. Concentrate on growing stronger day by day. We will depart from here eventually and explore this planet. Look! The old man with the fierce eyes who is approaching. He has been coming here for many days to study us. I think it was the impact of his mentality that has aroused us from our stupor."

"I see him," Phobos telepathed back. "I have been aware of him for days. Deimos, for some reason he is recording our physical measurements."

Phobos was right. Charles Delancey, obscure scientist and inventor, had been almost a daily visitor to the museum for nearly a month. Ignored by the attendants of the museum, the old man had always come to stand before the green-skinned giants and study them. Nothing else in the museum interested him. After an hour's careful scrutiny he would go quietly away, to return the following day. Rarely did he miss following this routine.

Today was no exception. He halted

squarely in front of the Heavenly Twins and studied them for an hour. If he noticed the faint aura which was beginning to grow about the pair, he gave no sign. After he had gone, the brothers discussed him telepathically.

"Deimos, there is an air of dynamic purpose about that man," impuled Phobos. "I cannot receive his thoughts clearly, but he puzzles me sorely."

"And me," agreed Deimos. "Can he have a shield across his mind? Ah, if we could only attain to our former degree!"

"Patience," counseled Phobos. "Time is our aide."

But time they did not have. Late that very night, after the lights were out, and the museum closed, the brothers were awakened from their sleep by the whispering sound of stealthy feet. A flashlight beam traveled erratically around the huge hall, coming to rest on their platform. And then they heard a sibilant voice speaking English words which they but half-understood.

"There they are—on their cots. They are harmless idiots. They don't speak, but they can obey manual directions. Don't be afraid of them—both of you have viewed them before. Take your cloaks and climb up there and arouse them. Lead them by the hand. Hurry!"

"But, Dr. Delancey, are you sure they will follow us?" asked a nervous voice.

"Of course!" snapped the scientist shortly. "Make motions to them, but don't make any noise. We've got to get them away from here—make them disappear. You know that."

"Yes, sir," was the doubtful response.

"Good grief!" exclaimed the second voice as its owner got a good look at the recumbent twins. "They look just like those robots we made."

"Certainly," said Delancey in a crisp voice. "These two were the models. Make haste now."

Deimos and Phobos sat up slowly as two heavy-set men, obviously mechanics of some sort, laid hands on their shoulders. Obediently they arose and suffered their tall forms to be envel-

oped in the folds of obscuring and concealing mantles.

"What do you think, Phobos?" telepathed Deimos.

"They want to take us somewhere," Phobos responded as silently. "Why not? Let us obey."

Continuing to communicate with each other, unknown to their abductors, the brothers permitted themselves to be hustled out the side entrance of the museum and into a waiting sedan into which they folded their long legs with difficulty. The leader got in with them, while the two assistants climbed into the front seat. The car got smoothly under way.

Within half an hour the machine drove into the basement garage of a building overlooking East River. Dr. Delancey got out and indicated that the twins were to follow. Deimos and Phobos silently obeyed. They were quickly conducted to a steel door at one end of the basement. The scientist manipulated a mechanism at one side, and the door slid up on silent rollers, admitting the group into a strange, huge workshop of some kind. In the center of the floor was a circular pit in which, side by side, rested two large cylinders of red metal with pointed tops and glass observation ports.

THESE cylinders looked more like ticket booths for a theater than anything else, although Deimos and Phobos would not have made that sort of comparison. To them, these huge metal columns suspended in the pit looked precisely what they were—great drill bits which were hollow and large enough to accommodate men within the queer observation chambers. A spiral of massive red gear teeth encircled each cylinder and passed down out of sight below the rim of the pit—like twining serpents.

"Moles!" impulsed Deimos to his brother. "For boring along underground."

"Exactly," telepathed Phobos. "The observation chambers are doubtless swivel-free. And observe those mounted ray projectors in each glass port. What can be the strange purpose of these machines?"

They were not long left in doubt.

"Bring the robots!" ordered Delancey to his two burly assistants.

"How about these two freaks?" asked one.

"Leave them here," said Delancey contemptuously. "They're harmless idiots. I want to compare them with the robots. And I haven't much time. The Congress of Governors meets at eight o'clock in the Falcon Building to make the final rules for world peace. And I must strike at that hour!"

The two assistants hastened to one end of the large underground chamber. The two brothers communicated a wry mental grimace to each other. And then they were genuinely startled. Clanking heavily toward them came two exact replicas of themselves, complete to the smallest detail. Even the clothing of blue cloth and shoulder and joint plates of brass had been perfectly duplicated. Following the two clanking robots came the helpers, lugging what appeared to be a lifeless or machineless third green giant.

"Ah!" cackled Delancey to the two Martians, never dreaming that they could understand any part of what he said. "See these beauties who look just like you monstrosities! They are robots I have built, robots that can function under my control. With them I shall conquer America, and then the entire world. I shall be supreme power. I'll teach them to laugh at my science, my theories—my inventions! When thousands die, screaming, and I tell the world it is an invasion of green reptile men from below—of which race you two were the forerunners—they will believe me, for how else can scientists explain your origin? When I promise that only through me is there chance of escape, I'll bring them to their knees. The destruction of the Congress of Governors will paralyze them."

He stopped raving and pressed a disc in the side of the nearer cylinder. A panel slid open, and the two robots marched unfalteringly into the exposed observation chamber of the red mole. The two brothers looked in wonderment at the thing brought forward by the mechanics. They saw at

once what it was, a mere shell of a robot which was, externally, precisely like themselves.

At once the mad scientist, with the help of his assistants, climbed into the shell. The two men buckled him in and placed a green skull-like mask over his head. The transformation was startling. Neither of the twins could distinguish any difference between the disguised Delancey, the two robots, or themselves.

"Stay here and keep your eyes on these freaks," directed Delancey. "I will return as soon as I have destroyed the Congress of Governors."

He entered the machine with his two robots. The panel slid closed. There was a whine of starting motors, and the cylinder sank smoothly out of sight.

"Phobos!" telepathed Deimos. "That madman is going to undo all the work we have done. We must save mankind a second time."

"You are right, my brother," impulsed Phobos. "He is going to make it seem as if civilization were being menaced from below—and that a race of beings like us is responsible. "We must overtake and destroy him. See, he has made two of his queer worms. If only this second one will work. If only our minds are strong enough to grasp its principles."

In their intensity of emotion, for the first time the delicate lavender aura about them glowed in visible pulsations of light.

"Here, you two overgrown bullfrogs, come along with us," began one of the assistants, reaching out to grasp Deimos by the arm. "There's a bed upstairs where you can go back to—" He broke off with a cry of alarm and terror as the purplish aura about each of the Martians blazed out strongly, so that he and his companion were bathed in a weird light such as a mercury arc throws out. The assistant staggered back, throwing his arm across his eyes.

The other man let out a curse and drew a .45 automatic in his panic. Deimos and Phobos read his intentions as easily as if he had shouted them aloud in the universal language of an-

cient Mars. With one accord the two brothers concentrated on the armed mechanic. A flash of lavender flame seemed to leap out from between them and strike the man squarely between the eyes. Without a sound he crumpled at the knees and dropped, senseless, to the concrete floor.

This was too much for the other mechanic. He let out a howl and turned to run. A flash of light shot forth like lightning and struck the back of his head. He pitched forward on his face, unaware that he was even falling.

Instantly Deimos and Phobos turned to the second cylinder. Deimos found and pressed a disc similar to the one Delancey had manipulated on the first mole. A panel obediently slid open, and the brothers stepped into the observation chamber. It took them just sixty seconds of combined mental effort to grasp the principles of the giant worm. Phobos flashed an interrogation to his brother and, upon receiving an affirmative, depressed the switch which started the electric motors whining in the body of the cylinder beneath their feet.

Another manipulation, and the huge mole started dropping down the shaft of the pit like an express elevator. Two hundred feet down it plunged, cushioning to a halt and then slowly toppling over at right angles to point its spire toward a black hole that yawned there. The observation chamber swiveled smoothly to keep its floor parallel with the plane of the earth.

Deimos reached for the control panel and pressed two buttons swiftly. Instantly a living glow of golden light illumined the entire worm, a shield of pure energy which protected the outer shell. And then, slowly at first, the worm began to revolve, screwing itself forward by its worm gear into the black mouth of the tunnel. The observation chamber remained constant.

Phobos moved over and laid his hand gently on his brother's shoulder.

"Delancey is not so mad, scientifically," he telepathed. "There's a sheer energy drive to this thing. With a few changes, I think we could gear it up so that it will be controlled by our own mental impulses besides. When we

have recuperated all of our vitality, this will make—”

“An excellent substitute for the gravi-slide machine we wrecked upon landing on this planet,” Deimos finished for him.

How long by Earth time they bored their way in the track of the first mole the twins did not know. But at length they came to the end of the tunnel and could feel the tip of the borer biting into solid rock. Instantly Deimos reversed the worm, and the machine halted and then moved back a few feet.

“This way!” flashed Phobos, peering up through a window.

DEIMOS pressed a couple of studs. The nose of the borer rose, and their progress was resumed at an angle approaching the vertical. Phobos pressed a hand against his head.

“I feel the vibrations of Delancy’s brain,” he telepathed his brother. “He is close before us, but where are we? Perhaps we had best turn slightly aside in order to overtake his borer.”

“Of what use?” impuled Deimos, indicating a detector gauge before him, the needle of which was quivering. “Delancey knows by his own gauge that we, or somebody, is following him. There is no chance for secrecy. Let us try speed.”

He manipulated the controls, and the purring grind of the borer rose to a screaming pitch. There was a lurch, a tremendous crash, and they flashed into broad daylight. It was morning in the heart of Times Square!

“Look!” telepathed Deimos, nodding at the scene about them as he swiftly cut the gear controls which brought the red mole to a stop.

They could hear nothing through the walls of the machine and the shell of golden energy, but they could see. Fifty feet beyond them, thrust boldly out of the asphalt paving like an ex-crescence from hell, was the red mole of Dr. Delancey. It had overturned a Seventh Avenue bus in bursting through the surface. People were running and screaming, madness and terror depicted on their faces. Three blue-uniformed police officers were courageously but futilely charging the

first mole and firing their automatics at the three weird, green-headed robots in the observation chamber.

Dr. Delancey was directing his two robots which were operating the ray guns. The projectors suddenly poured out blinding lances of gold, streams of sheer, blazing energy that consumed everything they touched. A tall office building suddenly crumpled in the middle and started crashing down to ruins before Delancey could get his robot-focused rays under control. In the Falcon Building just across the side street a group of world-famous men, the emissaries of peace, heard the uproar and the resultant series of crashes—and never knew that their own destruction had been just so intended.

The unfortunate police officers melted away like snowflakes before the blinding shafts of energy. Deimos and Phobos manned their own ray projectors, trying them out before revolving their control chamber to focus upon the mad scientist’s machine. Then, when they did so, they saw it was useless. Each energy-sheathed worm was impervious to the other.

The two brothers looked at each other. What might have passed for a smile appeared on each of their faces.

“Mental projection,” impuled Deimos. “It is the only way we can defeat him.”

“What, again?” almost sighed Phobos. “Burn out our brains once more, and wind up in the museum for good!”

But neither of them hesitated. Quickly they clasped each other’s hand and gripped the control handle of each ray projector with the other. They concentrated together, like a fused dynamo. And suddenly there was a sound like a clap of thunder. The golden rays from their two projectors, shining full on the observation port of Delancey, turned a greenish violet hue. The crackle and smell of ozone filled the outer air. And then, quite suddenly, the mole of the mad scientist exploded into bits and was no more.

While fragments of red metal were still raining around, the two brothers from Mars unclasped their hands and

shut off their ray projectors. They looked at each other in astonishment. Instead of feeling weaker, they felt immensely stronger.

"The energy of our own machine has protected us," telepathed Deimos. "It has built us back to what we once were."

"We are safe—and sound!" impulsed Phobos. "Let's have a look at the power plant beneath this trap-door."

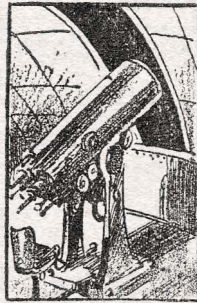
He opened the door in the floor of the chamber and swiftly made his way down an iron ladder into the maze of wiring and motors below. Pulsating now in a brilliant outline of magnificent energy, he assimilated the entire principle of Delancey's machine in a few seconds. Swiftly he made a few adjustments and changes.

"Hurry, Phobos!" Deimos telepathed from above. "A crowd is gathering. Men in blue are rolling up a queer sort of projectile gun to shoot at us. We can't blame them. They don't understand."

Phobos finished his work and climbed the ladder. Closing the trap-door, he gestured to his brother, including the heavens with a wide sweep of his arm. Deimos nodded and depressed a couple of buttons. Then he reached out his left hand, and Phobos grasped it with his right. Both of them gripped the control panel with their free hands.

The worm began to revolve with a rapidly accelerating speed. A coruscating glow of violet light filled the observation chamber, blotting the twins from the view of the frantic populace outside. Then, with the effect of a skyrocket, the spinning mole shot into the air and curved out of sight beyond the eastern horizon. The two Martians had converted the mole into a mind-energy controlled space ship.

Phobos and Deimos, the Heavenly Twins, had visited Earth and had departed. And mankind was no wiser concerning them than it had been before.



The Story of GUSTAV ROBERT KIRCHHOFF, Discoverer of the Spectrum, in THRILLS IN SCIENCE Next Issue



SCIENCE *Question* BOX

MASS OF STARS

Editor, SCIENCE QUESTION BOX:

I have read references to dwarf stars in your magazine, as being composed of matter thousands of times heavier than anything we know. How can anyone tell what the stars weigh?—J. S., Brooklyn, New York.

The existence of very dense dwarf stars is a theory based on very complicated reasoning. As a matter of fact, very few of these peculiar objects can be seen—about five—as they are much dimmer than ordinary stars, and must be very close to be seen in the largest telescopes. But one is the “companion” of the bright star Sirius, a very near neighbor, astronomically speaking, of ours; and another of the star Procyon, almost as close.

Now, since the stars Sirius and Procyon move in space in curved lines (a fact observed before their companions were found), there must be a mass comparable to their own attracting them. The planets undoubtedly cause the sun to curve in its motion through space, in a similar manner, but in a very much lesser degree; for their mass is comparatively very small. But the dwarf stars evidently have masses which can be compared with those of their big partners.

But the dwarfs, though dim, have very white light; which shows they are very, very hot, and therefore shine with a high candle-power per unit area of their surfaces—much greater than that of the sun, which is rather

cool and yellow, as stars go. The only conclusion is that the surfaces and, consequently, the diameters of the dwarfs must be very small.

But, if we have a star which is evidently more than half as massy as the sun, shining with 1/10,000 of the sun's light, and yet with a light which should be nearly a hundred times as bright per square mile as that of the sun, we can only suppose that the star, no bigger than one of our planets, is thousands of times heavier than the planet; and must be, consequently, of matter much denser than anything we have experienced.

There are, perhaps, other hypotheses to which we might resort—that the light of the dwarf is attached to a dark body of great mass. But there are various technical reasons for rejecting this, and for supporting the theory that the dwarf star is of intensely heated matter, thousands of times denser than its bulk of water, and jammed together by its own gravity, against enormous electric pressures which would tend to force it apart. It is one of the subjects on which science is still anxiously looking for further evidence.—Ed.

ORIGIN OF THE MOON

Editor, SCIENCE QUESTION BOX:

According to astronomers, what is the most feasible theory which explains the origin of our moon?—F. A. L., Cleveland, Ohio.

The answer to this question is given in the tidal evolution theory. According to it, our Earth, when it broke off from the sun eons ago, was undoubtedly a perfect sphere of gas, a miniature sun. However, the gaseous Earth, a boiling globe spinning furiously in cold space, became distorted by the celestial forces battling for mastery of its body into a spheroid resembling the body of a pear. The stalk end of the pear developed a bulb, and the waist of the stalk became thinner and thinner

as the infant globe continued to rotate at a mad pace which made a day only three hours long.

The distortions from which the liquid globe was suffering ultimately led to its disruption, and the bulb of the pear-shaped Earth was wrenched loose to become a separate body! The moon was born in this cataclysm, and Eddington and other scientists are inclined to look upon the Pacific Ocean as a souvenir of that extraordinary drama.—Ed.

PLANETARY ORBITS

Editor, SCIENCE QUESTION BOX:

Have astronomers plotted out the orbits of the various planets? As far as I know, the orbits of the outermost planets are still uncharted.—E. K., Princeton, N. J.

Astronomers are hard at work with intricate calculating machines working out the correct orbits of the planets Uranus and Neptune. These two planets, together with Pluto, are the only ones that are still uncharted. It will take another four years to complete the work.

The tables of motions of the planets were worked out by the famous American astronomer, Simon Newcomb, near the turn of the century, and first made available in 1903. For the six inner planets from Mercury to Saturn the Newcomb tables are in satisfactory agreement with the motions of these planets. But the outermost planets Uranus and Neptune soon showed motions not in accordance with the Newcomb tables.

At the present time the position of Neptune is from four to five minutes of arc away from

the position predicted by the Newcomb tables. Uranus shows smaller discrepancies but it, too, needs a recomputation of its table of motions.

A major factor in the errors in Neptune's orbit has been the influence of the planet Pluto, discovered only in 1930 and of course unknown at the time that Newcomb made his original calculations. It appears that Pluto and Neptune had a relatively close approach about 40 years ago and the mutual gravitational attraction made serious perturbations in the orbit of Neptune.

When the new calculations are finished astronomers will again be able to predict accurately the motion of the planets, an accomplishment which has always been one of great pride and usefulness to the science of astronomy.—Ed.



HAVE you scanned this issue of **STARTLING STORIES** from cover to cover? Then you must have noticed the work of scientfiction's newest cover artist—E. K. Bergey.

Mr. Bergey has been illustrating covers for our various companion magazines for several years. And many of you have probably seen his work on the covers of such leading national magazines as the *Saturday Evening Post*, and others.

Mr. Bergey is a newcomer to the field of scientfiction, however, and his painting for "The Worms Turn" represents his second successful effort. Where is his first effort? On the cover of the Summer issue of our companion fantasy magazine, **CAPTAIN FUTURE**, on sale at all stands! And it's a humdinger, too, illustrating a swell scene from a great novel, **CAPTAIN FUTURE'S CHALLENGE**.

Write in and let us know how you like the latest addition to **STARTLING STORIES'** art staff. As for Howard Brown fans—see the current issue of **THRILLING WONDER STORIES**.

Something New!

Is there something new in fantasy literature? We say yes, and offer **THE KID FROM MARS**, a complete book-length novel by Oscar J. Friend. This exciting novel, scheduled for the September issue of **STARTLING STORIES**, opens a brand-new vista in the realm of pseudo-scientific literature. True, all our scientfiction novels are different . . . but here's one you'll remember for a long, long time. You'll find excellent characterization plus strong suspense in this distinctive novel of a Martian stranded on Earth. And look forward to the illustrations—they're by Schomburg!

Oscar J. Friend is the author of many popular mystery and western story books, several of which have been filmed for the screen. **THE KID FROM MARS** is his longest scientfiction work and is every bit as memorable as his powerful short stories, "Of Jovian Build," "Robot A-1," and "Roar of the Rocket." **THE KID FROM MARS** is an interplanetary story that begins in 1940—and

THE ETHER VIBRATES—with the letters sent in by loyal followers of science fiction. Add your voice! This department is a public forum devoted to your opinions, suggestions and comments—and we're anxious to hear from you. Remember, this is **YOUR** magazine and is planned to fulfill all your requirements. Let us know which stories and departments you like—and which fail to click with you. A knock's as welcome as a boost—speak right up and we'll print as many of your letters as possible. We cannot undertake to enter into private correspondence. Address **THE ETHER VIBRATES**, **STARTLING STORIES**, 22 West 48th St., New York, N. Y.

transports you into the future. You'll want to see more long novels by Friend!

A Hall of Fame Story

Many years ago, Alphonse Berget said, writing in *Candide* (Paris): "May not our Universe itself, huge as it seems, be for some vaster being nothing but an aggregation of molecules, of which each is a solar system?"

That's the thrilling theme behind **THE WORLD WITHOUT**, the classic story chosen for the next issue's **HALL OF FAME** selection. If you are one of the thousands who were entertained by Robert Moore Williams' recent novel, "The Bridge to Earth," wherein man battled the microscopic organisms in the bloodstream, then you'll want to read this daring story of men in miniature, at bay with the unknown.

THE WORLD WITHOUT is authored by the famous British author, Benson Herbert, and it gives us great pleasure to present it for publication once again.

Other distinctive stories by star writers in the September issue of **STARTLING STORIES**, plus all our regular scientfictional features. Jack Binder portrays the life of the world's pioneer astronomer, Galileo, in his popular series, **THEY CHANGED THE WORLD**.

Arthur K. Barnes contributes a guest editorial. More **THRILLS IN SCIENCE**, another **SCIENTIFIC CROSSWORD PUZZLE**, and news of a forthcoming contest! Ace fiction, features and fact in the scientfiction magazine that leads the field!

Our Companion Magazines

No one has ever explored the weird Machine City of Mars. No one has ever roamed the Mistlands of Saturn. That is, no one but that strange band of adventurers—The Futuremen! Prepare for the next issue of **CAPTAIN FUTURE**, wherein the red-headed Wizard of Science, together with Grag, the robot, Otho, the android, and Simon Wright, the Brain, explore the mysteries of Saturn.

THE TRIUMPH OF CAPTAIN FUTURE is the title of this fourth account of
(Continued on page 124)

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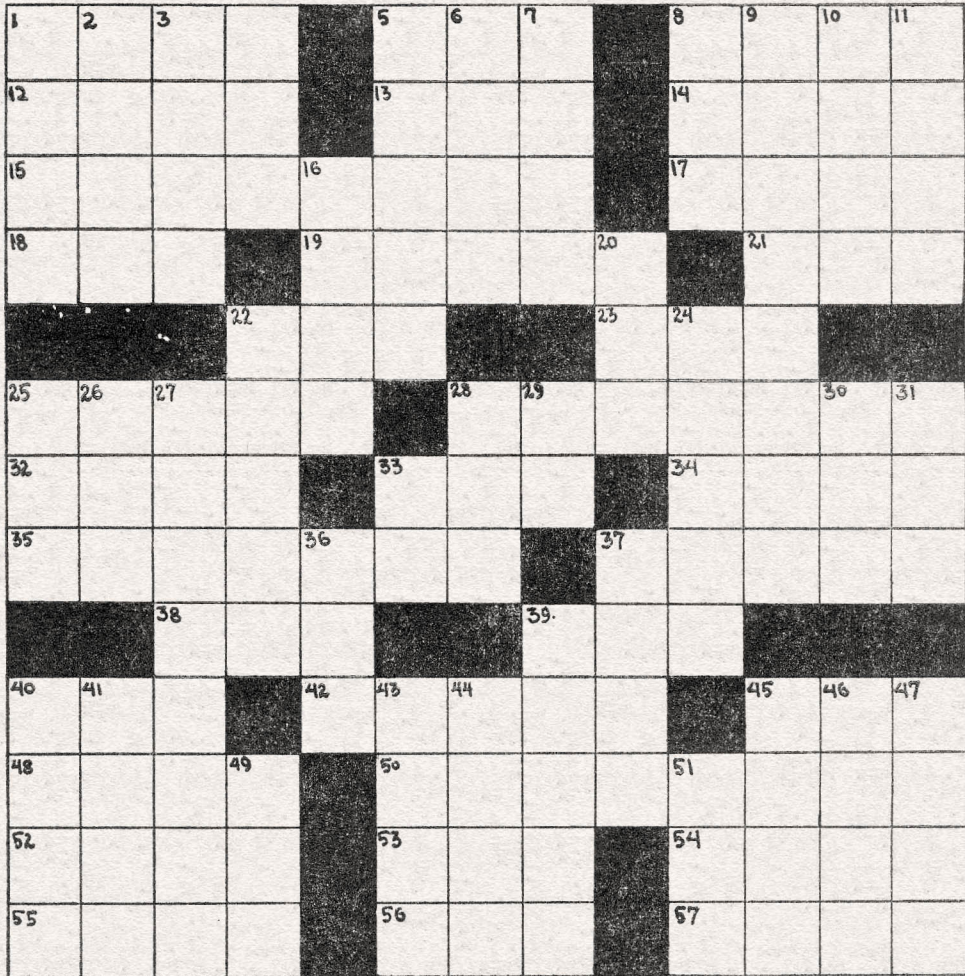
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SCIENTIFIC CROSSWORD PUZZLE



HORIZONTAL

1. Quantity of matter in a body.
5. Oily, solid substance deposited in the cells of the adipose or cellular membrane.
8. Amorphous, massive, variously colored hydrous silica.
12. One of the Great Lakes.
13. An organ or part resembling a wing.
14. Large upper portion of the hip-bone (pl.).
15. Loose lens-shaped mass of cells belonging to the corky layer of plants, considered a breathing pore.
17. Biconvex transparent body situated behind the iris of the eye.
18. A toe (Scot.).
19. Forest-tree of the oak family.
21. International Union of Technicians (abbr.).
22. Egg of a louse or other insect.
23. Age.
25. Extremities of an axis of a sphere.
28. Having the character of a minute, primary cell.
32. Scent.
33. Aeriform substance possessing the conditions of perfect fluid elasticity.
34. Ten (combining form).
35. Mohammedan priest or monk.

37. Tubular well-boring bit having a valve and a screw for forcing the earth upward.
38. Cavern occupied by animals.
39. Noise made by a cow.
40. Subject of each conscious act or state.
42. Supposed medium filling all space.
45. Murmuring note, as of a dove.
48. Positive or non-acid component of a salt.
50. Light-yellow crystalline compound formed by the action of iodine on alcohol in an alkaline solution.
52. Pertaining to or situated near the ear.
53. Doctor of Literary Arts (abbr.).
54. Insulated conducting wires of an electric cable.
55. Habitation constructed or used by a bird.
56. Snake-like fish.
57. Ardor.

VERTICAL

1. Reduce from a solid to a liquid state by heat.
2. Plane surface within boundaries.
3. Function of an angle in a right-angled triangle.
4. Eggs found at one time in a nest.
5. Unit of a compound eye.
6. At or to the lee side.

7. Soft hydrous magnesium silicate.
8. Greasy liquid, of vegetable, animal, or mineral origin.
9. Group of stars in the constellation Taurus.
10. One of a peculiar, hairy race found as uncivilized tribes in northern Japan.
11. Remain in existence.
16. Wading bird, with cylindrical bill bent downward.
20. Female of the domestic fowl.
22. Cord-like structure by which sensations are transmitted to or from the brain.
24. Transmission of messages through space, without wires, by means of electric waves.
25. Seed-vessel of a plant.
26. Lyric poem.
27. Inverted curvature of a bone.
28. First word of a popular Chinese game.
29. Bone.
30. Frozen water.
31. Vehicle.
33. Geological survey (abbr.).
36. Suffix used to indicate hydrocarbons of the acetylene series.
37. Member of one of the Mohammedan tribes of the South Philippine Islands.
39. Small disk of metal, bearing a device, usually commemorative of some event or deed.
40. Very black.
41. Movable barrier, commonly swinging on hinges.
43. Periodic rise and fall of the oceans.
44. Cavity extending into any solid body.
45. Moderate in temperature.
46. Odd, in the sense of extra and occasional.
47. Phenomenon or incident regarded as a prophetic sign.

The Solution Is on Page 121—if you MUST look!

Featured in the July Issue
of Our Companion
Scientifiction Magazine

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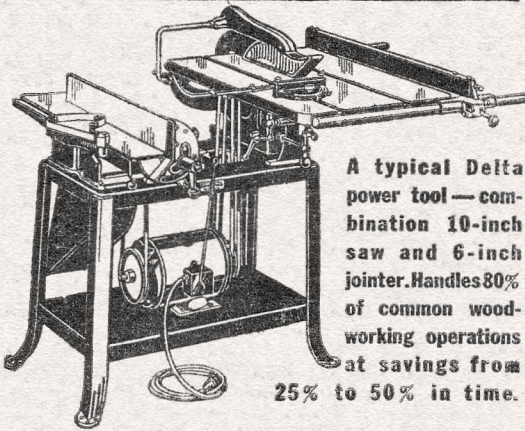
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MEET THE AUTHOR

Happy New Century! By EANDO BINDER

Author of "Five Steps to Tomorrow" and
Many Other Scientifiction Tales

YOU'VE met this author before (in biographical sketches in both **STARTLING STORIES** and **T.W.S.**), and there isn't anything left to say about myself. In fact, there wasn't enough before. Writers, as a class, lead unglamorous, ordinary lives and have all their adventures in stories.



EANDO BINDER

It's much easier to sit at a typewriter and do heroic things than to actually get on the move. And more economical.

Leading an adventurous life via stories is a soft touch. You get all the thrills without any of the inconveniences. Richard Hale, in this story, suffered and went through the mill. While he froze, I sat warm and cozy. While he lost sleep, I slept comfortably. While he ate stale prison food, I ate heartily. But when his triumphant moments came, I shared them. You can't lose by that system.

Take a little thing like the New Year's celebration at the start of the story. I'll never see the year 2000 (unless I reach 89, which wouldn't help anyway), but vicariously I did welcome in the New Century, along with Richard Hale. That's a little high-spot in my typewriter-life that can never go in a factual biography.

To say something about the story, its premise is that there will always be would-be Napoleons, trying to gain control of things. Today they try to control nations and even continents. Tomorrow they will try to control the world. By Tomorrow I mean the future in general.

Let's go behind the scenes for a moment. I've used the theme of one type of detective story—get your hero in a frightful mess. And then get him out. Make him suffer like the damned, and then make it all worthwhile. This intense sort of human drama is placed against a background of science and futurism, for contrast. In a way, it's an experimental medium, at least for me, and I hope it has turned out all right.

As for the science, I don't think it's daring or wild. No more daring than predicting radio, X-rays, radium, movies and the airplane in the last century. By extension, radium becomes controlled radioactivity, movies become movideo, X-rays become the spy-ray, etc.

BEST FUN, FICTION AND FOTOS IN

I might warn you that it's a grim, grim story. I shuddered at times, writing it. If you shudder reading it, that's the whole idea. Because when you're through, you'll feel glad you weren't in the protagonist's boots. I hope you like the story, anyway.

SOLUTION TO CROSSWORD PUZZLE (SEE PAGES 118-119)

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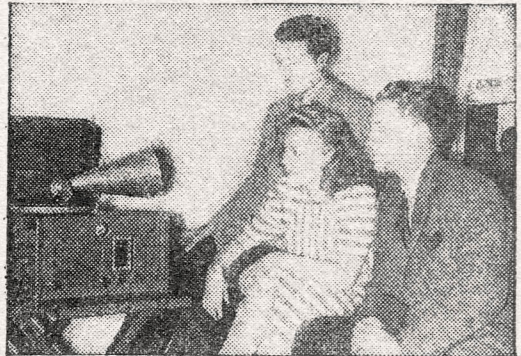
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REVIEW OF THE SCIENCE FICTION FAN PUBLICATIONS

(Complimentary sample issues of fan journals listed here are available to readers. When requesting your specimen copy, please enclose a three-cent stamp to cover postage. Address your requests to the individual fan magazine editors, and please mention **STARLING STORIES**.—Ed.)

STARDUST. 2609 Argyle St., Chicago, Ill. Edited by W. Lawrence Hamling, Neil De-Jack, Chester S. Geier, Harry S. Warner, and Howard Funk.

Second issue of this giant of the fan-mags eclipses initial number, and anything else offered by present flock of amateur journals. Attractive cover by Jack Binder tops this issue. Fiction and articles by such luminaries as Robert Moore Williams, Willey Ley, Dale Tarr, Amelia Reynolds Long and Forrest J. Ackerman also included. Mag is printed on slick, glossy paper, embellished with profuse illustrations, and is the king of its kind.

GOLDEN ATOM. 48 Lewis Street, Rochester, New York. Edited by Larry B. Farsaci.

Semi-anniversary issue puts this mag in big-league company. Features verse by the late H. P. Lovecraft, excellent fan articles and anecdotes. Article on Ed Hamilton coming up!

1939 YEARBOOK OF SCIENCE, WEIRD AND FANTASY FICTION. Edited by Bob Tucker. P. O. Box 260, Bloomington, Ill.

Tucker's latest compilation of all fantasy fiction published during 1939, together with authors and other essential data, is the answer to a census-taker's dream. For the index conscious, for the fan who saves his magazines, for the curious, Tucker's Yearbook is as indispensable as the World Almanac in a business office. Alphabetical, chronological, neat and trim, this thirty-four page encyclopedia of current fantasy is just what the doctor ordered—for you, and you, and you.

SPACEWAYS. 303 Bryan Place, Hagerstown, Maryland. Edited by James Avery, Harry Warner, Jr., and Walter Marconette.

Attractive assortment of fan fact, fiction and features in April issue of this mag. Jour-

COMING NEXT ISSUE

THE KID FROM MARS

A Complete Book-Length Novel

By **OSCAR J. FRIEND**

PLUS MANY OTHER OUTSTANDING STORIES AND FEATURES

BEST FUN, FICTION AND FOTOS IN

nal has a warm, informal atmosphere, not found in many of its rivals. Breezy, chatty departments main reason for mag's success. Eric Frank Russell, Sam Moskowitz, star contributors in this number. Short story by W. L. Hamling, rather good.

SCIENCE FICTION COLLECTOR. 1700 Frankford Ave., Philadelphia, Pa. Edited by J. V. Baltadonis, Jr.

Striking idea portrayed on cover of latest issue. Adult presentation of articles, excellent subject matter for the science-fiction minded, notable here. Oswald Train's department, "The Eternal Wanderer," hits the spot.

THE ALCHEMIST. 1258 Race Street, Denver, Colorado. Edited by Charles Ford Hansen, Lewis B. Martin, and Roy V. Hunt.

Volume 1, Number 1 of this new fan-mag quite presentable, offering a good deal of fantasy fare that's appealing. Interesting commentaries on various aspects of science-fiction published here. Helping hand of Olon F. Wiggins, editor of Science Fiction Fan, has done right by these boys. Give this a once-over.

SCIENCE FICTION WEEKLY. 2574 Bedford Ave., Brooklyn, N. Y. Edited by Robert W. Lowndes, Dick Wilson, Leslie Perri, and Chet Cohen.

Here's a weekly fan-mag that scans the entire fan and pro front missing very little. Headline news in the fantasy world as it breaks, with the who, when, and where given in detail. Invaluable.

FANTASY-NEWS. 31-51 41st St., Long Island City, N. Y. Edited by Will Sykora, Jimmy Taurasi, Sam Moskowitz, and Mario Racic, Jr.

Also a weekly news-mag, and also a must. Remains as good as ever, with demon staff combing the s-f under and upper-worlds, publishing news before it breaks. Scientifilm news a weekly feature in this mag, if you're interested in flicker doings.

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THE ETHER VIBRATES

(Continued from page 116)

the exploits of the Futuremen—and it's a triumph for Edmond Hamilton, the author.

Human Carbon Copies

What would happen if science was able to create men in duplicate, be able to manufacture living, human carbon copies? Plenty—and that's the absorbing theme of **THE EXPERIMENT OF DR. SARCONI**, the feature novel for the July issue of **THRILLING WONDER STORIES**. Written by Harry Bates, veteran sciencefiction author, here's a novel that presents a unique scientific problem. See if you can solve it before the hero does.

Other excellent stories by Alfred Bester, H. L. Gold, Willard E. Hawkins and other favorites in this issue. And don't forget—Anton York returns soon to **THRILLING WONDER STORIES!**

LETTERS FROM READERS

WELLMAN'S CLASSIC SUPERB

By Billy Homes

"Twice in Time." Superb! Excellent! Magnificent! And as many other such adjectives as are in the dictionary. This story is surely destined to become a classic. It is, and I mean this, the greatest story I have ever read in ANY science fiction magazine at any time. This story will undoubtedly be read and re-read over and over many times in the future; talked about for years to come.

All through the story it led you to believe that Leo Thrasher was just Leo Thrasher. And then, the ending. The ending! Who would have guessed that Leo Thrasher was. . . I tell you, it had me vowing to subscribe to every science fiction magazine on the market for life, and then find out that I lacked quite a few dollars. It was a story that I will never forget.

After the novel, I found "Valley of Dreams" just another story. Oh, it was a good story all right, but after just reading Mr. Wellman's story, it seemed just likable.

The other two stories were quite good. I wish you would try someone else on the cover of both **STARTLING STORIES** and **THRILLING WONDER STORIES** besides H. V. Brown. Brown is all right, but he gets tiresome. Get Paul, Finlay, Wesso, and any other good ones, but let Brown rest for a while. Finlay's illustrations for "Twice in Time" were as good as the story itself. They were the best by Finlay since 1937.

Please put more stories of astronomers in "Thrills in Science." I thought the one about Galileo some time ago was very good.

Again may I say, congratulations to Manly Wade Wellman for the best story of 1940, or any year.—1513 Dunlavy Street, Houston, Texas.

A FIVE-STAR NOVEL

By Sam Moskowitz

In keeping with my promise I'm writing every time you print a yarn in one of your magazines that really deserves classic or near classic rating. Well, this time it's Manly Wade Wellman and his novel "Twice in Time." Positively one of the most absorbing, ingenious, yarns of its type ever written. Usually, when authors use the "Connecticut Yankee In King Arthur's Court" theme they come out a poor second to Mark Twain. But Wellman was

much too clever to go into active competition with good old Sam Clemens, he originated a variation of the theme that is strikingly original.

He doesn't attempt to turn his yarn into a feeble satire which practically every author who has used the same idea has done! Instead he turns it into a serious yarn, with a clear-cut hero and villain, and muffs few opportunities presented by the plot for an interesting story. Most authors instead of utilizing the intriguing situations possible in such a plot turn their story into a cut-and-dried action yarn where the hero might just as well have been a born inhabitant of the time as a visitor from the twentieth century. I could see where Wellman had to work hard to bring in such characters as Mona Lisa, Columbus, plausibly, but he pulled through all right. And not once did the yarn degenerate from good science-fiction into poor adventure. Wellman takes his place among those who have turned out "five-star yarns." A sparse field for which only two other novels, "The Black Flame," by Stanley G. Weinbaum and "The Prisoner of Mars" by Edmond Hamilton have qualified.

I look forward with decided interest to the Binder novel next issue. Binder has been hitting a terrifically high standard lately. I wonder if he can maintain it over a length of 50,000 words?—603 So. 11th St., Newark, N. J.

ARTISTS ON PARADE

By Charles Hidley

A note of thanks to S.S. for many hours of pleasurable reading, and seeing, too, for those Finlay illustrations are really something to rest one's eyes on. Although there was really very little of interest to put down for the action in "Twice in Time," the drawings were interesting, but those for "The Three Planeteers" and "The Impossible World" were truly superb. Schomburg did fine work for Kuttner's inspiring "When New York Vanished" and should be duly rewarded with more work. Why is Paul so stinted? He is now doing excellent art for many novels in other mags (your own T.W.S., etc.) and should be used for the book-length.

At last you give enough illustrations for the novel. I believe there should be one full-page pic for every ten pages in the story. All illustrations should be full page as are those on pages 31 in March and 57 in May.

The reader's department should of course be enlarged. Three or four of your superfluous dept's. could be rid of without much ado, especially puzzles, questions, and reviews. THRILLS IN SCIENCE could be reduced to one personage an issue. I like especially the long type of novel and the old stories. Also the way you use the original illustrations of these stories. This latter innovation is really interesting. The only one you didn't use was Winter's illustration for "Pygmalion's Spectacles."—New York City.

RARE FANTASY

By Walter E. Marconette

"Twice in Time" isn't the best novel STARTLING STORIES has ever printed—that distinction still belongs to Stanley G. Weinbaum's superb yarn, "The Black Flame"—but it is good. In common with so many book-length stories, it fails to hold the reader's interest after the first forty pages in the same intense manner as did the opening chapters.

This seems, to me at least, to be due to a certain quickening of action. Up to this time the author, figuratively speaking, has been loafing along. He has crammed a wealth of minor incidents and details into his work, and these serve to give fiction that necessary life-like quality. (Before your readers rise en masse to smite me down for that comment, let me hastily add that this business of minor incidents can be overdone.) After our author (this criticism does not apply to Mr. Wellman

(Continued on page 126)

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(Continued from page 125)

alone) has finished half of his novel, he suddenly becomes cognizant of the hideous fact that he has an enormous amount of ground to cover and not too many words in which to do it. Automatically he speeds up his story, and in the process a bit of the interest is destroyed.

The short story writer, of course, has this to fight throughout his yarn; and perhaps that explains why the average science fiction novel is usually better than the average short story of the same type. Naturally, there are exceptions to this rule.

Despite this general fault, "Twice in Time" has a certain freshness about it that is all too rare in contemporary fantasy. Mr. Wellman seems to have made a happy choice for the period of his story; and, as he himself remarks, Virgil Finlay's illustrations add much to the reader's enjoyment.

Mr. Wellman seems to have a penchant for using important personages as characters in his stories. And the way he transports them from one age to another! First we had "Giants from Eternity," and now "Twice in Time." What next? Napoleon smashing the Nazi "West Wall"?—2709 East Second Street, Dayton, Ohio.

SCIENTIFLAW

By J. Pepper

In your issue of May, 1940, in your novel, "Twice in Time," you stated that hydrochloric acid was used in dissolving copper. How was this accomplished? As you undoubtedly know, copper is below hydrogen on the electromotive

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series and thus will not replace the hydrogen to form copper chloride. Hydrochloric acid is a reducing agent, not an oxidizing agent and thus will not oxidize the copper to a valence of plus two or plus one giving cupric or cuprous chloride.

Please stick as closely as possible to the known scientific facts.—Golden Hotel, Golden, Colo.

A CALL FOR DOLD

By James Stillman

Keep up the good work in your excellent selection of stories. On the average they may be said to be unequalled by any other mag. Having passed the complimentary stage, let's get down to the business at hand.

First the stories: out of a possible five points, I would list this issue's stories in following order:

"Guinea Pig, Ph.D.": A good, human, interesting story; "When New York Vanished": Too utterly fantastic for its own good; "Station Death": Not very interesting, but had a good finish.

I think that it would be very hard to improve upon the departments and I cannot forward any suggestions as how to go about doing that.

Can any of the many contributors to this mag. tell me the whereabouts of an artist called Dold? I think that he draws machinery more clearly than any other artist.—Box 43, Wellesley, Mass.

HALL OF FAME CHOICE

By Edward L. Corton, Jr.

I enclose a quarter's worth of stamps for the complete Science Fiction Series.

The May issue of **STARTLING STORIES** is very good. I like the longer stories that you print in each issue. This month's novel, "Twice in Time," is one of the best time travel stories that I have read. Of the rest of the issue, I like the section **THRILLS IN SCIENCE** best.

For your Hall of Fame reprints I nominate "The Time Stream," by E. T. Bell (John Taine), which appeared in *Wonder Stories* several years ago. I had the issues originally, but loaned them to a friend who proceeded to lose them. I have been looking for these issues ever since but have never found anyone who owned them. I still want to buy them but would be well satisfied with a reprint.—709 West Third St., Waterloo, Iowa.

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**SCIENTIBOOK
REVIEW**

DR. CYCLOPS by Will Garth. 255 pages, Phoenix Press, New York, N. Y. . . . \$2.00

WORKING with the excellent materials inherent in the Technicolor production, "Dr. Cyclops," and adding significant and impressive touches of his own, Will Garth has provided his readers with an entertaining narrative that provides a pleasing mixture of adventure in the romantic background of the South American jungle; science-fiction in the revealing study of the plans and experiments of the super-scientist, Dr. Alexander Thorkel; and an appealing love affair between Dr. Mary Phillips and



© Paramount Pictures, Inc.

Albert Dekker as Dr. Cyclops

Bill Stockton, stranded American mineralogist.

Following the pattern of the screen story with fair accuracy, the author has given us an attractive picture of a small West Coast South American Seaport, life on the trail with its bullock-carts, rickety auto transport and mule trains.

Naturally the piece-de-resistance for readers as well as motion picture goers is the spectacle of five normal people each reduced to fifteen inches in height by the misguided experiments of Dr. Alexander Thorkel, their six-foot master.

The proper handling of the combat scenes naturally demands careful treatment, so that the altogether serious nature of the actions

BEST FUN, FICTION AND FOTOS IN

of the characters will provide realistic rather than grotesque drama. Mr. Garth has given the characters in the story appealing and understandable reactions to the strange world and its new obstacles that constantly confront them. He has managed to conceal the basis for the cruel murder of Dr. Rupert Bulfinch by Dr. Thorkel, dubbed "Dr. Cyclops," until the very end of the story, and with this trick of the writing craft has provided a twist that is worthwhile.

Those that have already had the pleasure of seeing the picture will no doubt have their own impression of the excellent photographic work and the trick devices that contribute so much to the entertaining quality of the photoplay.

Some new attractions will be found in the novel, inasmuch as there are many angles that the author has been able to capitalize upon, which ordinarily would not make good movie material. Mr. Garth has done well with these additional angles. "Dr. Cyclops" is a "must" for science-fiction fans.—C. S. S.

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29x4.75	20	2.45	30x4.00	2.95	30x4.00	3.65	30x4.00	1.65
29x4.75	20	2.45	30x4.25	2.95	30x4.25	3.75	30x4.25	1.75
29x5.00	20	2.50	30x4.50	3.00	30x4.50	3.95	30x4.50	1.75
29x5.00	20	2.65	30x4.75	3.15	30x4.75	4.05	30x4.75	1.75
29x5.25	18	2.80	30x5.00	3.25	30x5.00	4.15	30x5.00	1.65
29x5.25	20	2.95	30x5.25	3.50	30x5.25	4.25	30x5.25	1.65
31x5.25	21	2.45	30x5.50	3.25	30x5.50	4.35	30x5.50	1.65
31x5.50	21	3.35	30x5.75	3.75	30x5.75	4.45	30x5.75	1.65
28x5.50	19	3.35	30x6.00	3.95	30x6.00	4.55	30x6.00	1.65
29x5.50	19	3.35	30x6.25	4.15	30x6.25	4.65	30x6.25	1.65
30x5.50	19	3.40	30x6.50	4.35	30x6.50	4.75	30x6.50	1.65
30x6.00	18	3.40	30x6.75	4.55	30x6.75	4.85	30x6.75	1.65
31x6.00	19	3.40	30x7.00	4.75	30x7.00	4.95	30x7.00	1.65
32x6.00	20	3.45	30x7.25	4.95	30x7.25	5.05	30x7.25	1.65
32x6.00	21	3.65	30x7.50	5.15	30x7.50	5.15	30x7.50	1.65
32x6.50	20	3.65	30x7.75	5.35	30x7.75	5.25	30x7.75	1.65
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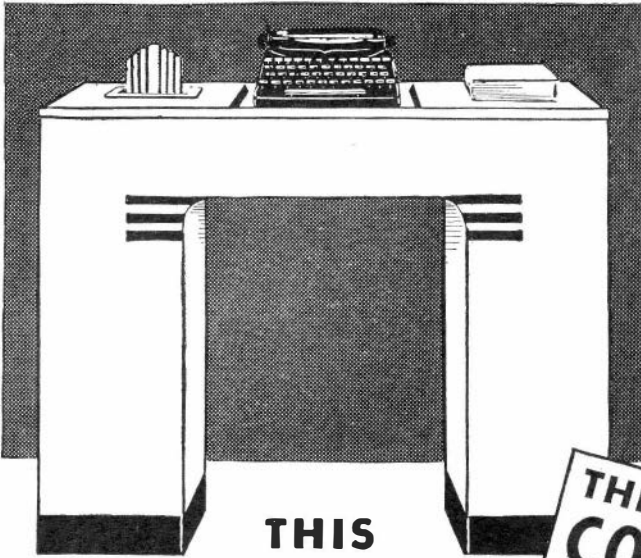
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