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No. 12

AMAZING STORIES

HUGO GERNSBACK
EDITOR

AMAZING STORIES — SCIENTIFIC FICTION



Stories by
H.G. Wells
Jules Verne
Geoffrey Hewelcke

PAUL

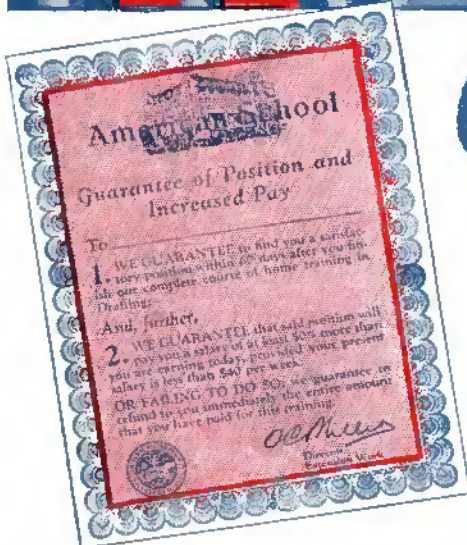
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JULES VERNE'S TOMBSTONE AT AMIENS
PORTRAYING HIS IMMORTALITY

AMAZING STORIES

March, 1928
Vol. 2, No. 12

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Owners of Broadcast Station WRNY

In Our March Issue:

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- Baron Münchhausen's Scientific
Adventures**
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- The Flowering of the Strange Orchid**
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- The Master of the World**
(A Serial in 2 parts) Part II
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- Lakh-Dal, Destroyer of Souls**
By W. F. Hammond..... 1184
- Sub-Satellite**
By Charles Cloukey..... 1194

Our Cover

This month illustrates a scene in the story entitled, "Lakh-Dal, Destroyer of Souls," by W. F. Hammond, in which Lakh-Dal flashes his concentrated rays of isolated moonbeams, or "Lunacy Rays," straight in the face of the unfortunate Chinese victim.

In five minutes, the man became a hopeless lunatic, whose vacuous and grotesque mouthings were fearful to behold.

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THE STORY OF THE DAYS TO COME, by H. G. Wells. We are always interested when we read a story of the far future, and of the wonders that might be in store for our descendants. But when such a story is written by H. G. Wells, it becomes all the more realistic and the more absorbing. What will the world look like several hundred years hence? Read this excellent story in the next issue.

THE MIRACLE OF THE LILY, by Clare Winger Harris. Insects are and were man's greatest enemy. What if they should gain ascendancy over human beings once more? Such a thing is not nearly as impossible as it appears at first glance. At any rate, the author, who is also the third prize winner of our \$500.00 contest, weaves a fascinating story around this idea.

THE RETURN OF THE MARTIANS, by Cecil B. White. Being an astronomer, our author is well informed on the subject and in this sequel to "THE RETREAT OF MARS," he gives us a most unusual, as well as powerfully written, story, which is not too technical to hold the interest of any reader, no matter what his inclinations might be.

BARON MUENCHHAUSEN'S SCIENTIFIC ADVENTURES, by Hugo Gernsback. In the next instalments, we find our resourceful Baron, in his quest for further first-hand information about the universe, moving through interstellar space again. This time he lands on Mars.

THE ANCIENT HORROR, by Hal Grant. Pre-historic monsters are no novelty in literature, but here is one so totally different and the story is so well written that by the time you are through reading the story, you will not be at all sure that it is not entirely truth that you have read. This is an excellent tale that is sure to give you a half-hour's interesting reading.

And Others.

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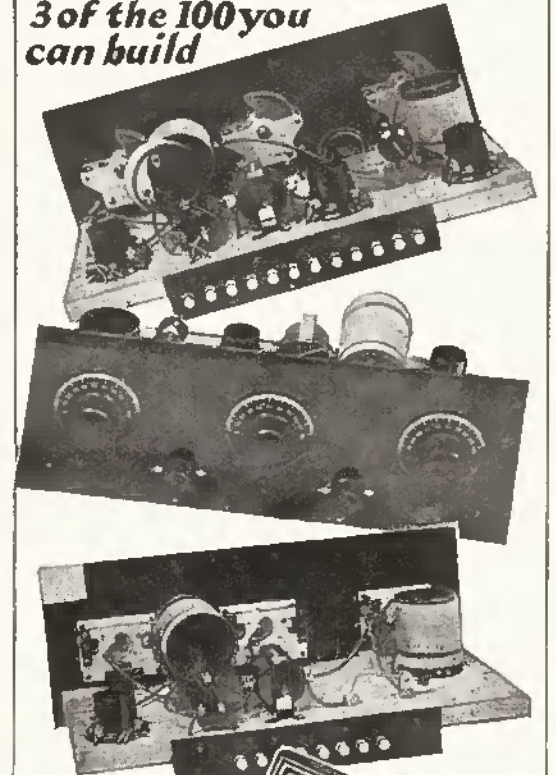
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Jesse G. Vincent was a toolmaker before he enrolled with the I. C. S. He is now Vice-president of the Packard Motor Car Company. Walter Chrysler, President of the Chrysler Motor Corporation, is also a former I. C. S. student.

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AMAZING STORIES

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AMAZING THINKING

By HUGO GERNSBACK

THERE is little doubt that one of the most remarkable devices—as a matter of fact the most improbable device—that ever appeared on this planet, is the human brain in its capacity to think. While it is my opinion that practically all living creatures of every description do some sort of thinking, in the human species, we find the phenomenon of thinking on a rather high plane. Or so it would seem to us. To the visitor from Mars it might appear ludicrous.

Dogs, horses and other animals undoubtedly think, and many examples can be cited to show that they do. Yet, lower forms of animal life also think, the difference being only in the matter of degree. The, to us, important organized phenomenon which we unthinkingly call thinking is higher when assigned to the vertebrate class. A dog, in many respects, can think just as well and as fast as the human being on certain simple problems. The simpler the problem, the better is the dog's thinking.

There is, of course, a vast difference between thinking and reasoning. It may be said that a dog or horse cannot reason to any large extent, although he can and does reason on simple matters. When a dog or cat is taken away from home, it finds its way back without much trouble. This going back home is a form of reasoning, and must not be called instinct, any more than it is instinct when a human being goes home or goes to the house of a friend. The reasoning here is perhaps subconscious. Dogs can be trained to open doors, to bring their masters' slippers and perform other useful work in which a certain amount of reasoning—admittedly slight—is required, but I insist that it is reasoning, although on a low plane.

When we come to the insect world, such as ants, we certainly find a very high order of thinking and a relatively high order of reasoning. The processes involved with ants or bees in thinking and reasoning are probably similar to those used by human beings. While they may not be as complex, they may, on the other hand, be more complex than ours, although we do not know it. The ant, for instance, may have purposely unlearned everything that human beings ever knew or may know for a long time to come, because they might have found out that they could get along without these things much better than with them.

One should not forget that the ant has been on earth many millions of years, before the human race appeared, and that during that time, they had a far better opportunity to adapt their thinking and reasoning processes to their lives.

In his interesting book, "The Ant People," Dr. Hans Heinz Ewers gives hundreds of examples of the very high order of intelligence and reasoning powers of ants. Very few people know that the ants actually do very many of the things that human beings do, and in many cases do them much better.

In their engineering and building work, the ants certainly know as much and are more efficient than men. The ants are not only builders and engineers, but they are carpenters, weavers, cattle raisers, mushroom growers, and paper makers. They raise nurses, they use organized war-

fare and they possess that most human quality—periodically they go off on a drunk and become intoxicated.

It may be said that any work that requires planning, also requires thinking, intelligence and reasoning. The ants certainly possess these faculties to a marked degree, and perhaps to a higher degree than human beings do. For one thing, the ants are far more efficient than we, and their work is purposeful, whereas that of human beings may not always be placed in that class.

We are probably agreed upon the fact that human beings get into more mischief due to thinking and reasoning than if they were not thus handicapped. We pride ourselves on the fact that this is what makes us human and lifts us out of the animal class. I grant all this, but I question if it is always of benefit. In other words, with all our thinking and with all of our reasoning, we still have to use the hit and miss system to find out whether we are right or wrong.

If our minds were so constituted that we could reason out everything exactly beforehand, then we would derive a great benefit from the thinking operation, but this, of course, is out of the question, because too many other factors, particularly those produced by other thinking—or unthinking—persons, tends to nullify the best reasoning. Here the ant, for instance, has the better of the human being because it has adapted itself to its circumstances in such a way that there is a minimum of interference due to irrational thinking and wrong reasoning. On the other hand, while we pride ourselves on our ability to think and reason, we do very little actual thinking or reasoning. The more we advance, the more a few of us do the real thinking, while the rest of us become more or less instinctive automatons. Actual hard thinking involves a tremendous effort that few of us cherish. I will probably be denounced when I insist that 90% of our thinking during working hours is not thinking at all, but might more accurately be termed instinct or automatism.

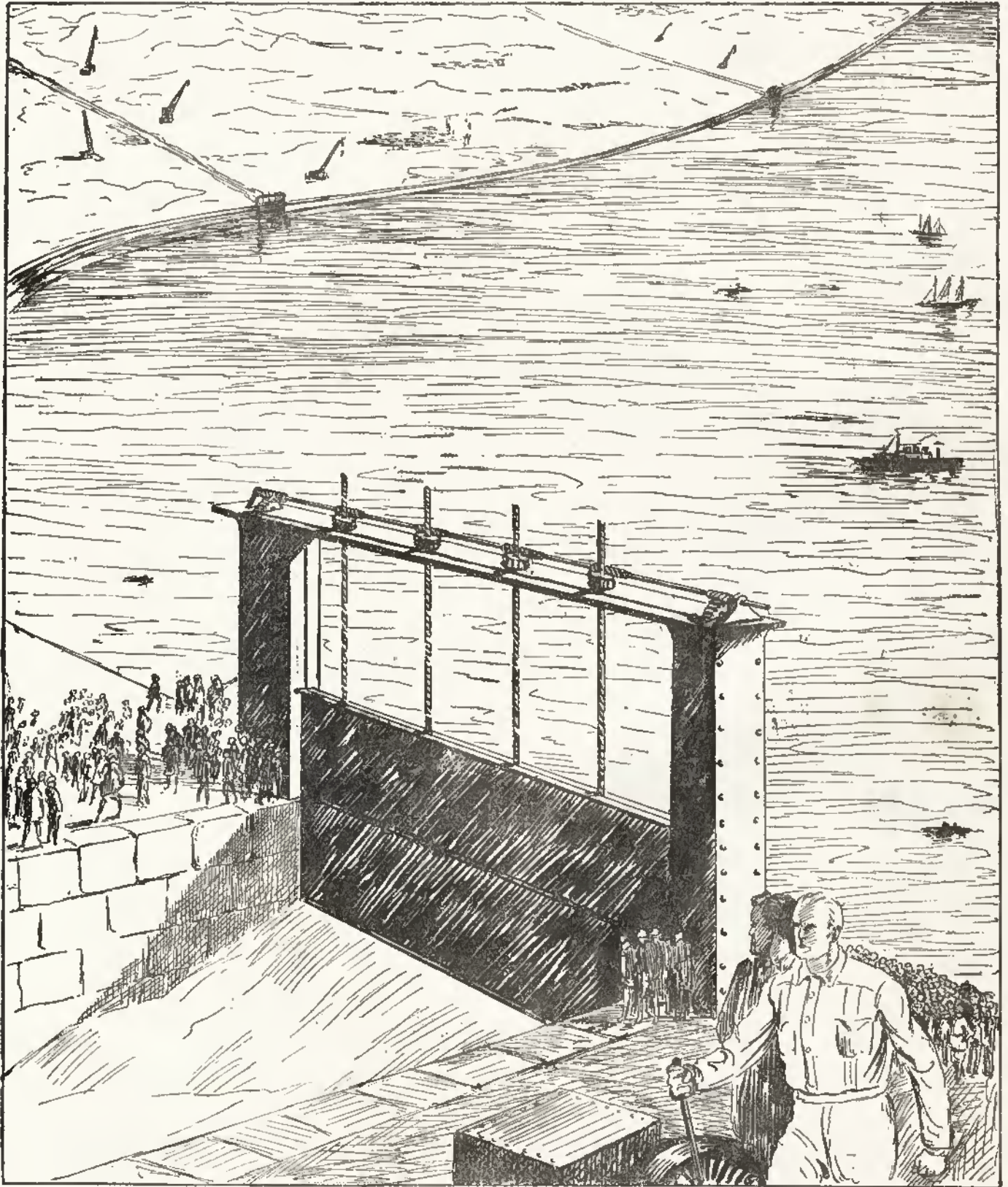
From the time we get up in the morning until we eat our breakfast, we do not, as a rule, think. We go through the necessary motions by habit. If you are not a business man, weighed down by difficult problems, you will probably not do much thinking during the forenoon, either. A few simple problems may come up, which you are going to solve as they follow one another—habit again.

Very little reasoning is used by the average man in an average position. As a matter of fact, an estimate of 20% actual hard thinking during the day, which means solving of problems which are new and have never been tried before, making decisions on new and unfamiliar situations, are few and far between for the average person. Most people, not accustomed to thinking things out, can do so for only a few minutes a day, because the strain on them is too great. Even the professional thinker, the man who actually originates day in and day out, works by a system and goes largely by precedents. There are probably not six humans on the entire planet who do 80% of actual thinking and actual reasoning on new and untried paths during their working hours.

The amazing part of thinking and reasoning is how little they are practiced—how little of these is really done.

TEN MILLION MILES SUNWARD

by *Geoffrey Hewelcke*



Farintosh, with a sudden stiffening of his body, pulled down the black bar. A soft whirring of machinery filled the air. Steel cables creaked and began to move, then slowly and ponderously the giant shutters rose.

CHAPTER I

The Celestial Enemy



HERE have been many histories of the extraordinary happenings of the last four years—some substantially correct, but more of a luridly fantastic type that aimed to catch the pennies of the people rather than to give a true story of the narrow escape of the earth from a danger that threatened to destroy it. Therefore, for some time past, I have been thinking of writing a short but historically accurate account of the momentous times we have just passed through. Indeed, only the pressure of work in our recent period of reconstruction has prevented my doing so. Judge, therefore, my pleasure when I received a letter from the Secretary for Education, asking me to do this very thing, and to put the narrative into the form of a story so that the school children may more easily assimilate it.

On the twenty-fourth of September, 1933, Professor Arnheim of the Astronomical Observatory of Berlin discovered a new star of the fourteenth magnitude in the constellation of Cassiopeia. This was nothing very extraordinary, as new stars are being discovered continually, and, after Professor Arnheim had received the congratulations of his colleagues, the star was promptly forgotten.

It was not until June of next year that Dr. Lanning of Greenwich Observatory, London, found that the new star had increased in size to the twelfth magnitude and that it had changed its position. Promptly, Dr. Lanning announced to the world that it was a new comet and not a star, and that he would determine its orbit later. Unfortunately, other work intervened.

On the evening of January the fourth, 1935, I was in the office, having just returned to New York from Europe, when the telephone rang and a strained voice, that I barely recognised as Farintosh's, asked me to come over and see him immediately. Before I could ask a question, he violently slammed the receiver on the hook, and, when I tried to get his number, the exchange calmly informed me that his line was out of order and that, therefore, he could not have called me up.

I was naturally a little out of temper when I took a taxi to the suburb where Farintosh lived, but, by the time I got to the house, my irritation had evaporated and left instead an ardent curiosity as to what the thing was that had disturbed my friend out of his customary phlegm.

Farintosh was nervously pacing his study when I entered. "Martin," he cried, and gripped me warmly by the hand. "You're a good fellow to come so quickly. I need your help more than I've ever needed any man's."

I stared at him in horrified amaze. Before me I saw Farintosh indeed, but a Farintosh who was shockingly changed.

The man looked absolutely worn out with fatigue. His face was seamed with lines that aged him by

twenty years, while his eyes wore the inexpressibly weary look of a man who has not slept for weeks. Even as I stared at him he swayed and had to steady himself against the wall.

"Rob, you're sick," I exclaimed.

Immediately my friend straightened up. "No," he said. "Not bodily, anyway," and strode over to his working table, which was littered with sheets of paper, closely covered with mathematical calculations. He motioned me to a chair.

"Look here, old man," he began earnestly. "You have no doubts as to my sanity, have you?"

The question startled me, but he was obviously so much in earnest, that the flippant reply died on my lips.

"You're as sane as any man in New York," I assured him.

For a moment Farintosh looked a trifle relieved, but almost immediately the strained look reappeared. He twitched his hand in a gesture eloquent of hopelessness. "I'm half sorry you think so," he said with a crooked smile. "It means that I cannot have imagined it."

"Imagined what?" I broke out.

"Martin," my friend replied, "for the last forty-eight hours I have hoped that I had made a mistake in my calculations, or that I am mad and have imagined the whole thing. But you say that I am sane, and I have sufficient faith in myself to know that I could not have made the same mistake ten times over, for that is the number of times I've checked my workings."

"You know darn well you've not made any mistake ten times over," I cried. "I've been long enough in college with you to know that. But what's this all about? Tell me before I burst!"

My friend smiled for a moment at my indignation, then rose and beckoned me to follow him out into the garden.

It was a cold and frosty night with the moon, a bright half sphere, just over the roofs. The stars seemed near, like tiny fairy lamps hanging from a velvet canopy of the deepest indigo. I wondered

for what purpose Farintosh had brought me out here, when, suddenly he stopped and with a dramatic gesture flung his arm up to the skies above the house.

"Do you see Cassiopeia?" he asked and pointed to the constellation of that name. "You see that small star a little to the left?"

I craned my neck backwards and managed to

catch a glimpse of the pin-point of light.

"I see it," I said.

Farintosh gripped me savagely by the arm. "Man," he said huskily. "You see the approaching destroyer of the world."

I started back. Farintosh was not given to making foolish jokes. A beam of light, from a window, fell across his face and showed me his mouth working with emotion. His eyes stared. Could it be that—

A grim laugh interrupted my thoughts. "Martin," said my friend. "I can read your mind as plainly as a book. No. I'm not mad. You your-

HERE is one of the cleverest stories and one of the most absorbing ones that we have seen for some time. The story advances the novel point as to whether it is possible, by human means, to change the center of rotation of the earth and the position of its axis by human energy. It is known, for instance, that the action of the tides caused by the moon, tends to slow up the motion of the earth, and our scientists tell us that this phenomenon will lengthen the day considerably throughout the ages. Frankly, though, there is something wrong with the story. See if you can find out just what that "something" is.

self told me that not five minutes ago. And my imagination has not played me a trick—though, God knows, I only wish it were a trick.”

I was thunderstruck; but after the first moment I never doubted the truth of what Farintosh was saying. Again I looked at the fiery little spark in the sky. “That little thing?” I protested, unwilling to admit it, yet knowing that it must be true.

“That little thing is several hundred times larger than the earth,” retorted Farintosh.

“But, Good Lord, how can it destroy the earth?” I gasped.

“Let’s get indoors again,” suggested my companion. “I’ll explain to you there what is going to happen.”

In his study I took a seat, but Farintosh was too excited to keep still. I don’t think I yet quite realized the full meaning of what my friend had foretold. It seemed such an abstract thing to me. I remember thinking that it was rather a pity that this good old world should be doomed to destruction. It did not strike me that I would be affected personally.

Farintosh stopped his pacing and stood directly in front of me. He was meditatively pulling the lobe of his left ear.

“Martin,” he said. “Three days ago, when at the observatory, I noticed that the new star in the constellation of Cassiopeia had increased in size until it is now of the sixth magnitude, and has changed its position considerably. I examined it carefully with our new Burr-Simpson reflector and discovered that it is not a star at all, but a comet, and one that is rapidly whirling through space in our direction.”

“You mean that this comet will collide with the earth, and that everybody will be killed?”

Farintosh laughed shortly. “My dear Martin,” he said. “there won’t be any earth left. The comet, you know, is a thing composed of flaming gases, the heat from which will kill everything on earth, weeks before it hits it, and when that happens, the earth will simply dissolve into its component solids and gases and will be incorporated into the comet.”

The immensity of the catastrophe smote me like a blow, and I sat half-stunned for a minute.

“But Rob,” I cried. “Are you sure of this?”

“As sure as I am that I am standing here,” replied my friend. A weary little smile played around his lips and he waved his hand at the litter of papers on his desk. “Man,” he said. “For the last forty-eight hours I’ve been trying to prove to myself that I am mistaken, but—I’m afraid I’m not. I’ve sat at my desk till I could not see the figures I was writing. And then I got your note saying that you had returned.” He passed a trembling hand over his brow. “Martin, you have no idea how that note revived me. I wanted more than anything else to discuss this calmly with someone, and there is no one that I would rather talk it over with than you. Can you suggest anything that ought to be done?”

I pondered for a moment. “Have you informed your colleagues at the observatory?” I ventured.

“An hour ago I sent them notes to come here at once,” he replied. “They should be here soon. What I wanted chiefly to ask you about is whether it would be advisable to inform the newspapers. Might it not create a panic?”

The journalist in me rose at this. “It would be the greatest scoop there ever has been or ever will

be,” I exclaimed; “a marvelous bit of luck for me.”

“Yes, but what effect will it have on the people?” persisted Farintosh. “It might be better to keep them in ignorance until their fate can no longer be concealed, than to let them know what’s going to happen so long before it does come off.”

“Why—why,” I stammered. “I have not yet asked you when it is going to happen.”

“In about twenty-nine months time. On the third of June 1937,” answered Farintosh gravely.

I breathed a sigh of relief. “Why, there is quite a lot of time yet! I exclaimed. “I had an idea that it was going to be in the next few days. But, Rob, you won’t be able to keep this a secret for so long. Some other astronomer will soon find out what is going to happen, and will probably blow it off to the press.”

“I know,” replied Farintosh and again resumed his pacing, “I know I won’t be able to keep it quiet all the time, especially after all the observatories start working to check my calculations. But as long as I can I would like to spare the people the misery of knowing that death is approaching. And that is where I counted on you to help me.”

“On me!” I exclaimed. “How can I help you?”

Farintosh turned to me. “You, as a newspaper man, live with your finger on the pulse of the people. You, better than any man, I know, can guess what effect this will have on them. Tell me honestly, what you think would be the most humane thing to do. Shall I or shall I not inform the newspapers?” His dilemma was acute, for he knew that whatever course he finally decided upon, he was sure to be blamed by some people.

Meanwhile, I myself found it hard to arrive at a decision. All the journalist within me protested against keeping such vital news a secret, but every time I opened my mouth to advise against it, some inner force paralysed my tongue and dispassionately urged me to consider the many scenes of mob violence which I had witnessed on the publication of some all important tidings. Visions flashed into my mind of the hate-crazed mobs of Berlin besieging the French Embassy, when the war of 1914 was declared—pictures of the joy-frenzied crowds of London, making giant bon-fires of hundreds of captured German gun-carriages, when the news of the armistice came through.

“What effect will it have?” the question echoed in my ears. The mute eyes of my friend kept on asking it. The very clock on the mantelpiece was ticking it. “What effect will it have?” The words were dancing on the wall in front of my eyes. Again and again I opened my mouth to say: “It would be best to let people know.” But each time I could not. It is not easily that the journalistic instinct dies.

At last, however, I saw my clear duty, and in that moment I stifled the news-gathering passion that had been my driving force for twenty years. I threw my hands up, in surrender. “All right, Rob,” I cried. “Have it your own way. I think you’re right in wanting to keep it a secret. There is no knowing what horrible things might happen, if once the mob gets to know that it has only two and a half years to live.”

Farintosh nodded slowly. “That was my opinion,” he said. “But how are we going to do it?”

Now that it was all settled to keep the news a

secret, my brain seemed to come out of its stupor.

"Why not leave it to the editors of the New York papers?" I cried. "They are all men of sense and honor, and, if you put it to them, the way you have to me, I think they will all agree that it is best to keep the world in ignorance for as long as possible."

"Do you really think so?" exclaimed my friend. "But how about the other papers in the states?"

"That too can be arranged," I replied. "Once your colleagues at the observatory have checked your calculations, and there is not even the least shadow of a doubt, then you'll have to take the Government into your confidence. 'It'll know how to muzzle the press and will communicate with the Governments of the other countries, that they might do the same with their newspapers.'"

CHAPTER II

The Caspian Canals

FOR three months we kept the world in ignorance of its fate; while Farintosh's calculations were being checked by the astronomers. Yet much as they tried they could find no flaws in his work, and at last were regretfully compelled to admit its truth.

Meanwhile, of course, tremendous secret activity was going on in all the nations. Delegates from all countries met quietly in New York and discussed what could be done. Representative astronomers came with them, hurled long strings of figures at each other and quibbled over trifling differences in their calculations. All, however, were gloomily agreed that the earth was doomed, and that there was no help for it.

During all this time the papers made no mention of the comet. Indeed the newspaper editors had not only agreed to keep quiet about it, but had also promised to denounce, as a sensation monger, any rag that dared to print the story.

It was amazing how well the secret was kept during those three months. Thousands upon thousands of people knew all about it, and anxiously watched the star grow bigger and bigger every night—yet not even a rumor was heard of the imminent cataclysm. With so many people in the know, however, a leak was bound to come eventually—and it was in the second week of the conference that it happened.

I was walking down lower Broadway in the noon hour, when, suddenly, a placard-decked van pulled up by the sidewalk long enough to let half a dozen yelling newsboys tumble out. For a moment I could hardly believe my senses, for those boys were loudly proclaiming that the end of the world was nigh. The glaring posters on the van corroborated them.

One of the boys bore down upon me. "Speshul!" He yelled. "End of the World. Speshul!" I hurriedly handed over the quarter the young bandit demanded and got in return a flimsy sheet that, in a flaming six-inch headline, clarified forth the news of the impending destruction of the Earth.

It was an obscure paper, which I shall call the *Manhattan Searchlight*, whose editor had broken his word to the Government, and published the whole story of Farintosh's discovery of the danger that threatened the world, together with pictures of my friend, of the telescope with which he examined the comet and a chart purporting to show the routes that

the earth and the comet were to follow with a cross and a date to mark the spot of the intersection and ensuing collision. Oh, it was cleverly done, all right, and showed evidence of much painstaking work on the part of the reportorial staff.

I looked up from my reading to see how the other buyers of the paper were behaving. Some, I saw, were staring at the sheet in open-mouthed amazement, as they devoured the luridly worded news. Others read with a half cynical smile, as if accustomed to the sensational outbursts that some of the New York papers occasionally indulge in. The majority, however, looked doubtful whether to believe or not, and were surreptitiously eyeing each other in order to judge from some one else's conduct, how they themselves should behave.

I crumpled my paper into a ball and threw it into the gutter. "Damned nonsense!" I exclaimed and strode off down the street, but not before I had the pleasure of seeing several other men also drop their papers in disgust.

Around the corner, though, I bought another copy and continued reading it on my way home in the Subway. The whole of that issue was devoted to the absorbing topic of the destruction of the world. There were even supposed interviews with Farintosh and other men of science—all of whom took a very gloomy view.

No explanations were given as to why the editor had decided to divulge the news, nor were any excuses made. It was only too obvious that the coup had been long premeditated. This irritated me all the more, since I believed the scoop belonged by rights to *The Echo*, my paper.

I was therefore fuming with anger by the time I came to my house and immediately telephoned my friend.

"I have already heard of it," Farintosh replied when I had finished speaking. "The police have raided the place and stopped the printing-presses, but I'm afraid the damage is done. They sold a million and a half copies of their paper. All New York knows about it now, and no amount of denying by the other papers will help things, especially if the people learn that the *Searchlight* has been suppressed."

"What do you intend to do then?" I asked.

"Admit the whole story."

"What?" I cried. "After all the trouble we took to keep it a secret."

"It is not a secret any longer," Farintosh pointed out, "and besides, I've just got a telegram from Europe saying that the news has leaked out there. It will be a matter of only a few days until it crosses the Atlantic."

"Good Lord!" I groaned. "There will be trouble in the foreign quarters for sure."

"I am afraid so," admitted my friend. "But we have to act openly now, so I am going to allow reporters in at tomorrow's meeting of the conference. It might calm the people, to some extent, to know that everything possible is going to be done."

"I will be there," I fervently promised.

NEXT morning, all the papers, now that they were allowed free rein, printed accounts of the discovery of the comet, counselled prudence and spoke hopefully of the conference, which, they said, might find a way out. This, however, was merely

a sop to the people. For at the conference, the delegates had already given up all hope of finding an error in Farintosh's calculations. Indeed, at the moment when I entered the hall, an angular lady representative was proposing that every man, woman and child should be provided with sufficient poison to commit a painless suicide before he or she was tortured to death by the heat of the star. A fierce discussion started over this and lasted a full hour.

I, meanwhile, was anxiously waiting for Farintosh, who was scheduled to speak at eleven o'clock. The appointed time was near, but my friend had not yet come. I telephoned his house and found out that he had left for the hall. There was nothing I could do but return to my seat and wait as patiently as I could.

Eleven o'clock came and went, and still no Farintosh. The delegates murmured at the delay, for time was at a premium, and the chairman was just about to assign the chair to another speaker, when a commotion was heard outside, and in burst my friend with his grizzled hair all standing up in a mop. He dashed up to his seat and dumbly waved a sheaf of papers over his head.

The buzz of conversation tapered off into silence as the delegates gradually became aware of my friend's strange behaviour. For some seconds more, until he had found his voice, my friend continued to grope wildly in the air above his head, as if for the words that would not come. At length he seemed to find what he wanted, for his arm dropped to his side and he commenced to speak. "Gentlemen," he cried. "I have found it!"

The conference was electrified. "A mistake?" Half-a-dozen voices cried.

Farintosh drew himself up and glared icily. "Certainly not. I do not make mistakes." He turned and appealed to the chairman. "Sir," he cried. "I have news of the utmost importance. May I speak?"

The chairman nodded and my friend again turned to the members of the conference. I could see that his chest was heaving painfully and he had to keep silent for a minute to catch his breath.

The attention which he had drawn upon himself when he entered, so abruptly, was as nothing compared to that which was centered on him now. There was scarcely a man in the room who was not staring at him in mute and wide-eyed expectation. The faint noises of the street suddenly seemed to become an uproar.

Twenty reporters sat, still as wooden figures, with their pencils poised over their notebooks, ready. The whole meeting, indeed, appeared to be frozen into immobility.

At last Farintosh seemed to be ready. He slowly smoothed out the crushed papers in his hand, and held them up for every one to see.

"Gentlemen," he said, speaking calmly, but with a strong undercurrent of excitement vibrating in his voice. He licked his dry lips. "Gentlemen, I am sorry that I arrived late, but I was so absorbed in the scheme, which I shall put before you, that I quite forgot to get out of the car at the proper station." He took a deep breath and leaned impressively on the table. "So far you have been concentrating your energy in trying to pick flaws in my calculations. I said from the first that that was pure waste of time, and at last you have admitted

it. Since you are all agreed now that a collision is inevitable, if the earth and the comet retain their present courses, why should we not try to change the orbit of the earth and thus get it out of the track of the comet?"

Farintosh, I am afraid, has many of the characteristics of an actor, for, having uttered this sentence, he stopped short and glanced dramatically around at the amazed assembly. If he expected to create a sensation, he certainly succeeded. A deep gasp came from the delegates as they realized the daring of the proposal.

"Impossible!" snorted the guttural voice of Herr Schreiner, one of the German astronomers.

"Farintosh bowed to him sardonically. "No, Mein Herr," he said. "Not impossible. In fact, I am sure that by means of my plans we can save the world."

Pandemonium broke loose in the great hall. Staid astronomers and politicians, who in the last three months had forgotten how to smile, suddenly rose to their feet and cheered long and loudly. Tables and chairs were smashed in the excitement that ensued, as everybody tried to shake Farintosh by the hand. Indeed, he was very nearly mobbed and only with difficulty escaped from his too enthusiastic friends to take refuge behind the reporters' gallery.

The only delegate to remain seated was the chairman, and he was only adding to the uproar by pounding on the table with his gavel, in a desperate attempt to establish order.

Farintosh stood behind me, with his hand on my shoulder, and gazed down upon the amazing sight of two-hundred of the most learned men in the world, dancing about like a lot of overgrown school-boys. Of course it was the sudden relief from the last three months' terrible strain. Yet I think that it rather tickled Farintosh's vanity to see that all these men implicitly believed that their troubles were ended, without even asking him to explain his plan. Truly it was a remarkable tribute.

At last a semblance of order was restored, and Farintosh returned to his seat to continue his speech. But the moment he reappeared, a thunderstorm of handclapping made it quite impossible for him to be heard. Farintosh, however, was not in a mood to wait and, after a few preliminary clearings of the throat, began to speak. Instantly the handclapping subsided and every man leaned forward to catch his words.

"In short, my idea is this," he continued. "We must find some way of changing the earth's course, so that it will no longer be in the track of the comet. For several days I have thought of how we could accomplish that" (he raised the mangled scraps of paper to which he had tenaciously clung), "and this morning I discovered a way." He looked around triumphantly, and turned to Dr. Gant, the noted mathematician. "Sir," he said. "I would like you to give your opinion to the conference on a simple problem in mathematics."

Gant looked surprised but nodded assent.

"Very good," exclaimed my friend. "This is the problem; Let us imagine a spinning ball flying through space in a roughly circular track; if suddenly a portion of its weight were shifted to one spot, would it affect the movement of the sphere?"

Dr. Gant looked surprised for a moment. "Am

I to understand," he asked, "that the sphere you refer to is the Earth?"

"Yes," said my friend.

"Well then, judging offhand, I should say that if a sufficiently large quantity of matter were displaced, it would affect the revolutions of the earth, and probably also the course of its flight." He looked at Farintosh doubtfully. "But it would have to be a tremendous weight," he ventured, "more than could be moved by human agency, I'm afraid. Also the distance the matter is to be moved would be a great factor."

Farintosh smiled cheerfully. "If during the twelve months, or so, before the 3d of June 1937, we move about thirty million million tons of matter for at least three hundred miles, do you think that that might suffice?"

"Impossible!" again blurted out Herr Professor Schreiner. My friend looked a trifle annoyed, but took no other notice of him.

The whole meeting was now waiting for Gant, who was gravely considering the problem.

"It might—it might be enough," he said doubtfully. "It is hard to calculate what exactly would be the result if this were done—especially as the operation would be spread over a whole year." He gradually lifted his head, while speaking, as if gaining confidence with the uttered words, and at last looked Farintosh straight in the eyes. "Yes," he said resolutely. "I give it as my opinion that the weight you have mentioned, transferred as you state, would be enough to alter the orbit of the earth."

A storm of cheering broke out, even the reporters joining in.

Gant looked at my friend curiously. "May I ask?" he enquired, "how you propose to carry out such a stupendous task as the shifting for miles of thirty million million tons of matters?"

A hush fell over the assembly again.

"Why! I'm going to flood the Caspian Sea," explained Farintosh.

"Flood a sea?" exclaimed Gant. "This is no time for foolish joking."

"I'm not joking," firmly declared my friend. "I mean exactly what I say. The Caspian is eighty-six feet below the level of the Mediterranean or the Black Sea. A gigantic canal cut for three hundred miles, from the Black Sea to the Caspian, would raise the latter to its former level and submerge, in addition, a very large area of land, surrounding it."

"Nonsense," exclaimed the familiar voice of Herr Schreiner.

Farintosh turned in exasperation upon his tormentor. "Sir," he rasped, "kindly be so good as to tell me what you mean by that."

The German lumbered to his feet. "I mean," said he, "that, in the first place, I hold it impossible for you to divert the earth from its course and, secondly, even if, against my opinion, you do succeed in doing so, you will only cause another gataclysm, for the earth will simply fall into the sun, and thirdly, and finally, I consider it an impossible engineering feat to dig a canal as big as the one required in little over a year." Herr Schreiner produced a gigantic silk handkerchief, blew a trumpet like blast of defiance, and then, still glaring pugnaciously, resumed his seat.

My friend returned glare for glare. The whole

scene reminded me irresistibly of two game cocks sizing each other up before the battle.

Farintosh opened his offensive. "Your first two suppositions are fallacious," he said icily. "I will maintain on my reputation as an astronomer, that it is possible to divert the earth from its present course, and that it will not fall into the sun, but simply take up a new orbit. As for your third contention that the canal cannot be dug in the limited time left, to that I will reply that the engineers are the best judges of that, and that it must be and will be dug, if we wish to save the earth from destruction." He turned to the delegates once more. "Gentlemen," he cried, "this is our one chance of escaping annihilation. I don't deny that we may be committing suicide, by diverting the earth, but, in my opinion we will live through it. Therefore I appeal to you to give me a vote of confidence, so that we may take immediate steps to start the construction of the canal."

An answering roar of assent came from the representatives, and my friend once more turned to Herr Schreiner. "Sir," said he, exceedingly polite, "Have you any alternative plan to offer? Surely from a person of your erudition, we may expect something besides purely destructive criticism." He bowed again to the fuming Professor, but the latter saw that he was without support and decided that discretion was the better part of valor. He rose and walked to the exit, loudly remarking as he went; "I game here do give advice, nod do lisen do a lod of damned foolishness."

Someone giggled, and in a second the whole meeting was rocking with almost hysterical laughter. Then, light-heartedly, the delegates began discussing ways and means of performing the gigantic task they had set themselves.

CHAPTER III

The Earth Adrift

SPECIAL editions of all the New York papers were issued that afternoon, in which the glorious news was proclaimed far and wide; that after all there was a good chance of saving the world from destruction. The panic, which we had so much feared, did not even have time to start, for most people had scoffed at the sensational disclosures of the *Searchlight*, and only with the morning papers were they at all alarmed. But only seven hours later, the afternoon papers already announced that a way out had been found, and that it was all due to Robert Farintosh, their brilliant fellow citizen, who had been the first man to warn the world of its danger, and the first man to suggest a way of escaping it.

The New Yorkers preened themselves not a little at the thought. "Speed," they boasted was their middle name—while other people deliberated, the New Yorker acted.

Farintosh was the man of the moment. Radiophone and telephotograph had flashed around the globe the news of the discovery and the features of the man who was going to save the earth. Chinese, Russians, Germans, Frenchmen, all marveled at the strange barbarity of the name, and yet struggled to pronounce it. In every shop window hung newly printed photogravures of Farintosh, while crowds assembled outside to gaze at his face.



Map of the Region of the Great Achievement.

Meanwhile, through the whole night, a conference was going on between the world's leading engineers, astronomers and politicians, a conference, in which many of the speakers were thousands of miles separated, and gave their opinions by means of the radiotelegraph.

The Russian government proved willing to have the experiment tried, although it would undoubtedly render homeless the millions of peasants who lived on the low lying lands surrounding the Caspian. Not only were they willing to lose that much territory, they also promised to give all the aid they could to forward the project, and immediately made good their word by digging up the forty-year old report of an engineer, who had carefully surveyed the country between Astrakhan, on the Caspian Sea, and Rostov, on the Sea of Azof, a continuation of the Black Sea, with a view to digging a commercial canal between these two cities. Much to the joy of the engineers, at the conference, this man had done his work so thoroughly, that the preliminary survey, which would have wasted so much time, was found to be unnecessary.

In addition, it was seen that their task was much simplified by the fortunate existence of the two hundred mile long ribbon of the Great Liman Lake, which lay in the very track of the projected canal, and which was the dried up remnant of the once mighty stretch of sea, that long ago had joined the Black Sea to the Caspian Sea.

Every country in the world offered a contribution to the great work. Some promised ships for transportation, others offered machinery, others again labor and raw materials. A levy was made on the rolling stock of the world's railways. Ten per cent of the locomotives, and nearly all the flat cars were to be shipped down to the site, chosen for the canals. For the world's authorities on engineering had decided that a single canal to fill the Caspian would be impracticable, as it would have to be something like ten miles wide and have a water depth of seventy-five feet. It was therefore decided that twenty canals, each one half mile wide, would have to be dug at half mile intervals and that the intervening spaces should be used as dumping grounds for the excavated earth.

These decisions were not arrived at without much argument, but fortune was with us in that the report of the long dead Russian Engineer was available,

and, according to him, the country through which the canals were to run, was flat in the extreme, the elevation of the highest point of land being only eighty-two feet above sea level.

For the first time in human history the nations of the world began to work together harmoniously and without jealousy. All the national feuds and dislikes were sunk in the common endeavour to overcome the danger that threatened mankind with extinction.

The newspapers, of course, had been connected with the radio hall, and in the morning printed a full account of what had been said. But, in addition, most of them also featured a statement by Professor Arnold Schreiner, which I can do no better than reproduce from the columns of my paper.

Calamity Predicted if Caspian is Flooded

Below we print the remarkable letter received from Professor Arnold Schreiner of the Spandau Astronomical Observatory. Professor Schreiner is one of the German delegates at the conference, and was the one man there, who objected to Dr. Farintosh's plan to divert the earth from its present path. He is one of the most noted astronomers of Europe, and one whose condemnation of the project carries much weight.

NEW YORK ECHO

April 5, 1935.

Sirs:

I wish to draw the attention of the world's press to the faults of the mad scheme, to flood the Caspian Sea, proposed at yesterday's conference by Dr. Robert Farintosh, of the Astronomical Observatory of New York.

I see that my arguments of yesterday against this plan were repeated in the evening papers, so I do not need to dwell on them any more. I will content myself with giving just one more reason why this plan should be abandoned as an unnecessary waste of time and labor.

I will, for the sake of argument, grant that all that Dr. Farintosh expects will happen. We will suppose that he is successful in building the canal or canals, necessary, in the next year. We will suppose that a great enough weight of water to influence the flight of the earth, does trickle through. We will suppose that the earth will actually deviate from its course, and not fall into the sun, as I confidently expect it would. What will happen then? Has Dr. Farintosh given any thought to the probable catastrophic consequences of such an action on the earth's part? Does he realize that if the earth deviates but a few degrees from its flight about the sun, the change in temperature would be, to us, enormous? If the earth nears the sun, life will become unbearable, because of the heat.

If, on the other hand, it moves away, then the ice caps of the North and South Poles will move down and we shall have a second ice age. In either event tremendous seismic disturbances will have to be expected. Earthquakes, tidal waves and eruptions of both new and old volcanoes will be bound to come. Whole continents may disappear and vast ranges of new mountains may be formed in the buckling of the earth's crust, as this planet accommodates itself to the changed temperature. And I particularly wish to stress this fact; that no one in the world can be sure as to what will be the extent of the deviation and in what direction it will be.

Does then Dr. Farintosh propose that the earth be cast adrift in interplanetary space?

No, say I. Since the earth's destruction is unavoidable, why should man labor unnecessarily in the digging of useless ditches, that cannot in the least help to preserve his life?

Yours,

ARNOLD SCHREINER

The contents of this letter were amazing enough, but what was still more astonishing to me was a brief note below, saying that a copy of this extraordinary epistle had been sent to Dr. Farintosh, who had replied that as far as he could see, all the things mentioned by Dr. Schreiner were possibilities; some even probabilities, but that it was by no means certain that any or all of these catastrophes would take place.

In any event, he wished to remind the people, if nothing was done, there would be no hope whatever for the earth, while if the planet were successfully diverted from its present course, there still was a bare chance that humanity might survive.

CHAPTER IV

The Task

THE next few weeks saw an ant-like activity in all the steel mills of the world. Every machine that could by any chance be converted for the manufacture of some part of a steam shovel, was so converted. All the iron foundries were going full blast to supply the enormous demand for raw material. Every coal mine was running four six-hour shifts in the twenty-four hours and on seven days in the week. Every man who could handle a pick and shovel was recruited. For this was no time for half measures. A stupendous task had to be carried out. Twenty canals, each over a hundred miles long, half a mile wide and seventy-five feet deep, had to be constructed in little over a year.

The nations of the world were fully aware of the almost insurmountable difficulties attendant on such a task, and, to facilitate its carrying out, had handed over the supreme power of government to a Central Extraordinary Council, which had the power to seize any property or material and to order the performance of any work that might help the all important task.

All unmarried men, between the ages of twenty and thirty, were conscripted—from the States alone two million workers were to be sent down to the Black Sea.

Within a week of Farintosh's speech, at the con-

ference, the work began. Russia, at the request of the Council, had mobilised her army and had torn up ten thousand miles of branch railways. These the Russian sappers proceeded to relay along the routes marked out by engineers, who had been sent by airplane from all over the world. But this was an all too insufficient quantity, and immediately the cry went up for another fifty thousand miles of railway track. Thereupon the European countries stripped themselves bare of all the railways, not absolutely essential, and shipped them entire to the Black Sea; sleepers, rails and signal plants.

Of course tremendous blunders were made. No provision whatever was made for the food supply of the fifty thousand American laborers who landed within the first three weeks. They came as unexpectedly as lightning out of a clear sky. No one had heard that they were coming. No one had imagined that any men could be sent so soon. Therefore no one was prepared for them.

The Americans were disembarked and marched out of the Port of Rostov into the open country, where they were told to camp, until some sort of shelter could be found for them. They had no tents, no ground sheets, and only one blanket apiece. They had no food, no cooks, no field kitchens; and on the first day lived on some pickled herrings that their commander had been fortunate enough to buy in Rostov. Fortunately it was warm spring weather, pleasant to camp in, and on the next day the hard-pressed Russian Commissariat was able to supply the American's needs.

But accidents, as the officials said with a shrug of the shoulders, will happen in the best regulated families, and this undertaking was, as yet, by no means well regulated—as any one could see.

Then, one day, out of the blue sky and from an airplane, descended a dapper little man with hair and beard of a bright red hue and a very neat taste in ties. He was Sir Alexander Murchison, the famous British civil engineer. Straight up to the General Superintendent's Office he marched, and there presented a letter from the Supreme Council, authorizing him to take charge of the whole affair.

Half an hour later Murchison was in full control, and was already making himself felt. Up to this time all the shipments had been consigned to the Port of Rostov, on the Don, but the new chief altered this, as soon as he heard of it.

"Ridiculous!" he fumed and stumped up the room. "Absurd! Fancy having a base of operations eighty miles distant from our field of work. We must find another place."

The fiery little man looked so indignant that his subordinates almost openly smiled at each other. Was this, indeed, the greatest engineer on earth? The man who was said to have accomplished miracles in India and Peru? He must have been sadly overrated.

One of them cleared his throat. "Rostov is the only port on the Sea of Azof that's anywhere near the necessary size," he ventured.

"What of it?" barked Murchison. "Can't I build one that's nearer and is the right size?"

The assembled engineers looked their surprise. The man was mad, they decided. It was impossible to start building a port now. It was too late.

But Murchison had made his name, just by doing things that were impossible, and, within four days,

he had discovered a magnificent natural harbour, not three miles away from where he had planned the mouths of his canals to open on the Sea of Azof.

A month later Port Farintosh was completed and running in full swing. But already a thousand acre dump of supplies had accumulated at Rostov, and vast quantities of food, clothing and invaluable machinery were lying unsheltered in the open—on one day drenched by the torrential rains and baked, on the next day, by the torrid heat of the sun.

The railways had not been laid where they were wanted. Not enough rolling stock was available, and, even for what he had, Murchison found it hard to get expert train crews. Yet in spite of these almost insuperable difficulties, in some miraculous way, he evolved order out of a chaos that had seemed hopeless.

The laborers were formed into regiments of two thousand, and officered by construction engineers. Each body of men was appointed to a certain section of canal, which it was expected to finish by a certain time, while, as more men continually arrived, new regiments were all the time being formed and sent out.

One hundred thousand steam shovels, which, with their crews, had been gathered from all over the world, were divided among the working parties, and an urgent call was sent for more. Dredges to deepen the Liman Lake arrived by the score and were immediately transshipped to the assembling shops on the banks of that water, and soon the clangor of pneumatic rivetters set to wheeling the flocks of scared wild fowl that had nested for ages on the shores of the lonely lake.

I, in my position as special correspondent of the *New York Echo*, was sent down to report on the progress of the great task, in whose successful termination the whole world, to put it mildly, was deeply interested.

When I arrived at Port Farintosh, the work of actually digging the canals had already commenced, and all the labor battalions were encamped along the chosen routes. Indeed, so close to one another were the camps that, as I motored down one of the excellent roads beside a half excavated channel, it seemed to me that I was driving down the hundred-mile long main street of a city of tents.

An air of almost hysterical activity hung over the whole undertaking. Even the lowliest wielder of a pick seemed to have been infected with the dynamic spirit of the superintendent. Every laborer held himself with an air of pride and dignity, as if fully and proudly aware of the fact, that on him partially depended the responsibility of saving the earth from its celestial enemy.

Night and day the shrieking whistles ripped to shreds the silence, that for unnumbered years had hung over the steppe. The clanging hammers of a thousand forges, the roar of countless freight trains, the polyglot yells of the sweating workmen, the insistent clamor of the steam shovels, the shrill metallic whinings, the hiss of escaping steam, all, to my ears, wove themselves together into a strident song of conquest—a harsh paen of triumph of man's victory over nature.

Before me and behind stretched on interminably the wide gash that, like a raw red sore on the bosom of the earth, seemed to reproach me with its bleak hideousness. Great mounds and hills of new dug

clay lay heaped along the banks and humped their backs on the far distant horizon.

Brick red, in an infinity of shades, seemed to be the dominant note in that harsh symphony of color. Brick-red dust settled on the face of my chauffeur, lay heavily upon his shoulders and filled the folds in his livery. Brick-red mules shambled slowly up the road, their loads of produce disguised by the same mantle of dust that hid their own original color, and red little dust devils whirled lazily ahead of us, waiting to half smother us, when we tore through them.

Crude, grim, repellent, the scene unrolled in front of my car. It looked as if man had started out to remake the world with his hands—and was not making any too good a job of it.

With night, however, the spectacle gained mystery. The unsightly dumps of rubbish were then hidden by the merciful dark, or else their ugliness was veiled by the soft light of the moon.

But always, night or day, the work went on. Sputtering are lights near the busy steam shovels, silhouetted the thousand black devils, who scurried about to tend the puffing monsters. It looked like a scene from Dante's *Inferno*.

A new shift was working now, but still the men yelled and swore at each other with all the lurid proficiency that the daylight gang had been capable of. Near me one of the hungry excavators lunged down at the earth, tore out a three ton mouthful of soil, ponderously turned and with a clang and a thunderous roar dropped its burden into a truck. Ruddy sparks showered from its smoke stack and, suddenly, a pale plume of steam puffed up from the whistle. Again and again the monster bellowed for a new tender, and then greedily returned for another bite at Mother Earth.

Eyes, green, yellow, red and blue, malevolent looking, glowered angrily through the dark, winked, flashed, changed color and disappeared. Then came a rattling roar and a string of empty coal flats rocketed down the crazy track, on the way to Port Farintosh.

Presently a pale light stole over the eastern heavens and star by star dimmed and faded. Then a band of vivid pink appeared and rapidly swamped the remaining lights. A ray of golden light shot high into the air, quivered and slowly sank to earth. A gleam of molten brass from the horizon and—the grumbling morning shift slouched by to relieve their weary brethren.

CHAPTER V

The Stars in Their Courses

FOURTEEN months from the spring morning, when Farintosh had proposed his extraordinary plan, the news came from Murchison that in another week he expected the canals to be entirely completed and ready for the formal opening of the flood gates.

On the appointed day most of the dignitaries of the world, plus a few hundred reporters were present at the ceremony. Among the latter was I, while chief among the former was Farintosh, the man to whom, it was unanimously decided that the honor of opening the canal gates should go. For this purpose he had flown over from New York with me; and he was then standing high up on the plat-

form, reserved for the important speakers of the day.

I, as I remember, was standing on top of the huge dam, that kept the water from rushing into the canals before the floodgates were opened. Beside me Philip Mallory, a young engineer with whom I had struck up a friendship on my previous visit, was pointing out to me some noteworthy features in the construction of the gigantic wall of concrete. He was talking in a technical jargon, which only a brother engineer could hope to understand, and at last I interrupted him.

"But why have a dam at all?" I exclaimed. "It seems to me that far more water would flow into the canal if it was not there."

Mallory laughed. "It's easy to see that you're no engineer," he rallied. "Why if the sea wall was not here the water would rush in so quickly that it would eat away the banks of the canal, and before long choke it up altogether. Look!" he exclaimed, "they've finished spouting at last." Farintosh, who, by reason of his extreme bulk and height, towered over the surrounding group of politicians in much the same manner as a Great Dane would overtop a street corner gathering of dogs.

Slowly he raised his arm and gripped the lever that was to open the gates of the twenty greatest canals that the world had ever seen. He hesitated for a moment and glanced up and down the sea coast. Below him was the mildly heaving water of the Sea of Azof. On either side he could see ten great canals stretching east into the horizon, while dimly visible in the north were the misty outlines of the city, which bore his name, and mushroom-like had sprung up within the year, had reached the half-million mark in population and was already withering away again.

Farintosh, with a sudden stiffening of his body, pulled down the black bar.

A soft whirring of machinery filled the air. Steel cables creaked and began to move, then slowly and ponderously the giant shutters rose.

A gasp of awe came from the assembled spectators. Out of each of the one hundred openings in the half mile dam sprang forth a crystal clear column of water, that shivered itself to pieces against the hard, clay bottom of the canal, formed muddy looking pools that grew with amazing speed, joined and crept east—on their way to the Caspian. Gradually the streams of water thickened, until each was a moderately sized cataract, whose thunderous descent made it impossible to hear a spoken word. Great clouds of spray flew up to drench the gaily dressed crowd on top of the wall, yet, such was the fascination of the sight, that not one person budged to seek a more sheltered spot. They stared, as if under a spell, at the turbid yellow flood, which now rushed headlong down the canal, to lose itself in the distance.

Slowly, slowly, ever so slowly the water level on the eastern face heightened. Inch by inch it mounted up the face of the dam, until it was only just below the openings in the wall. Here it seemed to be stayed for a moment, but not for long, for, suddenly gaining speed, the water rose to the bottoms of the gates, higher and higher yet, until, presently, the waterfalls had disappeared.

A long drawn sigh rose from the crowd. My young friend Mallory was much moved.

"It is done," I heard him mutter. "The water is

at sea level. The impossible had become a fact!"

The realization seemed to come to every one at the same instant. They had succeeded. The impossible had been accomplished. They had united the Caspian with the Black Sea, or, at least, would have, by the time the boiling flood had traversed the many long leagues of canal. If the earth still persisted in colliding with the comet, mankind at least had the satisfaction of knowing that it had done its utmost to prevent the catastrophe.

Hats and canes suddenly appeared over the heads of the multitude. Cheer after cheer broke out and continued until the crowd had cheered itself into exhaustion. But, while many gave vent to their spirits by shouting, many others felt too deeply to express themselves in that manner.

I stood silent for a few minutes, until the mist had cleared from my eyes, and then turned to my companion. "Come," I said. "Let's get out of this crush. I've got to see Farintosh."

A short, stout gentleman, with his back to me, turned around at the sound of my voice. "Ach," he exclaimed. "So id is you!" He sniffled suspiciously, but determinedly blinked the moisture away from his eyes and transfixed Mallory with a glare of indignation.

"Young man," said Professor Schreiner. "You don't appear to appreciate the fact that this is the greatest moment in human history. Up to this time man has been a mere, helibless parasite, infesting the crust of the earth, easily gilled by drifting changes in demperature and wibed out by the preying of barasides still more infinidadesimal than himself." He sternly shook his finger in Mallory's astonished face. "But now—now the earth is merely the domicile of man. Who knows whither man will spread from idt? My boy, remember this; nature has been conquered. Man is the new ruler of the Universe." The Professor turned abruptly away and was swallowed up in the throng.

My young friend looked after him in amazement. "Say," he exclaimed, "who's that old guy, anyway?" He seemed to know you."

"Yes, I met him last year," I replied. "He is none other than Professor Schreiner, the only man at the conference, who denied the practicability of Farintosh's scheme to save the earth."

"He's changed his views a bit, hasn't he?" remarked Mallory.

"I'm surprised," I admitted. "He was most virulently antagonistic to the whole business last year."

The crowd was now filing off from the top of the great dam and heading for the trains. I tried to get my promised interview with Farintosh, but found that he had already been hustled off to some dinner. He did, however, leave me a message, asking me to call at his hotel later in the evening. I therefore was glad to accept Mallory's offer to take me to Port Farintosh in his little runabout, and so escape the crush in the trains.

For some miles we drove in silence, and then Mallory turned to me. "Do you know, Martin," he said. "I've been thinking of what you said about that old German fellow who gave me that lecture. You said he used to hate the idea of saving the world."

I nodded.

"Well," my friend resumed. "There are quite a lot of people who still hate the idea, and would do almost anything to prevent its being carried out."

"What?" I exclaimed. "Who are they?"

"Have you ever heard of Hadji Hassan Agha? No? I don't suppose that many of us have yet. But we soon will. I believe that he is conspiring to destroy the canals."

I jumped bolt upright and nearly knocked the steering wheel out of Mallory's hands.

"Sorry," I apologized, "but you know that I'm a journalist and news of any sort has a frightful attraction for me. Can you tell me anything more about this man?" What fortunate chance, thought I, had made me run up against Mallory today.

"We-e-el," drawled my friend, "I don't know what news value you'll find in what I can tell you, but, anyway, here goes.

"The Hadji first came to my notice about three months ago, when he arrived in my camp among a bunch of recruits. I remember seeing his green turban and thinking it rather strange that a man as old as he, and rich enough to have made the pilgrimage to Mecca, as the color of his turban indicated, should have been conscripted into the labor battalion. But I had other, more important, things to think about, and so I soon forgot Hassan Agha.

"You remember that I had charge of a couple of thousand Mohammedans? They were Kurds from near the Russian border, and pretty devout Moslems too. Part of the Turkish contingent, you know.

"Well, they were a rough crowd to handle, but they did their work well enough, and I had nothing to complain about, until shortly after the Hadji arrived. Within a fortnight the whole crew began loafing on their jobs, and some were even insolent. In fact I had to knock down a few of them for spitting at my shadow, because I was an unbeliever. That's how I got these knuckles," laughed Mallory, and showed a bandaged hand.

"However, this could not go on, and so I started looking round to see who or what was stirring up the trouble. I did not have to look very long before I noticed that the Hadji, nearly every evening, was making speeches to the men, which he stopped as soon as I came within hearing distance. Also, he seemed to have a violent dislike for me, for whenever I came near him he would scowl and mutter as if I had borrowed money from him and wouldn't pay up.

"Well I had sense enough to put two and two together and the result was that I sent for the Hadji, to ask him why he had to talk to the men so much. But I had barely started questioning him, when he suddenly seemed to lose all control over himself and burst out in a wild denunciation of all unbelievers in general, and of me in particular."

Mallory lit a fresh cigarette. "You know there is a sort of fascination about that man. Personality, that's what the magazine advertisements call it. If you ever see him you'll feel it. He stands well over six feet in height and is extraordinarily thin. That might seem laughable in another man, but in him it is impressive. He seems to sort of radiate fanaticism. Then there are his flashing eyes and smashing gestures. They all seem somehow to impress you with the truth of his arguments. Not that they are true, of course—personally I've never heard such nonsense as he told me—but I don't wonder that he has such a following, because he has the magazine advertisements beaten to a frazzle.

"Oh, he bawled us all out perfectly. Why did we

persist in running counter to the will of God? Did we not know that it was useless? If it was written in the books of fate that the earth should be destroyed by the comet, then it would be so destroyed, and it was not only useless, but extremely sinful as well, to struggle against the preordained things. Besides, he said, it had been revealed to him in a dream that the comet was a missile from the hand of Allah, sent to wipe out the earth for the sins of its people. He said that he knew we Christians were doomed to Tophet anyway, but the Mohammedans had souls which he still could save, and he deemed it his duty to warn the laborers not to risk their loss by fighting against Kismet.

"You should have seen him, Martin. Gad, he was a sight to make you sit up. He worked himself up into a frightful passion and cursed the builders of the canal up and down and roundabout for pitting themselves against God Almighty. His beard simply sparkled with rage when he did that.

"He wound up by saying that what he, with his puny strength could do, he would do, towards undoing the mischief caused by us infidels, in putting the souls of the Mohammedan world in danger, by deluding the true believers into thinking that this devil-inspired scheme of meddling with the stars in their courses would save them from death."

"What did you do?" I asked.

Mallory lit yet another cigarette and shrugged his shoulders. "I did not know what on earth to do," he frankly confessed. "but the man was evidently a maniac, so I ordered him to be placed in the guard tent until I could communicate with the chief." He sucked in a great lung full of smoke. "But the next morning I found he had escaped, and with him had gone the two guards. That shows you what a persuasive tongue the fellow has, for although the guards were also Kurds, I took care that they should be from a tribe that had a feud with the one to which Hassan Agha belonged. What's more, during the last two months, almost a quarter of the Turkish labor contingent has deserted, and the evidence points to religious agitation against the building of the canal."

The car drew up in front of my quarters, and I reluctantly got out.

"Have you heard any more about the Hadji?" I asked.

"Nothing definite," replied Mallory. "Of course the camp is full of rumors. He has got the sanction of the Divine Porte to destroy the canals. He has formed a secret society of a million members, all pledged to sacrifice their lives, if by doing so they can prevent the flooding of the Caspian Sea. His men have hailed him as the second prophet of Islam, and are begging him to lead a holy war against the Christians. All kinds of stories are floating around. You can't tell how much of them is true. But——" he looked at me seriously—"you don't get smoke without fire. Well, do you think that you'll find any use for what I've just told you?"

"Will I?" I cried. "You may just bet I will, and may I be in a position some day to do you as great a favor as you've just done me."

I rushed upstairs to get at my typewriter. If only I could get some corroboration of this astounding news, thought I. If only I was acquainted with some Turkish Official, who might know something. Wait! What was that name Farintosh mentioned

in his note? I hurriedly ran my fingers through my pockets until I found the chit.

Dear Martin:

I am sorry that I cannot give you that interview just now, as the Supreme Council is giving a dinner and they absolutely insist that I shall be present. I will, however, leave as soon as I can, and will return to my hotel, where I hope to see you. I know you won't mind, but I shall have another visitor in the person of Abdul Pasha, Turkish Minister for the Interior.

Abdul Pasha, that was the name. I looked at my watch. Farintosh could not possibly be free for another hour and a half. I decided that I would write a preliminary account of what Mallory had told me. Then, if I received any confirmation, or further news from Abdul Pasha, I would make what additions were necessary and telephone the whole story to New York.

The report of the opening of the canal gates would have to wait. Anyway the *Echo* had three other correspondents at Port Farintosh.

What a scoop this would be, I gleefully reflected. I hoped that the other newspaper reporters had not got wind of the news.

In a moment I again turned serious, for, if the tale was true, and the Mohammedan world, or at least the fanatical part of it was inflamed against the project to flood the Caspian, then there was grave danger that some of the wild men might do such irreparable damage to the canals that the destruction of the earth would be unavoidable.

I sat down at my desk and determined to do my best to warn the people of the world of the peril they were running into.

CHAPTER VI

By Order of the Hadji

FARINTOSH greeted me warmly, when I arrived, and introduced me to his Turkish acquaintance, who seemed to regret having to shake hands with me, as soon as he heard that I was a newspaper reporter, and suddenly remembered that he had an appointment elsewhere. But I did not intend to let him escape so easily and intercepted him on the way to the door.

"Excuse me," I cried. "But I wonder whether you could give me some information?"

The Turk frowned impatiently, but halted, nevertheless.

"I don't give interviews to newspaper reporters," he returned brusquely.

"That's quite all right," I replied. "I don't expect one, but I am on the trail of something important, and if you could answer me just one question, I shall be more than satisfied."

Abdul Pasha eyed me coldly, and I could see that he was weighing in his mind the advisability of refusing my request. He was evidently one of that school of politicians, who distrust the press because of the often unwelcome publicity that they get. But, after all, it was useless to antagonize so great a paper as the *New York Echo*, by refusing to answer something that might prove to be quite harmless. The balance was swaying in my favor.

"Well," said he. "One question cannot do much

harm; but mind, I will answer only one question."

"Good!" I exclaimed. "That's all I want. Can you tell me whether you have ever heard of a certain Hadji Hassan Agha and his activities?"

The Turk started, and for an instant I was permitted to see through the habitual mask of Asiatic stoicism that he wore. Surprise at the question, and fear, was there. Instinctively, he glanced around the room to see if any one else had heard me and then—the mask of apathy slipped over his face again.

He looked at me dispassionately and seemed to be turning the question over in his mind. After a few seconds of seeming ponderance he blankly shook his head. "No," said he. "The name is quite unfamiliar to me. I've never heard of the man." Then, as if fearing another question, he quickly turned on his heel and left the room.

"The liar!" I breathed softly, and stared after the Turk. It seemed incredible that the Hadji, in so little time, had already gained enough power to make a seasoned Anatolian politician tremble at the mere mention of his name. That one instant when I had caught the Pasha off his guard had been sufficient to convince me of the truth of every word that Mallory had said.

Farintosh looked at me with a droll eye. "I thought you came to see me," he remarked drily. "It seems I was mistaken."

"You were, old man," I assured him, and left him standing, while I rushed away to dispatch what I had written.

"A telegram for you, Sir," cried the hotel clerk, as I passed him on the way to my room. I impatiently seized the envelope and tore it open.

"Return at once. Barnes, Morrison and Hughes can cover canal assignment. Must be here Monday. Madden."

I could not help letting a groan escape me.

"Not bad news, I hope," remarked the sympathetic clerk.

"Worst I've ever had," I exclaimed bitterly and viciously crushed the telegram up into a little ball. Just when I had discovered a story that would stir the earth to its smallest village, I was called back to New York and had to trust my wonderful story to others' hands.

It was no use wiring Madden either, for this was Saturday and there was barely enough time to catch the ten o'clock plane for London, let alone to wait for an answer from New York.

I sent a rush call for my three colleagues, booked a seat in the night's air express, and savagely set about packing my belongings. Just as I was strapping my last suitcase, Hughes burst into my room, and was shortly followed by Barnes and Morrison.

"What's up?" cried the first. "Why are you leaving?"

"Orders from Madden to come home," I curtly replied. "Here!" I thrust a sheaf of papers into his hands. "Read what I have written there, and dispatch it the moment you've finished. Then the three of you had better get to work to discover as much as you can about the conspiracy to destroy the canals. I've got to go now. Good-by." I snatched up my bags and opened the door, but turned for a final word. "Remember, boys," I said. "As far as I know, no other newspaper has as yet got wind of this. So keep it under your hats."

"But what is this?" cried Hughes, turning the papers over in a puzzled sort of way. "Conspiracy to destroy the canals?" he read.

"Yes," I snapped. "I've got no time to explain now. Read the papers and then act quickly." I bolted out of the room and was lucky enough to just catch a taxi outside the hotel.

Once aboard the airplane, I began to feel calmer. After all, I reflected, the fellows were really capital reporters, and would undoubtedly ferret out as much news about the Hadji Hassan Agha as I could, if not more, for there were three of them. I would have taken them into my confidence this very evening anyway.

I decided that it was no use worrying; although it was annoying to be so rudely torn away from the scent of the biggest story in my career, yet, after all, I had already discovered the most important details. So consoling myself, I tried to get what rest I could on the journey through the air.

London was reached without mishap, after sixteen hours of steady flying. And there I immediately changed into a Trans-Atlantic seaplane and started for New York.

I knew that the *Echo* had printed my dispatch from Port Farintosh by this time, and perhaps the London newspaper offices were humming with it already. As yet, the afternoon editions had not been issued.

Twenty hours' more flying, and in the distance I saw the smoke cloud that overhung New York. Within thirty minutes I stepped ashore on the landing stage of the Trans-Atlantic Transportation Company.

On the street I bought a copy of the *Echo*, expecting to see at least a part of the follow-up that the boys should have sent in during my voyage. To my surprise, however, there was not even a mention of the conspiracy. There were columns about the opening of the canal, telephotographs of the water spouting into the channels from the openings in the sea walls, reports of long-winded speeches, the stuff that Hughes, Barnes and Morrison had sent in earlier on Saturday afternoon.

I examined every page, and nearly tore the paper to pieces in my search. But in vain. Only too evidently the *Echo* had not received my dispatch, for I knew that if Madden had seen it, nothing on earth could have kept it off the front page of the paper.

The fault, therefore, apparently lay at Port Farintosh, but for the life of me, I could not imagine how my fellow reporters could have neglected to wire my account of the conspiracy. All were good men and true, and more than once had had difficult cases to report. And yet, trustworthy as they were, they had failed to dispatch my story. I did not know what to make of it, but it was evident that somewhere, something was very much wrong.

The taxi drew up, with a jerk, in front of the *Echo* building. I hastily jumped out, paid my fare, and rushed into the building, bent on getting a satisfactory explanation from Madden about the omission of my article from the morning paper.

Out of the corner of my eye I saw the doorkeeper start violently as I scurried past him, but at the moment I attached no especial significance to the fact; I merely put it down to my having startled him by my sudden entrance.

The elevator boy was new, and was inclined to

doubt my right to see the Editor, but at length, though under protest, he deposited me at the proper floor.

I hesitated for a moment outside Madden's door. As usual, a card, bearing the interesting legend: "Engaged. Not to be disturbed," was displayed on the panel. This, however, was chiefly for the benefit of cranks, would-be society ladies, and people who solicited free advertising space for their pet charities, and I had long since learned to ignore it. No, what halted me were the sounds that floated out of the room through the open transom. It seemed as if, for once in his life, Madden was living up to that card outside, for he seemed most decidedly engaged.

Half-a-dozen voices were raised in vehement argument, and all were apparently talking at once. I could hear the Chief pounding heavily on his table as he delivered himself of his sentiments.

"No, sir," he bellowed to make himself heard above the din. "I won't believe that it was an accident. Those boys knew too much to do a fool thing like that. Besides, doesn't it say that their bodies were covered with bruises? That alone is proof of foul play."

"Nothing of the sort," retorted the voice of the Night Editor, who ought to have been in bed. "It says that their boat was caught in the current, and that the boys were drawn under and through the tunnel in the sea wall. That's where they got their bruises—in being battered against the walls of the tunnel."

This was getting interesting, I decided. I wondered what they were talking about, but the next second enlightened me in a manner quite startling.

"Rubbish!" boomed the Chief. "That battering would not have been enough to completely obliterate the features of Martin Ross."

I jumped. This was becoming interesting. Apparently they were discussing my death. I promptly decided that this was the proper psychological moment for my entrance, and so, opening the door, I calmly stepped into the room.

Five very astonished faces stared at me with all the pained surprise of those who believe that they are seeing a ghost.

It was Madden who first recovered himself. "Martin!" he shouted, and rushed at me. "You old rogue. Here we sit talking of your death, and you calmly walk in on us. I suppose it is actually you in the flesh?" He poked me in the ribs with a stubby finger.

"Ouch!" I exclaimed. "Yes, it's me all right." I backed precipitately to the wall. But too late. My friends had already surrounded me and continued to cordially pound my shrinking back, at the same time endeavoring to shake me by the hand.

At last, however, I managed to retreat into a corner and there ward off their exuberantly hearty greetings.

"What's this all about?" I gasped. "And what's this stuff about me being drowned?"

The Chief suddenly became very grave again. "There's bad news. I'm afraid," he said sadly, while he took off his horn-rimmed glasses, wiped them and put them on again. "How were the boys, when you left them?" he asked, and peered keenly into my face.

A sudden foreboding smote me. I knew now the meaning of what I had heard.

"Why—why, they were all right," I faltered. "Is there anything wrong?"

"Listen, Martin," said the Chief, and picked up a yellow cablegram. He glanced warningly at his co-editors and cleared his throat softly. "This is from the Chief of Police at Port Farintosh," he said, "and is dated Sunday noon":

Regret to report the finding of the four bodies of your four special correspondents at Port Farintosh. Three have been identified as Morrison, Hughes and Barnes. The fourth body is too badly battered for positive identification, but is supposed to be that of your other correspondent, Martin Ross. It is thought that the men met their deaths by rowing in front of the sea wall of canal two, getting caught in the rip and drowning by being drawn through one of the tunnels in the dam. Further investigations are being made and any fresh discoveries will be at once communicated to you.

(Signed) ALLEN,
Chief of Police,
Port Farintosh.

Madden's voice abruptly died and an odd silence hung over the little group. I saw that they were looking at me expectantly. But a new thought had crept into my head, a thought that filled my soul with horror. It was I who was responsible for their deaths, for it was I who had entrusted them with the dangerous mission of exposing the Mohammedan plot to destroy the canals.

Some one stirred restlessly, and Madden again cleared his throat.

"My boy," he said kindly, "can you tell us anything about this?"

A sudden cold rage filled me. "Can I?" I choked. "I can tell you who murdered those poor devils. For murdered they were. This is no accident."

"Who is the man?" broke in the Chief.

"The Hadji Hassan Agha," I replied without further ado, and launched into the tale of my discovery.

"My God!" spluttered the Chief at the end of my narrative. "Then you believe that this fanatic has had those poor fellows murdered?"

"I could swear to it," I answered with conviction.

"But who do you suppose the fourth man is—the one who was taken for you?" asked the Night Editor.

"I think it must have been Mallory, the chap who gave me this information. I know that I mentioned him several times in my notes. I suppose that Hughes and the others went to him for some additional facts, and the Hadji's assassins must have trailed them there and murdered the lot."

"That sounds plausible," nodded Madden. "And then they threw their bodies into the canal? Eh?"

I agreed. "But what shall we do now?" I asked. "It is evident that there is a conspiracy to destroy the canals, and a very powerful one, too, for you can see that even the highest members of the Turkish Government are under its influence. No one but Abdul Pasha could have informed the agents of the society that I knew the secret. Why, for all we know, he might be one of the leaders—"

"What shall we do?" said the Chief, and nearly shattered the table top with a blow of his fist. "What shall we do? Why, we shall do exactly as we would have done before. We'll expose the whole

scheme and kill it with publicity. We'll have it in the afternoon edition. Martin, you had better sit down and immediately rewrite your dispatch. I'll have it in the front page, with any photographs that we may have of Barnes, Hughes, Morrison and Abdul Pasha. Have you any idea what this Hadji looks like?" he asked me.

From Mallory's description, he is a very impressive looking man," I replied. "Tall and cadaverous—looks as if he's burned up inside with the fires of his own fanaticism. Long beard stained with henna and very queer and piercing eyes that sort of stare at you—. A green Hadji's turban, of course, and I suppose, ordinary Kurdish costume."

"Very good," snapped the Chief. "Get one of the black and white artists to draw him from that description. Now then clear out of here, every one of you. I've got to write a new editorial." He herded us out of the door and slammed it to behind us.

CHAPTER VII.

Mr. Banner's Goat

THIS is how we made known to the world the plot of a madman to destroy the Caspian canals; to demolish the only hope the people of the earth had, of averting complete destruction from both themselves and from their planet. And yet, did the world believe it? No, indeed, it did not. It laughed at us. Such a thing was impossible, the other papers said. It was doubtful if even a single man existed who did not approve of the experiment to save his life. As for a secret society of a million members, all of whom had pledged their lives to the cause of destroying the earth's one chance of escaping destruction—thus practically murdering all the other people of the world, besides committing suicide themselves—why, such an idea was as ridiculous as it was impossible. No such number of men could have kept their aspirations a secret, and the Turkish Government had been approached and had declared that it had heard nothing whatever about such a plan. Indeed, it had said that the whole story was a fabrication that contained not a grain of truth.

The other papers asked us sardonically, in their editorials, whether besides the word of a sensation-hunting journalist, we had any proof of what we were exposing, and if so, what it was.

The end came three days after my return from Port Farintosh. The dread rumor came fitting round the office that the Old Man was intending to pay us a visit this morning. It was a rare thing indeed for the multimillionaire owner of the paper to call on us; it was only in moments of violent disagreement with some feature of the *Echo's* editorial policy. This time, however, there was little doubt as to what had angered Banner. It was, undoubtedly, the roasting we had received from the rest of the press about our exposure of the Hassan Agha conspiracy.

It was well known that the *Echo* was a weak place in Banner's armor of complacency. It was the heel of this Achilles, his one vulnerable spot, and the New York papers knew it, and loved to prod it. Banner had nursed the *Echo* with care and immense sums of money until it became the greatest paper in the world. But Banner had not yet got used to this, and still regarded it as a puny infant that stood in need of his protection. Therefore, the slightest dispar-

agement of it was still sufficient to bring him fuming up the stairs, to demand the instant dismissal of the luckless reporter who had made a blunder big enough to attract the attention of the other papers.

My expected call did not come until nearly noon, and then, to my relief, I found that Banner had already left, but from the wilted looks of the assembled editors, it had evidently been a fiery session indeed.

"Phew!" exclaimed the Chief, as I entered. "You don't know what we've been through, just because of that confounded discovery of yours."

"What's going to happen?" I asked anxiously. "Are you going to drop the exposure?"

"We have to," explained Madden. "He says that he won't have the *Echo* made the laughing stock of New York. You know how sensitive he is."

"Yes," I cried, "I know that. But in a case like this it ought not to count. Didn't you convince him that what you printed was the truth?"

"I did," said the Chief, "and he says that he firmly believes it now, but just the same he has forbidden me to print another word about it until he gives me leave. Someone, you see, has told him that this story is all faked up, because the *Echo* wants to make some capital out of the accidental death of three of its men in Port Farintosh."

"What a dirty—"

"Of course, he doesn't believe it," hastened Madden. "He swears by the *Echo* anyhow. Anything we print is Gospel Truth to him. But it hurts him to have these things said about us, and he is going to do a little private investigating, before he allows us to say anything more about it. You know what he means by a little private investigating, don't you? He is going to swamp Port Farintosh with quantities of the best paid detectives that he can lay his hands on, and we will get duplicates of their reports. Then, when in Banner's estimation we have sufficient proof, why, we'll open up again. Does that suit you?"

"It will have to," I replied. "I only hope that the detectives will get the proof before the Hadji has time to do any damage."

Next morning the *Echo* printed nothing whatever about the Mohammedan plot. Nor did it the next morning, nor for many a morning after. After a few more sarcastic comments, the New York papers completely forgot about it, and devoted themselves to waging war against the Anti-Tobacco League.

CHAPTER VIII.

Towards The Sun

MEANWHILE the canals had been completed and, now, began the truly formidable task of demobilizing the millions of men who had been used in their construction. In addition, hundreds of thousands of pieces of valuable machinery had to be sorted out and returned to their owners. The mushroom cities of tents that had sprung up alongside the canals, were to be dismantled and shipped away. Innumerable miles of railway track were torn up and sent back to their country of origin. But all this took time, took many weary months indeed, during which the star was approaching the earth.

Gradually, too, alarmist reports leaked out, that something was the matter with Farintosh's theory.

Already the canals had been running three months, and the Caspian had risen twenty feet, but the observatories reported not the slightest deviation of the earth from its orbit. The rumors gradually grew in numbers, until everyone had heard them, and all kinds of wild conjectures were made.

Some people had already begun to be doubtful if Farintosh's plan would prove successful, and numbers of shady dancing places and cabarets sprang up in all the large cities, which catered to the continually increasing number of people whose motto became: "Eat, drink and be merry, for tomorrow we die."

At last the Council decided that extreme measures were necessary to check the rapidly spreading moral degeneration. These resolved themselves into the strict supervision of all places of amusement, and the conscription of still more forced labor.

The Council also instituted a daily bulletin service, which reported chiefly the more cheerful news of the campaign, such as the daily rise in the water-level of the Caspian Sea, the progress made in the returning of the labor battalions and things of that sort. But still the agitation grew, and finally got beyond ignoring. The popular voice demanded, with growing indignation, whether the rumors were true that all their work had been for nothing; that the movement of the earth had not yet been even a little affected by the immense quantity of water that had already passed through the canals.

The Council was forced to confess that no deviation had been noted as yet, but that the astronomers were of the opinion that it was too early to know whether the plan had failed. In fact, many of them thought that the change in the earth's balance would come—not gradually, as had at first been expected, but abruptly, when a sufficiently great amount of water would be displaced to make a new center of rotation absolutely imperative. The earth, they contended, would continue to spin for awhile with a misplaced center of gravity, but in time so much water would flow into the Caspian, that a new axis would be necessary.

This answer, though rather involved, sufficed to pacify the people to some extent. Most of them thought that there still was a good chance of saving themselves. Nevertheless, there was a party openly agnostic, who scoffed at the Supreme Council, and more and more gave themselves over to excess.

Then came the news of famine in China, India and parts of Turkey, where the natives, with Oriental fatalism, decided that they were going to die, and had therefore neglected to put in their crops. Relief measures had to be undertaken, and grain was gathered from all parts of the world, to feed the apathetic masses of the East.

Next the dreaded black plague broke out among the undernourished and non-resisting Chinese, and with amazing speed, spread through the entire Orient. Thus to the horrors of famine were added the still more ghastly sights of the black death.

The physicians of China could not cope with their work, and again a cry went out for help, a cry which did not go unheeded. Thousands of heroic doctors volunteered to brave the terrors of the one disease to which no cure had yet been found, and went to nurse the Chinese. The latter, however, made no effort to resist the plague, but, once in its loathsome grip, seemed to resign themselves to death.

In the face of this apathy, the physicians stood

helpless. They could and did establish hospitals, segregated the stricken, and disinfested the homes and clothes of the people; but save them, once they were touched, they could not. For not even the best skill in the world can save a person, who has made up his mind to die.

China, then, was carefully blockaded by the anxious nations, who sent her foodstuffs, but permitted no one to leave the quarantined country. The disease, however, continued to spread to the west, passed through the lines of the Russian army, which had been impressed to guard the eastern frontier of the Empire and made its appearance in Siberia.

Countless hordes of refugees thronged the roads, leading away from the infected areas, and in their vain endeavor to escape the plague, carried the disease germs with them. Doggedly they trudged down the long dusty roads on their aimless march to anywhere, to any place that the plague had not yet reached. But even as they plodded along many of them already felt the disease gnawing at their vitals. Yet they struggled on, hiding, as best they could, their horrible secret, until their wornout bodies collapsed and were rudely tossed to the roadside, while the ceaselessly moving horde rolled on.

Straight through Russia the plague mowed a wide swath, into Poland and up to the German frontier. Here, fortunately, its progress was stayed, and Europe breathed again."

Six months had passed since the opening of the canal gates—almost half the time allotted to the diverting of the earth and still there was not the slightest promise that Farintosh's plan would be crowned with success. Daily the ranks of the doubters were increased in numbers.

Sinister rumblings of discontent now began to be heard from the working masses. It seemed as if we were living on the top of a volcano, which any moment, might burst out into the scarlet explosion of revolution.

Wildly gesticulating orators stood at the street corners and impassionately asked their fellow workmen why they continued to labor for the cursed capitalists, when the end of the world was nigh. What was the use of slaving, when so little life was left to man? He should enjoy it, they urged, and once and for all, get even with the bloated plutocrats who had ground them down into the dust for so many years.

Ugly disturbances broke out in Fifth Avenue, when several mobs invaded the sacred precincts of fashion and looted some of the big stores. The country was keyed up to such a pitch that every householder kept his shotgun loaded, and took it to bed with him.

Anarchy was turbulently seething in the cauldron of the East Side of New York. At any moment, almost, the frenzied masses of foreigners might break the shackles of restraint and start a Saturnalia of unbridled license.

Suddenly, and with absolutely no warning, a terrific windstorm screeched down upon New York. Awnings, over the shop windows, bellied just once, and then, with the report of a cannon, split and parted from their fastening. The air grew thick with dust and flying debris. So laden, in fact, did it become, that from any point of vantage at the office window, I could barely discern the scurrying crowds below. I heard faint, indistinguishable cries from the street, the smash of bursting window glass and

the agonized hooting of motor cars whose drivers could not see the road, so dusty and congested had the air become. Strange, flapping things soared past my window, and flitted, like gigantic bats, into the murk above the housetops.

Then, as suddenly as it had come, the storm, if storm it was, disappeared, and once more the sun shone brightly down upon New York. But now a new murmur was heard—a noise that, quite unaccountably, seemed to be like that of an angry sea. Gradually it grew louder and louder until I could almost have sworn that it was the roaring of storm-tossed waves against a rocky shore. Then the noise receded, died away to a faint murmur and finally subsided entirely.

The telephone rang sharply, and I jumped to the receiver.

"Is that the *Echo* office?" chattered an excited voice. "This is Simmons speaking. A tidal wave has just wrecked most of the shipping in the docks, and has flooded the warehouse district. Millions of dollars worth of damage done to shipping and houses. Hundreds of men killed and thousands injured. A fifty-foot wall of water—" the babbling voice ceased. I tried to get reconnected, but the arrow on the dial of the automatic phone swung round to "Line out of order."

The instant I got up, the phone rang again. I picked it up, thinking it might be Simmons again, but I was mistaken.

"Martin," cried a familiar voice, "is that you? It's happened! It's happened!"

"What's happened? That's you, Farintosh, isn't it?"

"Why, man, have you no senses? Didn't you see what just happened?"

"I've seen the worst windstorm I've ever been in, and I hear that a tidal wave has flooded part of New York. Is that what you mean?"

"No," thundered Farintosh. "Those are merely incidental to the earth's change of axis and to the altered rate of rotation."

"Do you mean to say—"

"Yes, I do. We've succeeded. We've changed the earth's course, though, to what extent, we won't know for some time. But the chief thing is that we've diverted it from its orbit, and—you can put that in your paper."

The following twenty-four hours never once heard a falling off in the crash and roar of our gigantic printing presses. Yet, fast as we issued copies of the *Echo*, we could not keep pace with the demand. All New York and his wife seemed to be buying papers, reading the scant extra information, and then buying another edition—ten minutes later.

And certainly the news that came through fully warranted their excitement. First came the accounts of the terrible toll taken, all over the world, by the tidal wave. Few ships indeed had been able to weather the combined forces of the sudden blast of wind and the contending sea currents. Appalling stories came of damage done inland, for the sea had invaded not only New York, but all the cities on the Atlantic coastline of the two Americas. China, by some perversity of fortune, had once more to bear more than her share of the cataclysm. Vast areas of her fruitful, but low-lying lands were inundated by the westward rushing floods.

Then messages arrived from various astronomical

observatories, saying that their instruments had recorded a distinct change in the movement of the earth, that it was thought to have slowed up in its revolutions to the extent of about half an hour a day—that it had also changed its course—slightly towards the sun.

After this came more news of disaster on land and sea, but appalling as was the price paid for the slight deviation of the earth from its orbit, the Supreme Council, and the governments of the world considered it well worth while. For now that the plan had proved possible, and, indeed, already in part successful, the much feared bogey of anarchy would vanish before the reawakened confidence of the people.

Thus, in truth, it turned out to be, and also, with the people's new faith in his project, Farintosh's popularity was suddenly restored. Once more his face appeared in the shop windows, and enthusiastic crowds gathered outside his house, waiting for a chance to cheer him. Hope was the dominant note of the world again.

Fuller reports from astronomical sources arrived in due course to give fuller particulars as to the earth's altered orbit. It appeared that while our planet had slightly approached the sun, yet the deviation was not nearly great enough to carry the earth clear of the track of the comet, most of the twisting force of the overbalancing weight of water in the Caspian having been used up in retarding the spinning of the earth by twenty-nine minutes.

The astronomers, however, held out the hope that, as more water flowed through the canals, the deviation would become more pronounced and finally suffice to bring the earth out of the road of the comet. On the other hand, the scientists were particularly careful to make clear the fact that if our planet continued to deviate from its course at the same ratio to the weight of water passed through the canals, then, though it might pass beyond the orbit of the comet, it would still be close enough for the laws of gravitation—mutual attraction—to apply. Thus, they explained, our planet might yet be drawn to its doom—engulfed in the sphere of flaming gases that rocketed through the skies. They demonstrated this law by quoting the well-known example of two ships lying becalmed on a motionless sea. The vessels would be mutually attracted, would near each other and, finally, if undisturbed, would gently collide.

Another thing that had been the object of much anxiety to the astronomers was the probable conduct of the moon, when the earth should change its course. All fears proved groundless, however, when this event happened, for so strong was the gravitational bond between our planet and the moon, that the latter moved with the earth, and rigidly maintained its former distance.

But these hopes and speculations did not seem to interest the mass of the people much. They had seen, and indeed, felt the earth change its orbit, and that, to them, was sufficient.

They were firmly convinced by this time that our planet would, somehow, depart enough from its course, to easily evade the clumsy charge of its celestial antagonist.

And, what good, after all, would the complicated speculations indulged in by scientists, do the great mass of the people?

CHAPTER IX

The Glorious Fiasco

BUT, while many people were satisfied with the prevailing state of affairs, some were not, and among the latter were numbered the editorial and reportorial staffs of the *Echo*. For six months now we had been waiting for a satisfactory explanation of the deaths of our colleagues, Morrison, Hughes, Barnes and my friend and informant, Mallory, and still no credible story was given. Now, a fortnight after the sudden correction of the earth's center of gravity, an informal meeting in Madden's room was for the twentieth time debating whether it would be wise for us to take the matter into our own hands and again print as much as we knew about Hadji Hassan Agha. And, for the twentieth time, the proposal was overruled, for, after all, we had no additional information whatever about the Hadji and his supposed activities.

The reports from the detectives employed by Banner were singularly lacking in news; indeed, one would judge from them that there was no such person as the Hadji. It is true that two of the more zealous investigators had sent us one or two rather promising letters, but these men had disappeared mysteriously, apparently on the trail of some important clue. And their colleagues seemed to find nothing suspicious in their disappearance and apparently never considered making any inquiry about their missing confrères. Yet we, in the office, had absolutely no doubt as to the fate of the unfortunate investigator, who might stumble across any information that the Hadji and his associates would wish to be kept secret.

What chiefly puzzled us, however, was that the madman had made no obvious move for the destruction of the canals. It seemed impossible that any religious fanatic, at the head of a million impatient followers, could restrain himself for so long a period without making any sign that could be detected by our more or less vigilant staff of watchers. We should have known better, for patience is the greatest virtue of the Asiatic. Time, of all things, he has enough of, and to spare.

On the other hand, there was a certain time limit within which the Hadji knew that he must act. Already the earth had been diverted some little way from its path—and this in direct defiance of the Hadji's prophesy that Allah would not permit such an impious thing to happen. If he delayed much longer, he would risk losing the faith of his men and, therefore, we argued, if he was going to start any trouble, it would be soon. But, though we were all morally certain of the plot to destroy the Caspian canals, we were not permitted to print a single word without the sanction of Banner, the owner of the paper, who was still waiting for corroboration from his precious detectives.

It was a maddening situation. Here we were, absolutely dependent upon the words of a few men, whose errand in Port Farintosh was well known, and for whom the stage in that city had been carefully set. I protested. "But this is impossible," I cried. "We cannot keep on waiting indefinitely for those investigators of Banner's to find out something. There isn't time enough. Why, before they ever notice anything, the Hadji will be able to blow up

every sea wall that the canals boast of, and set Port Farintosh on fire as well."

"I know," soothed Madden. "They are a pretty hopeless bunch since their leading lights have been weeded out, but, as you say, this has gone far enough." A flame of resolution suddenly lit his face. "And by G——," he exclaimed, pounding the table top, "it shall go no further." He seized the telephone attached to Banner's private wire, and called for the owner of the paper.

"Is that you, Banner?" He boomed a moment later. "This is Madden. Now I'm going to talk again about that Mohammedan conspiracy—"

"No, there have been no new developments, but just the same, I'm going to print the story to-morrow."

"I don't care if you do. I've neglected my duty long enough because of your sensitiveness. The story will go."

The Chief slammed the receiver back on the hook and wheeled triumphantly around in his chair. "Well, that's that," he said in a satisfied tone. "We'll feature the story on the front page again and keep on dinning it into the heads of the public, until they—"

The phone rang and drowned the rest of his words.

"Yes," he said. "Hadden speaking."

"No, I will not reconsider it."

"What?"

A prolonged silence.

"Very well, I'll put it to them," and again the receiver was slammed back on its hook.

"Banner says that it would be ridiculous to print the same story we printed six months ago, without any extra information. He says that since we do not trust his investigators, why don't we send down three or four reporters secretly, let them ferret out some news, if they can, and then reprint the exposure. What do you fellows think of it?" He looked at us inquiringly.

"We-e-ell," drawled the City Editor at last. "It seems to me that there isn't time enough for that sort of thing, but perhaps Banner is right. We ought to have some additional news. Otherwise the other papers will roast us like anything, for springing the same old stuff on the public."

"If we did so, it would go to show, anyway, that we were serious," said the Sporting Editor. "Just the same, I agree with old Smith." He nodded at the City Editor.

The rest of us agreed, and it was settled then and there, that I should return to Port Farintosh, on the morrow, by airplane, and take with me any three reporters I wanted.

But it was fated that all our preparations for uncovering the Hadji's plot should prove useless, for on the next day came news calculated to rouse every man to a white heat of anger. The calamity, long foreshadowed by me, but scoffed at by most people, had happened.

Taking advantage of the completed withdrawal of all the labor battalions, the Hadji, with his men, had attacked and overpowered the guards and engine house crews, left in charge of the colossal sea walls. Then, at his leisure, he had destroyed those magnificent structures.

I can do no better than to quote the *Echo* of that

morning, and are therefore printing the following:

CASPIAN CANALS DESTROYED— MOSLEMS DYNAMITE GATES— PORT FARINTOSH BOMBARDED

Secret Society Resents Attempt to Save the Earth and so Damages Canals that Engineers Despair of Reconstruction

The *Echo* learns from the Associated press correspondent at Port Farintosh that yesterday afternoon a dastardly attempt was made to destroy the Caspian canals, on whose safety the future of the whole earth hinges.

It will be remembered that some six months ago this paper printed a number of articles, exposing the plot of some fanatical Mohammedans to destroy the canals, because it seemed impious to their leader to meddle with the stars in their courses. At that time it was our fate to be scoffed at, and our warnings went unheeded. Consequently, the conspirators were left unhindered to work out their nefarious plans; today we hear the fruits of this neglect to take us seriously.

PORT FARINTOSH, December 20, 1936. At three o'clock this afternoon, the Turkish fleet in the Black Sea, consisting of ten cruisers and twenty destroyers, accompanied by a fleet of airplanes, appeared off Port Farintosh and without notice of any kind, bombarded the city for thirty minutes, then sailed on. One hour later they disembarked ten thousand men at the landing stages, between the sea walls of the canals. The watchmen and the engine house crews offered as much resistance as could be expected from unarmed men, but they were finally driven back and shot down. The raiders then proceeded to systematically plant charges of high explosives in all vulnerable spots, apparently being directed in their work by skilled engineers. Vast quantities of explosives were used, for the surviving watchmen state that the boats were kept going continually, to and fro, between the battleships and the piers, bringing off load after load of rexite.

At seven o'clock all the preparations were completed and one after the other the sea-walls were blown up. The ruin is complete. Not a vestige of the gigantic dams is to be seen above the sea water, which is now rushing turbulently into the open canals. The Turkish vessels, after making sure that the damage was complete, are now steaming back across the Black Sea.

A later dispatch gave the same news, with a few additional facts. It appeared that no danger had been suspected when the Turkish ships entered the Sea of Azof, for the Sultan had expressed a wish to see the canals; indeed, preparations had been made for his welcome. The bombardment of Port Farintosh was, therefore, as unexpected as it was senseless. The Sultan, too, must have been cognizant of the conspiracy, for it was he who obtained permission to visit the canals, and he sailed into

the Sea of Azof at the head of his fleet, in the Royal yacht.

Rumors, it was said, were current in Port Farintosh and Rostov that the deed lay at the door of a certain Hadji Hassan Agha, a fanatical leader of certain Moslems, who believed that the plan to divert the earth was against the will of Allah and would bring eternal damnation upon the souls of all who aided it. It was whispered that during the last six months, the whole Turkish fleet had been secretly manned by these conspirators, who were sworn to prevent interference with the earth's course—the very same stuff that was refused credence when it was printed in the *Echo*. Engineers, who had examined the sites of the sea walls, declared that their reconstruction was impossible. They feared that the plan of the conspirators to let the canals get choked up by the sand would prove successful. The sea was already pouring in at a tremendous rate, and signs of erosion were becoming visible in many parts of the canal banks.

This was the news that greeted me in the *Echo* on the morning of my proposed flight to Europe. Of course there was no necessity for me to go to Port Farintosh anymore, so I cancelled the seats of my three companions and myself in that day's plane, and rushed to the office. There was nothing more to be done there however, and I returned to my diggings.

The *Echo* had the barren satisfaction of saying, "I told you so," but that didn't help matters much. A frightful howl went up from the other papers for the blood of whoever was responsible for not heeding the warning, so plainly given by us six months before. The *Echo* itself came in for a considerable roasting from the New York press because it had not continued giving the warning in spite of what the other papers said. Banner, in particular, was severely censured for having muzzled the one organ of the press that knew what it was talking about.

Oddly enough the actions of the conspirators received little comment, for the deed was done now and could not be undone. Moreover, the Hadji and his followers came to be looked upon as irresponsible lunatics, and therefore, more worthy of pity than of censure.

The responsibility for the catastrophe was quickly laid upon the Supreme Council for neglecting to take heed of the *Echo's* warning. But this was not enough. It was almost impossible, for the public to blame or punish a disembodied council of two hundred members.

The people wanted a real scapegoat—they wanted one man.

Again a marvelous change in the temper of the people had taken place. A day or two ago, they had been raised to the heights of rejoicing, because, after months of doubt, they were told that there still was a good chance of being saved themselves. Now they were suddenly plunged into the depths of despair, because that one chance had been taken away from them.

There was an undercurrent of vengeful feeling running through their emotions. Somebody should suffer for this, they were resolved. But who? Suddenly the answer came to them, and a mob of several thousand people gathered in Fifth Avenue, in front

of the house of Banner, who, it seemed to their crazed imaginations, was directly responsible for the destruction of the canals—their only chance of salvation.

In vain did patrol wagon after patrol wagon bring its load of blue-clad policemen to overawe the constantly growing mob. The crowd bayed for its man, and steadily, step by step, the expostulating guardians of the law were forced back to the very door of the house. Then, in desperation, one of the hard-pressed policemen drew a club, and used it. He was pulled down. Forthwith the voice of the crowd took a new note. It had smelled blood, and immediately the blood lust was aroused. The crowd turned instantly into a mob of raving beasts, whose appetite would be appeased only by the death of Banner.

There was a sudden forward surge, and the blue line of policemen vanished, as if by magic. A sickening crash followed and the splintered door swung open—smashed by the impact of twenty maddened men with the weight of hundreds more behind them. The horde poured into the splendidly appointed mansion.

Their quarry, however, had disappeared. So had all the servants, and the disappointed rabble vented its anger by smashing all the furniture and priceless works of art in the house. Then they piled all the wreckage in the road and made a gigantic bonfire of it.

New York, moreover, was not the only city in which such acts of violence occurred. In London, several Turkish subjects, wearing fezzes, were set upon and badly beaten by a crowd of infuriated Englishmen, who saw in them representatives of that blind, unreasoning "religion," that had fostered the insane conspiracy.

Paris and Berlin too had their cases of mob fury, for in both cities the Turkish embassies were sacked and destroyed. Indeed it was only with the utmost effort that the police of those countries were able to save the lives of the Anatolian diplomatic representatives.

In addition, the beautiful Mohammedan mosque in the French capital was set aflame by an army of workmen and students, who marched down upon it in a great column, with much singing of patriotic songs and wavings of the tricolor.

The British Cruiser Squadron in the Eastern Mediterranean, which had been revictualling at Cyprus, on hearing of the infamous deed, immediately steamed off for the Dardanelles, hoping to catch its perpetrators before they could block the entrance of the Black Sea. But their search was useless, for the Turkish battle fleet was never again seen.

And when it reached the centre of the Black Sea, every ship of the fleet was scuttled by its own crew. The men, with a fanatical frenzy, preferred to go at once to the assured joys of Paradise, rather than risk the possibility of suffering terrestrial punishment at the hands of the enraged infidels.

Thus went the degenerate, known to history as the last Sultan of Turkey, and with him perished Hadji Hassan Agha, the insane leader of a fanatical multitude, who for fear of eternal punishment, had tried to carry out their perverted notion of the will of Allah.

CHAPTER X

Trial by Fire and Water

DAYS passed, while we expected hourly to hear that the flow of one or another of the canals had ceased. But, though reports kept coming, stating that erosion continued on a gigantic scale all along the banks of the canals, nothing, as yet, indicated that the daily quantity of water entering the Caspian had in the least been diminished. In fact, all the evidence pointed to the contrary. The water was now flowing through the canals at a much greater speed than it had done before the destruction of the sea walls, and though it was possible that the canals were becoming shallower, because of the vast amount of silt washed from their sides, yet this shallowness was compensated by the added width of the channels.

In addition, engineers reported that the nature of the soil was such that a great part of it could be carried in suspension by the swiftly moving water, and either deposited in the wide Liman Lake, or else discharged into the Caspian sea.

Things seemed not so dark as they had been thought. Then, too, came cheering messages from various astronomical observatories, which announced a greatly accelerated deviation of the earth, from its old path about the sun. This, the scientist said, was due to an increased weight of water entering the Caspian every day. Let this keep up, they said, for another four months and the earth will be in a fair way to easily escape the dangerous proximity of the comet.

Unconsciously, perhaps, but genuinely, nevertheless, the average man began to hearten up again. "It would be odd," he mused, "if those crazy nuts have gone and increased the earth's chances of being saved, instead of destroying them." And then he would slap his knee with enjoyment at the idea and would go and tell it to his friends.

And as he thought, so it proved to be. For instead of choking up, the canals continued to flow and even grew several feet wider every day, while the washed-out soil was carried away on the swift moving currents, to stain the fast rising Caspian a strange earthen hue.

Five more months separated us from the date on which the comet was to have met the earth. And five months of weary anguished waiting they proved to be. Night after night the blazing sphere seemed to be swelling bigger and bigger and morning after morning it grew more and more reluctant to sink its bloated bulk below the horizon. Already it exceeded in size the biggest of our planets and outshone Mars' ruddy glow with a fiery brightness, the like of which had never before been seen.

Day by day, too, the earth edged towards the sun. Soon we were four hundred thousand miles nearer, and gradually passed the five, six and eight hundred marks, but the margin of safety was not yet great enough.

Slowly, as we approached the sun, the weather changed. Thunderstorms grew to be more frequent and increased in intensity. Torrential rains suddenly began to fall in spots, not at all noted for their humidity. The days were getting warmer. Although it was the middle of winter in New York, the snow never once stayed on the ground, but melted at the

moment of contact with the wet pavements. This surprising mildness was prevailing all over the world. The Sea of Azof, whence started the Caspian canals, did not freeze solid, as was its wont, did not even show the least trace of ice, and the much feared freeze-up of the canals failed to materialize. A green winter was the rule over the greater part of the temperate zone.

All these phenomena were explained to be due entirely to the earth's approach to the sun, and to the greater heat absorbed by our planet.

In the Southern Hemisphere, also, people were experiencing a great change in temperature. Such a hot summer was absolutely unprecedented; indeed it was almost unbearable. Fortunately, however, the sun's rays beat down so hotly upon the Southern Seas that unusually great evaporation took place, and the parched lands were cooled, to some extent, by the frequent rains. Towering cumuli of snowy clouds, shaped like giant castles on fairy mountain ranges, sailed majestically into the central Australian desert, to shower the startled prospector, who for unnumbered years had never felt a drop of rain upon his leathery skin.

Whalers reported that even the Southern Ice Cap was rapidly shrinking and disclosing to human eyes, for the first time, the outlines of the Antarctic Continent.

Then came the series of startling orders from the Supreme Council that proved that body's admirable foresight. First, the Council decreed that the nations of the world should remove all the available food supplies from the low-lying coastal cities, and store it on land that was more than a thousand feet above sea level. Secondly, the Council demanded the construction of camps around these bases of supply to house the population of the coastal cities, which the Council ordered to be gradually evacuated.

These measures were necessary, the Council declared, because of the gigantic tides that would be bound to circle the earth, on the close approach of the comet. For, said they, as the moon in revolving around the earth causes the tides, so would the gravitational pull of the wandering asteroid cause floods far greater than those caused by the moon.

There was a great outcry at the statement that the destruction of the great cities was assured, but the people of the earth had learned their lesson, and no longer doubted the word of the Supreme Council. They remembered, only too well, the tidal waves of three months ago, when the earth had first corrected its centre of gravity, and the terrible toll it took of human lives.

Eighty-seven days' grace the astronomers promised us, before the comet should be at its nearest point to the earth, and either, with its inconceivable heat, entirely disintegrate our planet into its component gases, or else, leave it to stagger on in its new course. In these last few days, a flurry of frenzied preparation for the forced evacuation of the world's greatest cities began. From the Atlantic seaboard of North America alone, thirty million people had to be removed to the safer highlands, and with them went their luggage and as many of their household effects as could be transported. Enormous herds of cattle were collected from the sea-threatened farms, and driven into the interior, there to be held as an emergency reserve, in case the

food supply of the houseless city refugees gave out.

All was managed in our own country with an order and efficiency that spoke of marvellous organization. Some nations, however, were less fortunate. The peasantry of the Asiatic nations, even under compulsion, refused to leave their ancestral lands.

That year spring came very early, and merged into summer heat with startling rapidity. The vegetation would soon have become parched, if it had not been for the very frequent rains. But we soon had more than enough of rain, too, for drenching downpour succeeded thundering cloudburst with a regularity that first grew monotonous, and then became hateful. I began to loathe the sound of water swishing on the pavements.

It rained incessantly, with the exception of a few brief spells, when the sun shone between the dark-edged clouds and burned us, as with a magnifying glass.

Only thirty days were left now, and the canals were running more and more sluggishly, because the Caspian Sea was fast filling.

The comet was now half the size of the sun and quite as brilliant. There was no longer any night, for the hours of sleep were now lit by the crimson splendour of the flaming ball of gas. Indeed, night was now the brighter half of the day and it was only because of the unbearably lurid light of the comet, that the hours of sleep and work were not reversed.

In any event, sleep was a thing much desired, but not to be had. The hot-house heat made it impossible. Men tossed restlessly all through the sweltering night, to get up next morning unrefreshed, red-eyed and haggard-featured to start another day's weary toil. Is there any wonder that, during those days of terrible sleepless stress, so many men went mad and destroyed themselves.

Still the heat increased, and with it came a greater rainfall. The heavens were screened from sight by an inky pall that seemed to hang just a few feet over the roofs and ever vomited forth a ceaseless deluge. The roll of nearby thunder was continually in our ears and drowned out practically all other sounds. Vivid lightning flashes rent the sky, and through the cracked bowl of heaven showed us the flames of hell.

The two Americas were isolated from the rest of the world because of the eternal storms that rendered the seas impassable. The sailors reported that enormous evaporation was going on. So much steam was rising from the surface of the water that it was as thick as a North Sea fog. Navigation, except by dead reckoning, was impossible and no one was foolhardy enough to attempt that, because it was known that the sea currents had altered.

Small brooks grew into mighty torrents that thundered into immense bodies of swiftly moving waters that once had been mere rivers. Vast areas of low-lying ground were turned either into marshes, or else into large lakes. A wireless report came from Germany to the effect that the city of Berlin was showing signs of subsiding into a morass that had crept up around it.

Luxurious herbage was springing up everywhere, because of the humidity! semi-tropical vegetation was reported even in Scandinavia. Certain scien-

tists predicted a return of the earth to a state comparable to the Jurassic Age, when gigantic reptilian monsters wallowed in the ooze, and browsed off the lush herbage that covered the earth then.

A week before *the day* the gravitational pull was seen to affect the ocean visibly. A great tide surged up against the Atlantic Coast—a tide greater than any yet known in the history of man. It rolled across the Pacific and dashed against the Japanese and Chinese coasts. Then was seen the wisdom of the Supreme Council's command, that all people should be moved out of reach of the floods. This time too the Celestial Empire suffered, through disregard of the Council's warning. Millions of people were caught and drowned, like rats in a trap, in the crowded warrens of their cities. Unnumbered tens of thousands of Chinese peasants, who had refused to leave their farms, were likewise drowned, and a vast area of country was inundated.

This flood, however, was nothing compared to the second day's tide, that with the comet's nearer approach, and therefore increased gravitational action, was almost twice as great as that of the day before.

For many days now we had not seen the sun or the stars, because of the pall of clouds that hid the firmament from sight. Most of the astronomical observatories were thus put out of commission, leaving only a few in the higher altitudes, that continued to send out reports. But, as the comet drew nearer, it gave off so much heat that even the mountain observatories complained of being wreathed in fogs. At last only two lookouts at the thirteen thousand-foot level were free from nebular interference. These reported the comet to be much larger than the moon; they reported that it filled a whole quarter of the sky's bowl and was unbearably bright to look upon. The asteroid's tail, without which no comet is popularly supposed to be complete, never had been visible with our celestial visitor, and now had completely disappeared behind the body of the comet.

Even to us, who lay panting upon the rocks of the Catskills, the brightness of the comet was evident. The whole sky, at night time, was like the inside of a glowing cauldron. The very clouds seemed charged with crimson fire, and writhed and bellied over our heads, like some celestial monsters in deadly combat. Lightning continually criss-crossed the sky in a lurid mosaic, and yet seemed insignificant beside the awful grandeur of the firmament aflame.

Day by day the floods rolled higher and higher against the mountains, and, at ebb, strewed their lower slopes with more and more wreckage of the cities. Here lay the ruined half of a house, and there a wooden garage deposited upright upon a piece of level ground. Further away, among the tangle of boards, lay the wreck of a fishing schooner that had been picked up by the tide and carried inland. Here and there too, lay the bloated bodies of live stock that had been caught by the water, and yet further apart were found the occasional bodies of some unfortunate mortals who had been overtaken by the flood, perhaps while in search of some dear one, from whom they had become separated in the final wild rush for the hills.

But the troubles of strangers did not much engage us at the time. We were too much absorbed in our

own misery to take much thought of anybody else. The torment we endured there is still so deeply graven on my mind, that I am reluctant to speak of it. It was the hardest test of the temper of a people that could be imagined. All weaklings, all those mentally imperfect were ruthlessly searched out by the ordeal of fire and water. Only the fit survived. The others perished.

Daily, with inexpressible anxiety, we watched the floods and listened to the occasional reports from the observatories. We were too wrought up, even to hazard guesses with one another, as to what the final outcome would be. Some, I think, were too spent to care.

However, my misery was not so great as to deprive me of thought. Will we be successful? Will we be successful? The question rang in my head. During those days it seemed to become an integral part of my mind. It was impossible for me to think of anything else. In my fancy, I saw it written on the flaming heavens. Huge question marks danced before my eyes, wove themselves into intricate designs and grotesque figures. I remember how I once startled my friends by insisting that an aged man, whose bent figure I saw shuffling along in the distance, was the incarnation of the question mark. My friends thought that I had gone mad. Perhaps I had—I cannot tell you now.

After aeons of infernal torture, after having been baked, steamed and stewed, it seemed since the beginning of time—news came that the morrow was the deciding day. At ten minutes past three—old time—either the earth would fall into the comet—in which case we should all be mercifully incinerated in a very few seconds—or the earth would get a new lease on life.

Higher and higher raged the baffled tide that day. Great clouds of salt spray were borne on the hot wind and drenched us where we lay.

The time was nearing three o'clock and, with a great deal of mental, as well as physical effort, I staggered to my feet and made my way to the nearest news booth, whence the latest information was megaphoned to the surrounding crowd. A large number of the most energetic people of the neighborhood were gathered there, yet, never in my life had I beheld a more washed out gathering. They hung over the benches in a manner that suggested nothing so much as limp sea weeds, draped over a rock. There was no talking; no movement. Each new arrival limped up in weary silence, slumped into a seat and stayed dumbly in the position he had fallen into.

The telephone operator sat humped in his chair, as if his spine had melted with the heat. A soggy cigarette hung from his lips, and his eyes stared sightlessly at the horizon. Now and again, as a message came through, he croaked hoarsely into the voice amplifier, and we heard the news of the world.

"Three o'clock," he said, and the big trumpet reproduced his voice in a gigantic whisper.

"The comet is now only eighteen million miles distant and is still approaching at the rate of about thirty thousand miles per second. The next ten minutes will tell whether the earth is going to continue as a separate entity, or not."

A drowsy murmur rose in the crowd, but the effort proved too much for them, and soon their voices died away. The thunder rolled more loudly

than ever. Jagged sheets of flame swept around the sky, and the rain descended so thickly as to hide from view all objects more than five yards distant. We sat in the open, but nobody minded the rain any more. It was the heat, which seemed to be increasing with every moment, that we found objectionable. Heavy white vapours rose up from the sodden ground.

Suddenly, I felt the earth pitch with a wavelike motion. It knocked me off my seat. I got up and was promptly knocked down again by a second wave. The news kiosk swayed drunkenly and remained leaning far out of the perpendicular. The telephone operator, however, did not seem to be much concerned.

"Earthquake," said the horn laconically.

It seems odd to me, now, how in all that crashing war of elements, the whispering voice could penetrate to our ears. Shocks came regularly after that, and I gave up getting up.

A puff of wind, hot as from the nether regions, suddenly whipped mud into my face, and before I could move, a gale was roaring over my head. Fortunately for me, I was lying in a little hollow, and most of the wind swept over me.

For an amazed moment I saw the news booth bounding away over the country side, like a startled kangaroo, and shedding boards at every jump. I never saw what happened to the telephone operator, but the hut disintegrated in six leaps; only the conical roof continued to skim on into the grey distance.

This, though it takes long to read, actually happened in the fraction of a second that elapsed, before I was forced to close my eyes because of the force of the wind. I lay flat on my face and pillowed my head on my arms. During the minutes that followed I was not aware of either rain or thunder. I knew only the raving fury that just skimmed over my back and seemed to be trying to tear me out of my little haven. I dug my fingers into the mud, and hugged the earth still closer.

Twirling fragments of buildings hurtled over my head or bounded over my sheltering hollow. A large plank, it seemed, slapped me mightily across the back, and knocked all the wind out of me. For some minutes I lay gasping, at the same time realizing how lucky I was that the plank had not hit edge on.

The wind had gathered up all the mud and water off the ground and was choking me by degrees. It was almost impossible to breathe the semi-liquid stuff, and I had to try to filter it through my teeth.

Though it seemed as though I had lain there several hours, I learned later that it could not have been more than several minutes. I was beginning to wonder dully how much longer I would have to remain when I suddenly heard an earsplitting thunderclap. I continued to cower in my hollow for a few more seconds, for I did not realize its significance at first. After a moment I began to notice that, although the wind was still roaring madly overhead, it seemed to have lessened slightly in intensity.

I sat up boldly, and for my venturesomeness was immediately blown over on my back; I rolled like a tumbleweed for several yards, and then dropped into the pit, over which the kiosk had stood.

Here I was more sheltered than I had been in

my previous resting place, and could take a little more stock of what was happening.

There was no doubt about it. The wind was lessening. Above its roar I could now hear the rumbling thunder quite distinctly. As far as I could see—I did not dare to stick my head out of my sheltering hole—there was not so much debris flying through the air. But there was something else. Something that seemed at first glance to be snow. When one of the grayish flakes settled on my hand and burned me however, I knew differently. This grey blizzard flitting over my head was composed of scoriae—volcanic ashes.

The knowledge stunned me for a moment. An active volcano in this part of the North American continent! It seemed impossible. Then I noticed that the earth-tremors that had disturbed me, seemingly hours ago, had not yet subsided. I had only gotten used to them. Even as I sat there, cracks appeared in the opposite side of the pit, and the whole wall gently slithered down burying me up to my knees. I decided that anything was possible.

The wind was dropping decidedly. Many more of the hot scoriae were being blown into my pit, whereas, previously, they had travelled almost horizontally over my head. I was kept busy, slapping them off my clothes, for I knew from experience that they would burn through even wet cloth. It was then, that I made the discovery, that I had somehow or other, in my recent adventures lost both my raincoat and cap. This was all the more odd since my coat had been closely buttoned up and belted around me. I had not the least idea as to when the disrobing had taken place and the surprise of it took me so unexpectedly that I doubled up with laughter.

After a while I determined to see how many hours had elapsed since I came to the kiosk. My watch said it was twenty minutes past three. I looked at it uncomprehendingly and then held the timepiece to my ear. It was ticking vigorously. But my every sense protested against its mute testimony. Only twenty minutes. Ridiculous! The watch must have stopped, and then started running again when I pulled it out of my pocket.

Then some constricting band seemed to snap in my head. Why, the telephone operator had said that at ten past three the earth would be at its closest to the comet. Even if my watch had stopped some time, it registered that the danger point had passed!

I suddenly was delirious with joy and leaped and danced around my narrow shelter like a mad man.

"Victory! Victory!" I yelled, and waved my arms above my head, so that the watch, dangling at the end of a torn chain, swooped round and banged against my forehead. This brought me back to my senses. But I did not care for the pain. I knew, I knew that we had won. Nature had been conquered. I recalled the prophetic words that Dr. Schreiner had spoken so long ago to poor old Malory. "Man, that microscopic mite, that mere parasite that infests the earth, man, is now the master of the Universe. Now the earth is the mere domicile of man. Who knows whither he will spread from it."

I looked aloft. The grey sleet had gone. The wind was still furious, but no worse than a very bad storm. A big raindrop splashed into my up-

turned face, and, an instant later, a solid wall of water roared down upon me.

With rain, however, I was by now familiar. I buttoned up my coat, turned up its collar, and clambered out of the pit, to seek my friends.

CHAPTER XI

The New Order

SLOWLY, as the comet receded, the tides and the heat grew less. And slowly the people crept down from the hills. Weary, and much lessened in numbers, they followed the retreating tides. And yet, they went joyously, and filled with pride at their achievement. Their weary march was in reality a triumphal procession; the return of the victorious warriors—to a land of desolation.

People had been prepared for "the worst." But their conception of it was immeasurably less, than it turned out to be. Cries of consternation took the place of vainglory when they saw what damage had been done.

Fruitful farms had been turned into desert seas of salt mud; their boundaries had been destroyed. Whole orchards were either uprooted or smashed to kindling, where they stood. Heaps of mud coated rubble, or gaping, brine-filled pits marked the places where comfortable homes had once stood. The country was unrecognisable.

The worst scenes of destruction, however, were to be found in the big cities. Vast mounds of stone and brick lay about in indescribable confusion. It looked as though some giant had maliciously kicked down the works of man, and then trampled on the ruins. Enormous skeletons of steel that had been considered indestructible, had been twisted up, like bundles of piano wire, while the masonry, that had once covered their bare ribs, lay heaped about their bases.

Here and there, it is true, stood some buildings wholly or partially intact, as monuments to their architects. But these were few and far between, and generally were the smaller buildings. The larger buildings had suffered most from the force of the gigantic tides.

Streets, avenues and public squares had been obliterated by the shower of debris. All the familiar landmarks had gone and nothing was left to guide the homeseeker through the barren waste of bricks.

It was terrible. It was pitiful to see the ruin of so many hopes, so much hard work, so many little fortunes that men had slaved for through the best years of their lives. But this, as the people well realized, was no time for lamentation, and the world plunged grimly into the toil of reconstruction.

The earth was now ten million miles nearer the sun than it had been two years ago. Four-fifths of this astonishing distance was covered in the twenty minutes while the comet was passing it. The asteroid, being so much greater than our own planet, the latter had been attracted to it, like a nail is to a horseshoe magnet. The comet, however, was traveling sunward at the rate of thirty thousand miles per second—too fast for the earth to catch up with it, and our planet was gradually left behind, until it was out of range of the comet's gravitational attraction.

Fortunately for the earth, our planet was travel-

ing—not directly towards the sun, but obliquely in regard to it, when this happened—else it would very likely have continued its flight straight into that body. As it is, when the comet's attraction was no longer felt, the earth continued to circle the sun, though in a new and contracted orbit. Thus it is that the new year is only 314 days long, each day being equivalent in length, to twenty-five of the old hours.

It was during these terrible minutes, when the earth was being attracted to its fiery room, that the internal stress of our planet was so great that large cracks and fissures opened in the earth's crust, and volcanoes pushed their way up in the most unexpected places. Indeed, it was only by great good luck that the earth escaped bursting like a bomb, such was the magnitude of the forces of attraction.

Professor Schreiner, who had been laughed at for his warnings, was completely vindicated.

The comet, by the way, never fell into the sun, as was thought possible. Its speed was so great, that, although it actually passed through some of the sun's gaseous emanations, it never swerved aside from its course and continued on, and out of the solar system, unregretted by the world.

Our closer proximity to the sun has not been found as unbearable, as we expected. Nature has provided a remedy that in its effectiveness is better than anything man could ever have devised. A blanket of fleecy clouds a mile thick now screens the earth from the sun's excessive heat, and at the same time gives an ample supply of moisture to all areas of the planet, so that even the desert wastes have been turned into lands of plenty.

In addition, this nebular screen acts as a wonderful climatic regulator. The Polar regions are no longer subjected to extremes of cold, while the equatorial no longer suffer from excess of heat. All in all, the even temperature makes the earth a pleasanter place to live in than before.

It is true that, on account of the clouds, we can not see the sun, or admire the beauties of the starry nights, except from the high mountain peaks that pierce our fleecy shield, and that we live in a subdued light that is not the equal of that of the old days. But that is a small price to pay for the saving of the earth.

Astronomers tell us that the color of the earth, as viewed from the other planets, is no longer yellow, as it used to be, but blue—like Venus, which is also wreathed in clouds.

Our satellite, the moon, is now more than three times the distance from us that it used to be. And we are lucky not to have lost it entirely. It exerts so little gravitational action upon the earth now, that the tides

are almost negligible.

Navigation would be altogether at a standstill, if the commanders were still dependent upon sight of the sun or the stars, for their position. But since none of the stellar bodies are seen any more, the radio direction-finding apparatus has come into its own, and it is by means of it, that maritime transportation is carried on.

The last, and, in my opinion, the chief benefit derived from the earth's adventure, is that the world's armaments have been destroyed and have never been replaced, as the jealousies of the nations have given way to friendship and cooperation under the new permanent Supreme Council.

NOW that you have read the story, you will want to know, of course, just what is wrong. There are some exquisite bits of science involved in this story, but we are going to keep you guessing until next month, when the full solution will be printed. The solution, by the way, will be by no less an authority than Prof. W. J. Luyten, of the Harvard Observatory. Watch for it next month.

THE END.

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BARON MÜNCHHAUSEN'S SCIENTIFIC ADVENTURES

by Hugo Gernsback



"The most delightful experiment, however, was when I took Flitternix and brought him to the center of the *Interstellar* while he was sleeping. I took my hands away from him and he remained where he was, suspended in midair, with no support of any kind. There was no gravity; he could neither fall nor rise. I then walked on the ceiling and called to him. I think he must have been the most surprised man in the universe when he awoke."

3. Münchhausen on the Moon



BANG!!!
 Bang! Bang! Bang!!!
 Four terrible shots rang out.
 A heartrending moan—a piercing cry.
 Then a long, ominous silence.

BANG! BANG!!!
 Two more shots more terrible than the first ones.
 "Dick!! Dick!!!"
 No answer.
 "Oh, Dick!!!"
 Less answer.

The pine trees on the cliff moaned plaintively in the oppressive silence. Suddenly a lone owl hoo-hooed sharply, and simultaneously a flash of lightning illuminated a scene of overpowering dread. I looked on aghast—my hair stood on end. I trembled violently, for what I had seen there was so terrible, so dreadful, so awful, that it is impossible for a human being to describe it. For that reason I must refrain.

* * *

Now, honest, admit it. Was that not a good beginning? You can't deny that it gripped you. The trouble these days is that it is hard work to make people read stories. Most stories are not worth reading, to begin with. You look at the heading and feel lukewarm. Then you read the first sentence and chances are you immediately form the opinion that the author is an insufferable bonthead. At that, you may do him an injustice. He probably is only a second rate idiot. No matter, you won't read his stuff. That's where advertising pays. Put something really exciting at the beginning, even if it has absolutely no bearing on the rest of the story. Almost anything goes; the more mysterious the better. Also—advice to authors whose rent comes due too frequently—the longer you draw it out the better. For, the editor—unless he is an old crust and blue pencils most of it—will pay you real money for your scribbling unless, of course, his sense of humor has gone to smash entirely. Most editors come in that category.*

Now it is a proven fact, supported by much evidence, that people these days are fond of terminating things they start. It's the same way with a story. You begin reading a tale, and if you have spent three minutes on it, no matter how painful, ninety-nine chances out of one hundred you will see it through to the end. It's like a good "ad." Once you are made to read the headline, you will probably read the rest of it. Hence I beg your pardon for having taken an unfair advantage of you; in these times of fierce competition, however, "us poor authors" must resort to unusual means.

Of course, I must admit that the plan has its defects, for it doesn't work with women. You see they are foxy. You can't fool them that easily, for

they have a cantankerous habit of reading the end of a story first! They laugh up their sleeves—if sleeves are in style that season—and the poor simp of an author who thinks he is going to spring a big surprise on them at the very end has another guess coming!

So the smart author turns double-crosser, and puts the real end somewhere in the middle of the book. Then, on the last page, he arranges for a tearful parting of the hero and the heroine, intimating strongly that the two will never, *never* be married. That leaves 'em guessing. For if you haven't read the entire story, how are you to know that they really got married in the end (in the middle of the book)? The clever author simply tacks on a few chapters—after the end—showing that the heroine didn't like the hero's liver and that likewise the hero objected to the heroine's gall and to the scent of her face powder. So after things became unbearable they got a divorce—at the end of the book. That's what I call good construction of a story. But to get down to business.

After I had dusted myself off and had made certain that the various members of my anatomy were still on intimate terms with one another, I limped off in the direction of my home. As I was not in a hurry, I took my time about it. I chuckled inwardly, for the good reason that, on account of my various bruises, I dared not chuckle outwardly; as with General Joffre in France—time worked for me.

But I get ahead of myself again, and being too indolent to rewrite this paragraph and put it ahead of the one above, you will have to read it as I wrote it. If you don't approve of that, I suggest that instead of reading the first paragraph *first*, you read it *after* the ones that follow this. That will simplify matters considerably.

The facts are briefly these: At the very beginning of this story I have told you how I had been of immeasurable benefit to the human race. I told you

how as president of the "American Wireless Mouse-Trap Co." I had rid the country of mice and rats. I had told you how far-famed I had become for being the first man to talk all around the globe with my historic wireless telephone. The name of I. M. Alier is linked with the greatest scientists of the world.

For that reason I did not think myself immodest when I went to see Mayor Ezra Coddlemaker, of Yankton, the town of my birth, with a simple suggestion.

There is a small triangular plot at the intersection of Main and High streets. It had come to my ears that a syndicate had been formed to purchase this plot from the city with the object of opening a combination hot frankfurter, flower and barber shop there. As the city would have to erect a monument to my honor sooner or later, and as the site was ideal for this purpose, I went to the City Hall and told the

MÜNCHHAUSEN is at it again this month. These installments are interesting chiefly because of the correct science that is contained in them and the insight that the reader will gain of lunar conditions as they probably are at the present. It should be noted that practically all the scientific data given by the author is authentic, according to the latest scientific researches. The illustrations which appear in the installments have been redrawn from the originals, which appeared in 1915 in the
 ELECTRICAL EXPERIMENTER.

* (Editorial Note.—We found it necessary to suppress 29 pages of Mr. Alier's manuscript here, as his remarks became entirely too personal and too caustic.—Editor.)

Mayor so. I thought I might as well arrange for the monument during my lifetime.

Mayor Coddlemaker, who had always been a staunch friend of mine, received me warmly. As I explained my mission to him, the color of his usually pink face changed to that of a fresh boiled lobster. Then it changed to a delicate shade of purple. I know now that his inner temperature must have risen from 100° in the shade to 150° in less than two minutes. I began to feel sorry for him for having neglected to attach a safety valve to himself; it would have been decidedly useful just then. Fearing that His Honor was about to blow up the City Hall with his own person, I tendered him a glass of water. This, however, did not have the desired effect on him; instead, his face took on four shades deeper of a beautiful purple and he emptied the contents of the glass in my face. Most of it went down the neck of Coddlemaker's secretary, who was working with his back turned toward mine. While I wheeled around to apologize to the secretary, Mayor Coddlemaker, who is an ex-prizefighter, grabbed the nape of my neck and spun me around like a top. This seemed to limber him up somewhat, and he became so delighted that he tried me out as a carpet-sweeper, my face forming the business end of the sweeper. His Honor then amused himself for some minutes in playing ball with me. I obliged him by taking the part of the ball. My sense of humor being sadly deficient, I failed to see the joke. I told His Honor so between my rapid trips up to the ceiling and back into his fists.

He bellowed something about him and the town of Yankton being made the center of derision with that fool "Münchhausen" story of mine. He playfully added that the papers poked fun at him day and night for letting me stay out of the lunatic asylum. He also mentioned that Yankton had become a permanent feature in all the comic supplements of the country; that on account of my hair-brained story I had definitely ruined, not only his career, but the future of the town as well. He gleefully remarked that he had been itching to lay hands on me for a whole month and he thanked me profusely for having satisfied his itch! Whereupon he dumped me in his waste basket and while his secretary held the door open, His Honor emptied the waste basket into the hall with a flourish. Without waiting to apologize, I took a hasty departure.

Now comes the paragraph where I had dusted myself, etc., etc. See above.

On my way home, I sympathized deeply with Mr. Galileo Galilei, of Pisa, Italy. He once got a fool notion in his head and told the world that the earth was not standing still, as was popularly thought, but that it moved around the sun! Thereupon the world poked fun at him, and his fellow citizens playfully intended to burn him at the stake. But Galileo was a good talker and an elegant advertiser. He kept telling them *E pur si muove* (it moves anyhow), also what an advantage to have the earth turn, because we would get a ride for nothing, and on the trip around people would see lots of new scenery in the universe. He also was careful to tell them that if the earth was to stand still, there would be no seasons any longer and, furthermore, one side of the globe would have a perpetual day and the other side a perpetual night. If by chance Italy should come on the dark side—well, good night!! So they thought

it best to let Galileo have his way and passed a resolution to let the earth spin around indefinitely.

Not that I want to compare myself with Galileo. Far be it from me. I only mention it to show how misguided the world is at times. It was so in Galileo's times and is so now. In years to come my story about Münchhausen will be believed, just as Galileo's preposterous idea that the earth moves is universally accepted to-day.

Just now I am a martyr to a just cause. In due time Yankton will erect that monument for me, or my name is not I. M. Alier.

* * *

WHATEVER Münchhausen's shortcomings might be, he certainly is prompt. If I were his wife I would probably adore him, for he is always on time to the second. If there were a Mrs. Münchhausen, I am sure she never would have to wait with the supper for him. He would be there on the dot, or he would have a mighty good excuse, and let me say right here, Münchhausen does not make excuses.

My clock had just begun to strike the eleventh hour that evening when I heard the familiar, piercing screech in my phones, growing louder and louder, and in another second communication between Münchhausen's station on the moon and my own station in the sleepy old town of Yankton, Mass., was once more established.

"Good evening, my dear Alier," it came in clear, deep tones, in that sepulchral voice I had learned to cherish, "are you ready for our nightly chat?"

"Indeed I am, Your Excellency," I made haste to reply. "How is your health this evening?"

"Perfect, perfect, my boy. Never felt better in my life. The air up here is so invigorating that I actually grow younger each day!"

"But I thought there was no air on the moon, my dear Baron. I am very anxious to have you tell me all about it."

"Of course, I will tell you. But let me see, where did I stop last night . . . Oh, yes . . . I believe my power gave out when I told you of my first impressions after the 'Interstellar' left the earth behind.

"The moon overhead was full and we could almost see it grow larger as we rushed toward it through space at an incredible speed. Professor Flitternix and I had calculated that we ought to traverse the 240,000 miles separating the moon from the earth in about 104 hours. This is an average of 2,300 miles an hour and may seem excessive, but in reality it is a low speed, as speeds go in the universe. The calculation is very simple, too, and well known to astronomers.

"Nothing very eventful happened during the trip to the moon. Flitternix was busy with astronomical observations, while I was engrossed with the machinery most of the time.

"For the first hour after our departure from the earth we tried to become familiar with the many odd phenomena which presented themselves to us, due to the sudden, almost total, absence of gravity.

"The *Interstellar*, no longer subject to the attraction of the earth, due to its gravity insulator, was only subject to the moon's gravitational attraction. But as we were some 200,000 miles distant from that body, its comparative feeble attraction had little effect on our bodies in the inside of our flyer. For, according to the law of gravitation, our 1,000-ton flyer

weighed but 110 pounds at this distance from the moon.

"Flitternix was the first to find this out. He had been pointing to the planet Mars with his hand stretched out toward one of the glass portholes overhead. While I looked at this beautiful planet I suddenly heard Flitternix exclaim. He was eyeing his arm in astonishment. It was still outstretched, but pointing slightly upwards. This is what happened:

"On earth, his arm would have fallen down to his side of its own accord by the action of gravity, the arm weighing, let us say, 10 to 12 pounds. Inside of the *Interstellar*, with practically no gravitation, *his arm weighed less than 1-10 ounce*; furthermore, our feet were still pointing toward the earth, where there was no gravitational attraction, due to our gravity insulator. The only attraction coming from the moon overhead, *his arm was pulled slightly upward* by a force of less than one ounce. To bring his arm to its normal position, it was necessary for him to use his muscles, which he did with a foolish grin.

"We then switched on the entire Marconium netting, thereby insulating us from the moon's attraction also. We were now no longer subjected to any outside gravitational attraction of any kind. Still the *Interstellar*, due to its momentum, continued to move forward in space with its original speed.

"Some curious phenomena were now observed by us. The mass of the *Interstellar* being relatively small, its force of gravity was very minute. When you consider that on earth this globe, with its mass of 600,000,000,000,000,000 tons, attracts my body with 170 pounds to its surface you will understand that the volume of the *Interstellar*, with its 1,000 tons, in accord with Newton's law can attract my body with only an infinitesimal fraction of a pound. *Therefore, practically speaking, all objects within our flyer were without weight.*

"For a while we amused ourselves with odd experiments. Thus I would lift Flitternix with my little finger and place him on my outstretched palm; he weighed less to me than if he had been a child's balloon. Buster, my terrier, became careless and started to jump around, with the result that he went clean up to the ceiling with a thump. His body being elastic, he came down with a like speed. There was another thump and he went right back to the ceiling again with undiminished speed. He simply could not stop. He was like a rubber ball bouncing up and down. There was no gravitational force to retard his speed, only the air in the room as well as the friction of his body against the ceiling and the floor; this acted as a slight brake to take up his energy originally expended. It was so slight, however, that after he had bounced back and forth about 200 times, howling frightfully all the while, we took pity on him and stopped him with our hands. After that he became very careful in his movements and we found it wise to imitate him.

"We had to move about very cautiously and very slowly; any attempt to walk quickly was disastrous. Like Buster, it was exceedingly difficult to stop ourselves. We could, of course, walk on the ceiling or on the sides of the room with the same facility as on the floor, for there is no up or down in free space. You could lie down almost anywhere without danger of falling or even rolling. As our bodies had no weight, it mattered not where we lay down, either.

Thus, stretching ourselves out, with nothing but the sharp edge of a chair supporting our backs, we were as comfortable as lying on our cots. You see we weighed nothing, consequently our bodies could not press down hard on anything, and we could not, therefore feel uncomfortable, no matter how we rested.

"The most delightful experiment, however, was when I took Flitternix and brought him to the center of the *Interstellar* while he was sleeping. I took my hands away from him and he remained where he was, suspended in midair with no support of any kind. There being no gravity, he could neither fall nor rise. I then walked on the ceiling and called him. I think he must have been the most surprised man in the universe when he woke. He began clawing the air and looked wildly about him; you see he thought he was still on earth and he imagined he was going to fall down! That goes to show how strong habits and instincts are. In a few seconds, however, he remembered where he was and sat up. He certainly looked ludicrous sitting suspended there in mid-air begging me to pull him either up or down. I was so convulsed with laughter at his helplessness and the situation seemed so droll that I resolved to see the experiment through; for that reason I told him that I refused all assistance. By that time, he had become interested in the situation himself and after thinking a little while, he jerked his body back and forward in the fashion of an acrobat on a swinging trapeze. This gave his body sufficient momentum and in a few seconds he had landed, laughingly, on the opposite wall."

I had listened to the Baron with amazement, but I knew that what he had said coincided with Newton's law of gravitation. There was, however, one point which I had revolved in my mind and which was not clear, so I commented:

"What you have just related is certainly exceedingly interesting, my dear Baron, but there is one point I would like you to elucidate. How did you finally effect the landing on the moon?"

"Not so impatient, my dear, I was just coming to that. When at the end of the 100th hour we were but some 600 miles from the surface of the moon, which by this time had become so big that it filled most of the sky overhead, we switched on the portion of the Marconium netting turned toward the moon. The other half of the netting, which heretofore had insulated us gravitationally from the earth, was then switched off. Now the earth began pulling us again and in a few minutes, with our momentum expended, we were going earthward once more.

"Immediately we reversed the currents in the Marconium wire netting, with the result that we fell toward the moon again. In this manner, by manipulating the Marconium netting, I could vary the speed as well as the direction of the *Interstellar* at will and within a short while we were but a few miles distant from the moon's surface. We carefully scanned its rugged face with our glasses and we finally decided to make our landing in the plain known to astronomers as *Mare Nubium*. This plain, which in past aeons undoubtedly was part of an ocean, but is now devoid of all water, measures several hundred miles across. In some sections it has a very level appearance; moreover it looked as sandy as a desert, through our telescope and we decided that we could probably make a successful landing there.

"By carefully manipulating the switches controlling the Marconium wires, the *Interstellar's* wide landing belt finally rolled gently over the volcanic sand of the moon and the flyer came to a dead stop 102 hours after leaving the earth.

"It was a supreme moment. We were the first humans to land on the moon and we were naturally quite overcome with emotion for some time. Had I not been the first to conquer space and break away from the earth? Was I not the Columbus of a new world, a world far greater than any explorer ever discovered? Had I not opened the door of the universe that had been locked to all mortals since the beginning of our little world? Had I not thrown off the fetters which chained humanity to its poor, sordid planet for aeons?

"I think I had a right to feel elated.

"However, hard work lay before us. For centuries it had been the conviction of scientists that the moon was a dead world, devoid of any atmosphere, water or vegetation. Of course, in the absence of these three necessities, life could not exist. We realized that only too well, but at best the earth's scientists had no absolute proofs; after all, their conclusions were but theories—though very plausible and convincing theories.

"Knowing all this, we proceeded very carefully. Naturally the first test we made was to ascertain if there was any atmosphere on the moon. This test was very simple. We opened a small stopcock leading to the outside and then we listened with strained ears. We had tried the stopcock test in space midway between the earth and the moon and the air had been drawn out with a loud hiss. While we listened there was no hiss, but we could feel the air being drawn out strongly from the *Interstellar*, when the finger was placed on the opening of the stopcock.

"From this we concluded that there must be some kind of an atmosphere on the moon, probably a very rarefied one. This relieved our anxiety immensely and I suggested at once testing the lunar air on Professor Flitternix's canary bird, Pee-Pix.

"This was met with violent opposition by Flitternix, who made the counter-suggestion to try it on the dog first, the dog being Buster, my fox terrier. This suggestion was not met with wild enthusiasm by me, and a deadlock followed. Finally, however, we drew lots and I lost. Buster, therefore, was the first terrestrial being to inhale the lunar atmosphere.

"With a heavy heart, we placed him in the ejector and closed the door behind him; he was now in the air lock. By moving two levers, the outside door of the ejector was opened and Buster was in the moon's atmosphere. In another second he had hopped to the ground and we watched him anxiously through the glass plate portholes.

"We saw him sniffing at first, whereupon he began coughing violently for some minutes. After that he seemed to become quieter and he commenced to walk around in a curious, excited manner, as if under the influence of a drug.

"We could not understand this, but continued watching him with concern. Within an hour, however, he seemed to have become acclimatized and he behaved normally once more.

"I reasoned that if Buster could stand it, we could, and I said so to Flitternix. The professor was of the same opinion and we decided to risk it. We carefully opened the door leading to the outside, drew a deep

breath and stepped out. In another second we had landed on the moon.

"The first sensation was a strong ringing in our ears and the curious sense of lightness of our bodies. The latter sensation, however, was not new to us, as we had experienced it already in the *Interstellar*, due to the absence of gravitation. We took a careful breath and started to cough violently at once. Nor could we stop immediately. The air which we inhaled tasted exactly like sulphuric acid fumes, similar to the fumes given off by a storage battery when it is gassing. After a few minutes we became accustomed to the sharp atmosphere, but we found it very hard to breathe at first. Then our bewildered senses became conscious of the fact that we felt a warm glow all over our bodies and in a few minutes we became exhilarated, as if intoxicated. For three-quarters of an hour we were actually drunk, and it was exceedingly hard to think clearly. This effect, however, wore off after a while, and at the end of the second hour we could breathe fairly easily, although our lungs pained us badly and we spat blood at frequent intervals.

"An analysis of the moon's atmosphere made by us shortly thereafter explained our odd behavior and the strange effects of the new air upon us. To begin with, the moon's air is very thin, only about 1-16th the density of the earth's atmosphere. Whereas the earth's atmosphere is composed of about 79 per cent nitrogen and 21 per cent oxygen, the moon's atmosphere, according to a rough analysis which I made, contains 26 per cent carbon dioxide, 24 per cent nitrogen and 50 per cent oxygen. The carbon dioxide caused us to cough violently, while the invigorating oxygen in its prepondering proportion in the air, intoxicated us. If the moon's air were as dense as that on the earth I doubt if a human being raised and brought up on earth could survive. But by being 1-16th as dense as the terrestrial atmosphere, and oxygen being very beneficial to the respiration, it becomes possible to endure the moon's thin air comfortably. It is interesting to note that if vitally necessary, human nature will adapt itself successfully to the most difficult surroundings. This we found out speedily; within 48 hours we not only breathed with comfort and wholly without pain, but we found the new air so enjoyable and invigorating that we looked forward with dread to once more inhaling the stuffy terrestrial atmosphere. After one grows accustomed to the singular smell of the moon's air, one learns to love it. It acts like a powerful tonic; the oxygen, no doubt, is largely responsible for this.

"At first we found it very difficult to walk on the moon's surface, for the reason that we weighed so little there. The earth, being 50 times larger in bulk and 1.66 times denser than the moon, it naturally attracts all bodies with much greater force than does the moon.

"Thus a stone weighing one pound on earth weighs 0.167 lb. on the moon, which is just one-sixth of earth weight. My own weight on earth being 170 lbs., it naturally follows that I could weigh only 28 lbs. on the moon. Buster, who weighs some 10 lbs. on earth, weighs but 1½ lbs. on the moon. He found this out when he began to jump about. On earth he would not have jumped higher than about 4 feet. On the moon his 1½ lbs. carried him six times higher, for he expended as much muscular

energy in his jump as he was accustomed to do on earth. Consequently, he went up about 24 feet into the air. This frightened him considerably, for he had never jumped so high in all his life. He became more careful thereafter and limited his jumps to 10 or 15 feet in height.

"Flitternix, as well as myself, amused ourselves in a jumping contest for some time and it was astonishing to us how high we could jump. A 25 to 30-foot jump was easy of accomplishment, and we came down very lightly. One thing, however, we found out speedily. The moon's atmosphere, even at the little elevation of 30 feet becomes so thin that it is impossible to breathe. For that reason we soon discontinued our high jumps and confined ourselves to long horizontal jumps. Subsequently we established the following facts:

"The only atmosphere in which any kind of living creatures could exist extended but 20 feet above the surface of the moon. Sixty feet above the moon there was no trace of atmosphere. Here the vacuum of space begins. On earth, it will be noted, no atmosphere exists beyond 35 miles above sea level. Thus we found it impossible to scale the lunar mountains or even a low hill.

"There is little atmosphere on the moon, no clouds whatsoever, and but very little wind, so it naturally follows that the temperature of the moon's surface must be rather comfortable. We measured 78° Fahrenheit in the shade of the *'Interstellar.'* And summer heat did not subdue during the long day of nearly two weeks. (The length of the day on the moon is almost two weeks, the length of the night being of the same duration.) This intense sunlight also made it impossible to walk about without some form of protection, but as we had brought our tropical sunshades along we were but little troubled on our long tramps, despite the heat. Without this precaution our hands and face blistered rapidly, due no doubt to the effect of the sun's ultra-violet rays through the thin atmosphere, which offered but little protection.

"After several hours immediately following our landing we concluded to leave the desert in order to investigate the nearest chain of mountains some 60 miles distant. Re-entering the *'Interstellar'* we started our tractor machinery and the big globe began to roll on its wide landing belt over the hot sands of the moon at a comfortable speed. In a few hours we came to a dead stop in the shade of an enormous mountain rising some 16,000 feet above the surface of the moon. No vegetation or any sort of life could be perceived anywhere, but curious marks on the ground convinced us that there must indeed be some form of life on the earth's satellite.

"Arming ourselves with our large caliber guns we set out to follow the tracks. Buster, who ran ahead of us with his nose to the ground, had become excited and within ten minutes' walk we entered an immense canyon with almost perpendicular walls several thousand feet high. This canyon was nearly closed at the top and it was probable that the sun never reached the bottom. There was little light and we had to advance cautiously, guided by Buster.

"The temperature was rather comfortable—about 50° Fahrenheit, as our subsequent investigation proved.

"As we walked on, the canyon seemed to become lighter, but we soon observed that it was not sunlight. The color of the light was of a pale green.

We were very much puzzled at this and not a little excited, so we pressed on forward. We finally rounded a projecting corner and beheld a sight such as no humans had ever seen before.

"The canyon, which by this time had become entirely closed at the top, suddenly widened out into a colossal cave of immense proportions. We found out later that the cave was roughly 12 miles in length and 8 miles in breadth. Although entirely closed at the top it was almost as light as day inside, the light, however, being of a vivid green. Almost the entire bottom of the cave was taken up with a lake and the light came from the lake itself. Within a few minutes we had reached the edge of the water and we saw immediately why the lake gave forth such a strong light.

"We stood fascinated for some time at the sight which presented itself to our eyes. The lake was crowded as far as the eye could reach with a sort of eel fish—and each fish was luminous.

"You have, of course, seen the common firefly during a hot summer evening. Take your firefly, extend it about four feet, to the size of an eel, put it under a clear limpid water, and you have a good idea of our lunar luminous fishes.

"The sight of these strongly illuminated eels darting back and forward under the water with lightning speed is magnificent. You can follow each fish to a considerable depth, for the light which they emit is very powerful. We found out that each fish produces some 60 candlepower of light. Here at last we are face to face with an exceedingly practical application of "cold" light, for which our terrestrial scientists have been searching for decades. We also observed that the fishes are luminous only while in motion. We have since observed that the light is produced by the friction of the fish's body against the water. Flitternix is not sure yet whether the action is electric or chemical.

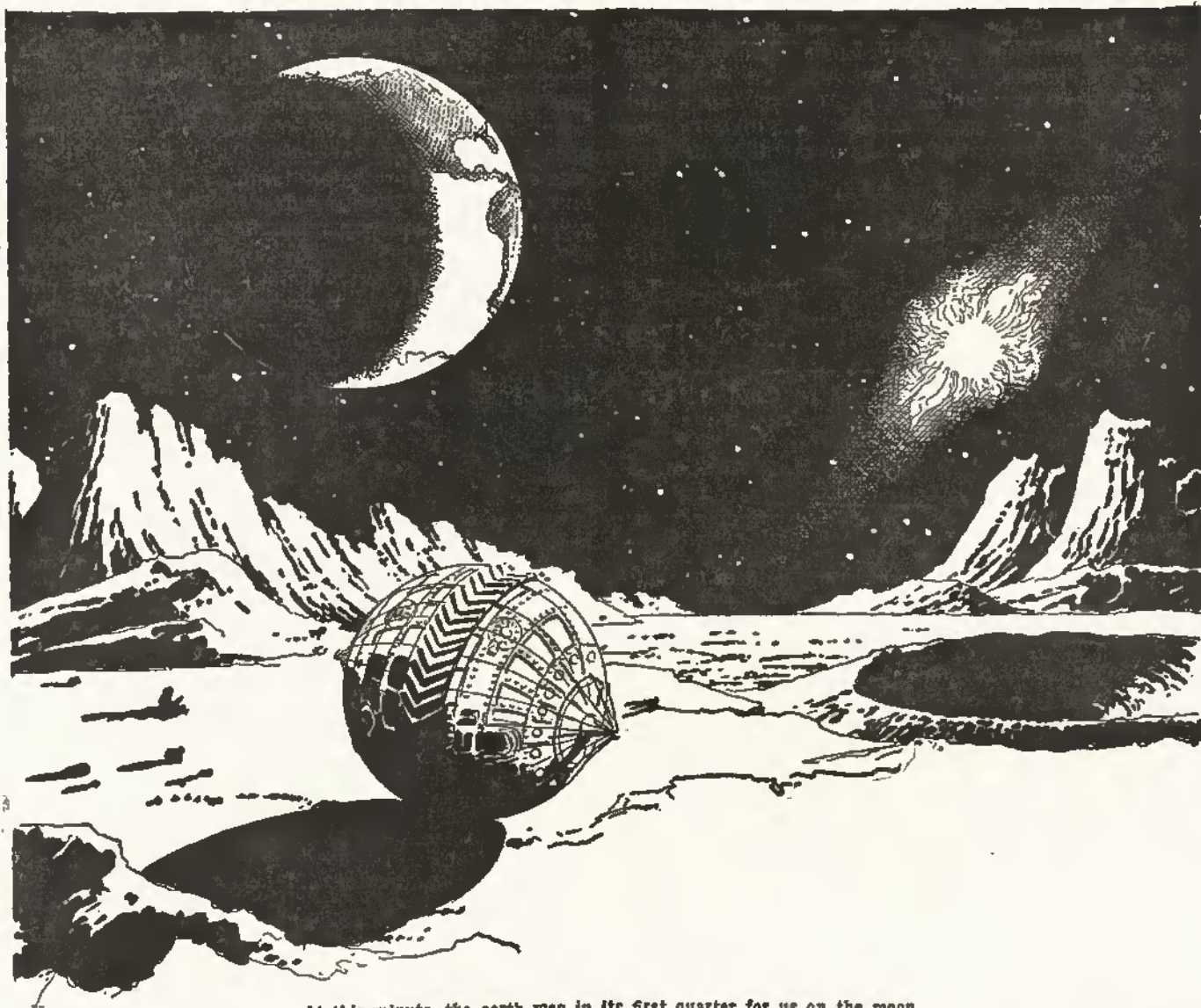
"It is marvelous how nature always finds a way to favor life, even under the most difficult surroundings. As life was manifestly not possible on the moon's surface on account of the blistering heat (and the extreme cold following) nature promptly produced it *under* the surface. As the higher forms of life require light for their existence and as there is no light under the moon's surface, nature saw to it that its life carriers were themselves equipped with light!

"We were naturally overjoyed at our discovery. We knew now that there was at least water on the moon, despite all our scientists' theories. Buster was the first to try it and after a few cautious licks he decided that it was really water. We followed suit, and immediately noticed that the water was slightly tart in taste, which made it an excellent thirst quencher.

"We discovered later that all of the moon's subterranean waters tasted alike, the tartness undoubtedly being produced by the ever-occurring sulphur which seems to abound on the moon.

"We found it was comparatively easy to catch one of the luminous fish, which was almost 4 feet long, and after killing it, we decided to test its edibility first. During the next few hours we also killed several luminous turtles of enormous size. As we did not see any other living creatures on the shores of the lake, we decided that it must have been one of these turtles whose footprints we had seen outside of the canyon.

"A survey of the cave showed that its southern



At this minute, the earth was in its first quarter for us on the moon.

wall was composed almost entirely of some form of coal similar to our terrestrial anthracite. We knew now that we were in no danger of starving. We had the water from the lake, meat from the fishes, as well as the turtle, and fire from the coal. We naturally felt highly elated, so Flitternix as well as myself decided to extend our visit to the moon as long as practical, in order to fully investigate this newest world.

"During the next few days (by this I mean a day of 24 hours' duration) we explored the entire cave and we came across many queer animals, mostly of the turtle type. We found few hairy or feathered types and nothing that approached, even distantly, the human form, as, for instance, the monkey type of our earth. We found that there was quite a little vegetation inside of the cave, mostly of the fungus type; there were also low shrubs and some dwarf forms of a peculiar bread tree. This bread tree is very similar in many respects to the terrestrial bread tree (*Artocarpus communis*) as grown in some of the Pacific Ocean islands. We found its fruit, after baking it, highly nutritious as well as exceedingly tasty. The turtle meat was excellent and the fish tasted somewhat like eel, with a fresh-water trout flavor. We found many varieties of mushrooms, some of enormous size, and mostly edible. There was, furthermore, an abundance of various curious

nut bushes and, with a few exceptions, all were very tasty.

"You see, we do not starve on the moon, even if it does look dead through a telescope. On the contrary, we are well provided for and could extend our stay indefinitely if we were so inclined. As a matter of fact, we are in no hurry just now to return to mother earth—we like it so well here.

"We discovered soon that there were thousands of caves, like the one which we first discovered, scattered all over the moon. These caves are all much the same, all illuminated by means of their luminous animals. The caves vary, of course, in size as well as in shape; some of them are hundreds and some even tens of thousands of feet below the surface of the moon. This is quite natural. The moon is a cold world, unlike the earth, which is still in a molten state in its interior. The further you descend in the moon's bowels the colder it gets, but the atmosphere becomes denser. Equipped with electric lanterns, we visited a cave several hundred feet below the moon's surface. The cold was intense, and we saw no living being of any sort, nor any plant life. What had been water once, myriads of years ago, was ice now, frozen down to the bottom. The sight was so desolate and so depressing that we hurried back to the surface as soon as our investigation was completed.

We decided not to visit any more caves except those located near the surface of the moon, where the solar heat could still make itself felt.

"During the next few days we found immense deposits of various metals, such as platinum, gold, copper and iron ore. There seems to be an abundance of these metals on the moon. We also found a curious metal (or it may be an alloy) which melts at a temperature as low as that of tin, but is as hard and flexible as steel. We named it *Busterium*, in honor of Buster, my fox terrier, who was the first terrestrial being to land on the moon.

"But now, my dear Alier, I must terminate our chat for this evening. This is moving day for us. The sun is chasing us rapidly and Flitternix says we have only three hours before the *shadow* overtakes us."

"I do not quite follow you, my dear Münchhausen; won't you be a little more explicit, please?"

"Certainly, my boy. You know that the moon revolves on her axis once in about 2 days. Her term of daylight must therefore be the half of 27 days, or

nearly two weeks, and her night must consequently be of the same length.

"At present, we are somewhat in the neighborhood of the moon's equator. Within a few hours the spot on which I sit will be in the dark—it will be night—the beginning of the lunar two weeks' night. Already the sun is low in the heavens. As the temperature will fall below zero as soon as night sets in, and as we do not desire to be frozen, we have no other choice but to move our present position. We will, therefore, break up our camp shortly and will board the *'Interstellar'* once more. A few hours' ride will bring us to the other side of the moon, where it is now morning. Once we reach that spot, we can make camp again for two weeks, the duration of the lunar day.

"Well, I must hurry, my dear boy; anyhow, it is one o'clock for you now and I have an idea that your bed is calling you. Therefore, *au revoir* till next time."

Keee-ee-ee-ee, Zeee-ee-ee-ee-ee. Zeee-eee-ee-eee é é é é eeh-blob-blobb-flum-, and he was gone. The ether was quiet once more.

The Earth as Viewed from the Moon

I AM in receipt of the following letter, post-marked Red Dog, N. M. It runs as follows:

dear (?) *mister i. m. alier*,

i am onely a uneducated cowboy & perhaps i aint much sens but hear i have been reeding those gosh darned münchenhaus storys of yourn & i am all het up about em i an my pal mike cokkleberry has tryed making hed or tale of em but it aint no use

the first storys werent kwite so bad but they getting fierse as you rite more of em but you kapped the klimaks as mike sais when you rave about this graviti busness an try to mak us believ that a objeck between here and the moon weihs nothin at all a pound is a pound isnt it any-where? an mike sais that he lernt in scool that a lb of lead weihs as much as a lb of fethers, so mike figgered if that is true well than how coud you weih 28 lb on the moon if you weih 170 lb on the erth a lb is a lb isn't it? gosh darn nonsens it is thats what i sais it is an you now it is. we may be igorant out hear in the wooly west but we aint that kracked yet by a darnsite

that aint all, when mike & i red about that münchenheimer of yourn shoting rocksalt at them germins so they had to skcratch themselves which made them throw up their hants we sure thought that it was a grate trik an we tryed it on bad man rogers when we sees him last week we didnt wish to kill him ded just wanted to hav some fun & watch him skcratch hissself when the rocksalt got under his skinn

so we lays for rogers near bulfinsh crik when he koms riding that there evening on his way to ed sweezys place. sos he woudnt now from where we ambushd him we had fixt a maksim silenser on our rifels an insted of bulets we use your rocksalt to shoot at him well everything goes loveli he koms all stuck up as usal on that fool hoss of hisn an when he is jest bi we pot at em nuke at his leg i at his bak the guns go fss-sst—fss-sst and thats all but he must have heard the klik of our guns and he weels around in his sadel but insted of skscratchin hissself in a

agoni as he should he sneeses and sneeses and sneeses fack is he almost sneest his fool hed of after a wile his sneesing gets weeker an his swaring louder he looks around suspishes like but he dont see us an so he rides on after while

mike an i looks at each other flabergastet like and mike sais sais he, i had my suspishen of that feller alier now i now he is a fake darn his hide i thoght so to so we tryd it again & shot the salt again our windo pane when we git home wel would you believ it the salt never even touched the pane at all but when mike goes to inspeck the windo he almos sneeses his hed of that put us wise to it that when you shoot rocksalt from a gun it pulverises instinktly and the fine salt hangs in the aire around like a cloude of snees powder an when you git near it it gits in your nose an then you snees till the cows come home

well maibe our salt wasnt as good as your frenchy kind & maibe we shoudnt of used a silenser on our guns but jest the same as a frend i advise you never to kom out here to red dog for mike an i won't try rocksalt on you we'll use reel rocks

yours in disgud

Bill snikeltree

s.p. mike sais your name ougt to be U.R. alier not i. m. alier.

* * *

When I had established my wireless connection with Baron Münchhausen that evening I immediately read the above letter to him and demanded an explanation. The Baron merely chuckled softly and said:

"My dear, Alier, you ought to know better by this time than to doubt my word. I am always glad to give details of any general statement I might make at any time. In this instance let me state that your correspondent, who seems to have but a limited education, is, of course, right as far as he goes. My first experiments with shooting rocksalt were exactly as stated by your cowboy friend; the salt *docs* pulverize before reaching the enemy—that is, *ordinary*

rocksalt does. Not the kind, however, that I used for the French and English Allies. For when I found out that ordinary salt went up in dust when shot from a gun I promptly set out to remedy this defect. I simply ground up the rocksalt and by means of a chemical binder, I formed a stiff paste; this was then compressed hydraulically in dies under an enormous pressure into little sharp-pointed bullets about $\frac{1}{2}$ inch long. After drying, the bullets were ready to be used by our soldiers. These compressed rocksalt bullets did not pulverize, and while they had not the great penetrative power of an ordinary bullet, they accomplished the purpose for which they were intended very well indeed. I hope I have satisfied you and your correspondent's curiosity."

I apologized meekly to the Baron for having doubted his word, after which I added:

"The public down here, Your Excellency, has been very much impressed with your recent adventures on the moon. I am daily in receipt of correspondence from people from all parts of the world desiring particularly to know what the appearance of the earth is as seen from the moon. Many wish to know if large cities and rivers can be seen, and some even go so far as to ask if you can see trains and people move about the surface of the earth. Large bets are being made by people on the above subjects and the newspapers are being besieged for information day and night. They have all put it up to me now, to produce first hand official information from you, and I trust you will be good enough to help me relieve the abnormal tension."

I heard Münchhausen laugh softly before he replied:

"Well, well! I would never have believed that people take such an interest in astronomy, but it certainly shows signs of progress by the human race and it is worth encouraging.

"Without desiring to deliver a dry, astronomical lecture, I think it best to state a few fundamental facts in order that I can make myself better understood. Anyhow most people's astronomical knowledge is rusty nowadays. Therefore I hope I shall not bore you unduly.*

"The moon is about 240,000 miles distant from its primary, the earth. It revolves about the latter in $27\frac{1}{4}$ days, always turning one side to the earth. For this reason the inhabitants of the earth can never see more than one of the moon's hemispheres.

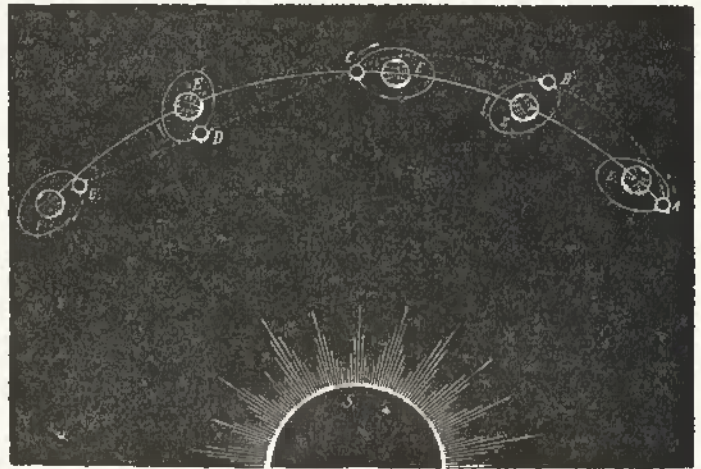
It is the same hemisphere always with the addition of a very small marginal area which periodically is obscured and illuminated. This periodical change is termed the libration of the moon.

Thus the moon revolving around the earth in $27\frac{1}{4}$ days turns just once around its axis during this time. Consequently the length of the moon's full day is $27\frac{1}{4}$ terrestrial days, which gives it a night of almost two of our weeks, as well as a day of like duration.

"Now let us turn our attention toward the physical aspect of the earth as viewed from the moon. I am now sitting at the foot of a precipitous mountain close to the bulwark *Ptolemaeus*, which is near the moon's equator. When I lift my eyes earthward I am presented a wonderful spectacle such as no other human eye has ever beheld. At this minute it is *Now Earth* for us on the moon, i. e., the sun, earth

and moon are in line, in the order named. As the earth is almost between us and the sun, we naturally cannot see much of the former. For inhabitants on the earth, it is *full moon* at this minute of speaking. In other words, when it is full moon on earth it is *new earth* on the moon; when it is *new moon* on earth it is *full earth* on the moon."

(To make the above plainer for the reader, the author has inserted the accompanying diagram and the following explanation:



Explaining the Phases of the Moon and the Earth.

The plain line represents the orbit of the Earth; the dotted line represents that of the Moon.

At point A the Moon crosses a point of the Earth's orbit which the Earth has already passed. At the expiration of about one-fourth of a lunation she arrives at B, at which time the Earth is between the Moon and the Sun; consequently it is *full moon*. Pursuing her course, she is now in advance of the Earth and crosses her orbit again at C. From C she continues on her course till at D she is between the Earth and the Sun, consequently it is *new moon*; from D she approaches nearer and nearer to the orbit of the Earth till at G she again crosses it, 240,000 miles behind the Earth. This completes one lunation or revolution of the Moon around the Earth.

In order to show how the Earth and the Moon are lighted up by the Sun the zig-zag lines around part of the Earth and the Moon in the diagram represent the portions which are lighted. Thus it will be readily seen that at A the Moon is in its *first quarter* as seen from the Earth, while the Earth is in its *last quarter* as seen from the Moon. At C this order is reversed.

Again, at F, we see a duplication of the phases exactly as occurred when the Earth and the Moon were in the position as shown at A.)

"Now, then, as the sun shines on our full moon, the sunlight is reflected down to the earth, half of which naturally is dark, i. e., night. It is now night for you, the moon lighting up your landscape. For this reason it is possible for me to *just faintly* make out the outlines of the American continents. But it is mostly blurred and very indistinct.

"A little to the left of the earth I see the sun—a wondrous sight. As there is little depth of atmosphere on the moon, the earth as well as the sun sail in a pitchblack sky. For the sky on earth is blue only due to the terrestrial atmosphere and its diffused sunlight. Because there is practically no diffusion

* The balance of this instalment is based upon actual facts, according to the latest lunar researches.—AUTHOR.

on the moon, our sky is naturally black all of the time. The sun, as well as all the stars, shine with a tremendous brilliancy never seen on earth, for our little atmosphere cannot soften the penetrating glare of the heavenly bodies as does the earth's thick atmosphere. Neither do the stars flicker as seen from here, for the "twinkling" is not of the star's making; it is but a product of the earth's air which brings about this phenomenon.

"Again gazing earthward, this is what I see:

"A big, almost black disc appears to me about 14 times as large as does the full moon on earth; old mother earth assuredly is an imposing sight. Around the circumference of the dark disc, I see a wondrous pink fringe—it is the earth's atmosphere illuminated from behind by the sun's rays. It stands out in a strong contrast against the inky sky. This pink fringe is not absolutely uniform in thickness; it is thickest near the earth's poles, thinnest near the equator. The difference in thickness is not very great, but quite perceptible. The explanation is that the terrestrial atmosphere, due to the centrifugal force produced by the earth's rapid rotation, tends to throw the air outwards from the equator. It is therefore "thicker" there.

"Another curious phenomenon is the position of the earth in the lunar sky. As seen from my present location (near the moon's equator) the earth is almost fixed in the heavens, i. e., it never sets or rises as does the moon when observed from the earth. Otherwise the earth for us goes through the same phases as does the moon for you. Thus during one month the earth changes from *new earth* to *first quarter*, then *full earth*, then *last quarter*, finally *new earth*. During these major phases we see the earth as a crescent, exactly as you see the moon as a crescent, only the earth crescent we see appears 14 times as large as the moon's crescent appears to you.

"During *full earth*, however, we witness a spectacle that is truly wonderful to behold. As the earth rotates on its axis once in 24 hours, and inasmuch as the earth is fixed in the moon's sky, it follows that we must see the earth revolve before our very eyes. Nor do we have to strain our eyes to see the continents; everything is in plain view. As the lighted earth revolves in a black sky, the contrast is extreme, impossible to describe. No such scene has ever been beheld from the earth.

"The earth revolving from west to east, we see the continents moving from left to right. Thus, when the eastern shores of the American continents are first seen on the extreme left, it takes just three hours till the western shores come in full sight. In three more hours the broad Pacific Ocean and the Hawaiian Islands are directly in front of us, although they can only be seen as dots. Within four hours, Japan, then the Philippines and the Australian Continent have swung into view, while in four more hours all of Asia is spread before us, with India in the center, like a map. In three hours more, eastern Europe, Arabia, and Africa have appeared. Within two hours, we see the rest of the European continent and western Africa; then follow Iceland and Greenland and below the Atlantic Ocean. Within five hours from the time western Europe disappeared on the right, the eastern shores of the American continents appear before us. Thus we have seen all of the earth in exactly 24 hours—we have been "around" the earth in one day!

"The waters of the oceans as seen from the moon appear to be bluish-green, except that the color of the Arctic oceans seems to vary from a pale green to a white. The white color is, of course, produced by the immense snow and ice fields of the Arctic. The color of the continents varies, but the general appearance is a muddy yellow or red. Great plains and forests like those located on the American continents and Siberia show in a darkish green.

"Nothing shows up very clearly on land. One color merges into the other without sharp or abrupt breaks. The only lines which stand out tolerably strong are the shore lines of the great inland lakes and islands. Even these lines are not as definite as one might imagine. The reason for this is found in the earth's atmosphere. As the latter is ever moving, and as we have to look through many miles of it—an atmosphere not always clear—it follows that we can never see very sharp lines or markings on the earth.

"When I said before that we can see the continents move plainly before our eyes, it must be understood that large tracts are nearly always covered and hidden either by clouds, haze or fogs. Only in very rare instances can an entire continent be seen through its length and breadth, and since I came to the moon I have only seen it occur once, the continent in this instance being the American. Within one hour, however, large clouds had formed over a part of Central America, which became lost to all view within a short time.

"With the naked eye, as seen from the moon, it is impossible to discern any object created by man's hands on the surface of the earth. Even large cities such as London and New York cannot be distinguished from the surrounding country. If all the roofs and the streets were painted in white, I am sure that the large towns would show up in a clear atmosphere. Thus, you see, the earth as seen from the moon appears quite lifeless. Nothing is seen moving, except the clouds; only in one instance have I observed anything out of the ordinary—a large forest fire in western America. Of course, I could not see the fire itself, I could only see the vast, rolling quantities of black smoke. Other objects which can be discerned when the weather is very clear on earth are the larger rivers—the Mississippi, the Amazon, the Nile, the Volga, etc. We repeatedly tried to see long railroad tracks stretching across plains, but we have not been successful in locating them, even by the use of our powerful 3-inch telescope. The intervening distance—240,000 miles—is simply too great to see such fine objects. For this reason also some of the greatest achievements of man, such as the Panama and Suez canals, are entirely invisible to us, even with the assistance of our telescope.

"From the above it must become clear that comparatively small objects such as ships, trains, animals, etc., must forever remain invisible to us *Lunarians*.*

"So much for the earth. As I mentioned before, the stars appear much brighter from the moon than they do from the earth. This again is due to the very thin lunar atmosphere. All the stars appear several times brighter to us than they do to you; furthermore, we can see with our naked eye stars such as are never seen on earth, except with the aid of powerful telescopes.

"The most inspiring view is that of the Milky Way. It shines with a glory undreamed of on earth;

* Term applied to inhabitants of the moon.

its light is so powerful that objects around you become faintly visible in the dead black of our lunar night. The Milky Way does not appear like a weak blurr; it is well defined and we see myriads of stars invisible to the unaided eyes on earth.

"There is one thing of importance on the moon, however, of which few people have any conception. I am referring to the meteors which are constantly raining on the surface of the moon. When such a meteor falls on the earth, this is what happens:

"A great mass of meteoric iron has come under the influence of the earth's attraction and is falling toward it at a speed of several thousand miles a minute. Until it reaches the outskirts of the earth it meets with no resistance, for it moves in the vacuum of universal space. The instant it penetrates the earth's atmosphere an enormous friction is produced between the meteor and the air, and the result is that the meteor becomes wholly or partly melted. Most of it volatilizes and goes up in smoke, subsequently to fall down in the form of fine dust; only a comparatively small solid part reaches the earth, where it usually buries itself in the ground. Thus, when we see a "shooting star," we see in reality a stream of fire produced by the melting of a meteor.

"The moon, with its pitiful atmosphere, affords no such protection as the earth's atmosphere. Meteors crash about us with an alarming frequency. They come without any warning whatsoever. Some are as big as a watermelon and some as large as a small house. You can hardly imagine what happens when such a heavenly projectile, moving at the frightful speed of from 2,000 to 3,000 miles a minute, collides with the moon.

"The noise of the impact is absolutely overwhelming. The crash of the detonation of a 15-inch gun is soft hand-clapping in comparison with it. The ground trembles violently for miles around, and if one is less than 500 yards from the scene one will usually be blown off his feet by the concussion, notwithstanding the very thin lunar air. If the meteor happens to strike a rocky or granite surface, the result is even more awe inspiring. As a rule, in that case the whole meteor melts in an instant and goes up in a cloud of white-hot metal vapor. If you are near enough, say within one-half mile, the heat generated by the impact will become unupportable for a short length of time, and within a few minutes exceedingly fine metallic dust will rain down upon you. It sometimes takes hours for this reddish dust to settle down.

"Thus it can be imagined that it is rather dangerous to walk on the moon's surface. This is particularly true in November each year, when the earth and the moon pass through the meteoric "streams." At such a time I would not care to be present on the surface of the moon, and would prefer the lunar caves. Furthermore, I . . ."

Münchhausen did not finish his sentence. There was an abrupt, sharp click in my phones and the ether was ominously quiet once more. For some time I tried frantically to "raise" him, but in vain; he did not reply to me. I became highly alarmed about his safety. Had one of the meteors struck him and killed him? I could not tell. And I finally left my radio laboratory with an uneasy feeling that everything was not quite right.

END OF INSTALMENTS 3 AND 4

What Do You Know?

READERS of AMAZING STORIES have frequently commented upon the fact that there is more actual knowledge to be gained through reading its pages than from many a textbook. Moreover, most of the stories are written in a popular vein, making it possible for any one to grasp important facts.

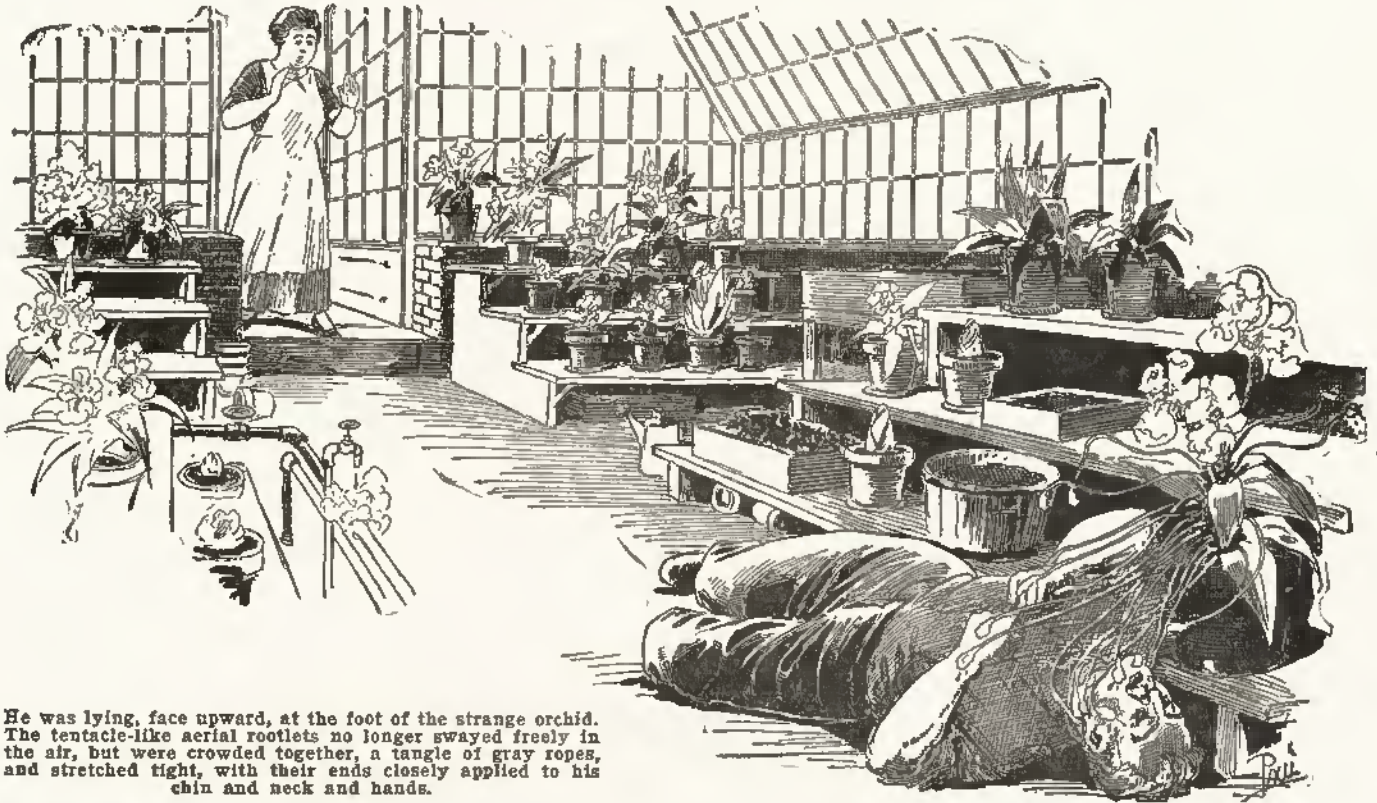
The questions which we give below are all answered on the pages as listed at the end of the questions. Please see if you can answer the questions without looking for the answer, and see how well you check up on your general knowledge.

1. What is the strange feature of the surface level of the Caspian Sea and what is its relation to the level of the Mediterranean Sea, the Black Sea, the Sea of Asof? (See page 1131).
2. What would happen to ships floating in close proximity upon an absolutely motionless sea in motionless air? (See page 1142).
3. Darwin, the great evolutionist, is known to have made some critical errors in his studies of nature and of mankind. What error was made in his study of the fertilization and production of orchids? (See page 1163).
4. How do the above orchids propagate their species? (See page 1163).
5. What is the weight of our earth? Or, taking weight as the criterion of mass, what is its mass? (See page 1153).
6. There is an area on the moon named *Mare Nubium*, which is the Latin for Sea of Clouds. This is, as far as we know, an arid plain several hundred miles across. What was it originally? (See page 1153).
7. What is the composition of the air which we breathe as regards its principal constituents? (See page 1154).
8. If a stone weighs one pound on the earth, what would it weigh on the moon? (See page 1154).
9. What is approximately the length of the day upon the moon? (See page 1155).
10. What is the approximate distance of the moon from the earth? (See page 1158).
11. Do we ever see all of the moon? (See page 1158).
12. How can we determine that the moon's day is a little over twenty-seven times as long as one of our days? (See page 1158).
13. What appearance would the earth present to a person on the surface of the moon? (See page 1159).
14. The sailors often use the term "cable-length" as a standard of distance. What is its length in feet? (See page 1168).
15. Where did the well-known "Terrapin Tower" stand at Niagara Falls? (See page 1175).
16. What name did the Indians give to the Great Niagara Cataract? (See page 1175).
17. What is the character of the Millikan or Cosmic Rays? (See page 1192).
18. What is the difference in one of their characteristics which distinguishes the colors of the spectrum or of the rainbow? (See pages 1193 and 1194).
19. Can you draw analogies between time, the spectrum, and our life? (See page 1201).
20. How large is the largest volcanic crater known to exist upon the earth? (See page 1198).

The FLOWERING OF THE STRANGE ORCHID

by H. G. Wells

Author of "The Time Machine," "The Stolen Body," etc.



He was lying, face upward, at the foot of the strange orchid. The tentacle-like aerial rootlets no longer swayed freely in the air, but were crowded together, a tangle of gray ropes, and stretched tight, with their ends closely applied to his chin and neck and hands.

THE buying of orchids always has in it a certain speculative flavour. You have before you the brown shrivelled lump of tissue, and for the rest you must trust your judgment, or the auctioneer, or your good luck, as your taste may incline. The plant may be moribund or dead, or it may be just a respectable purchase, fair value for your money, or perhaps—for the thing has happened again and again—there slowly unfolds before the delighted eyes of the happy purchaser, day after day, some new variety, some novel richness, a strange twist of the labellum, or some subtler colouration or unexpected mimicry. Pride, beauty, and profit blossom together on one delicate green spike, and, it may be, even immortality. For the new miracle of nature may stand in need of a new specific name, and what so convenient as that of its discoverer? "Johnsmithia!" There have been worse names.

It was perhaps the hope of some such happy discovery that made Winter-Wedderburn such a frequent attendant at these sales—that hope, and also, maybe, the fact that he had nothing else of the slightest interest to do in the world. He was a shy, lonely, rather ineffectual man, provided with just enough income to keep off the spur of necessity, and not enough nervous energy to

make him seek any exacting employments. He might have collected stamps or coins, or translated Horace, or bound books, or invented new species of diatoms. But, as it happened, he grew orchids, and had one ambitious little hothouse.

"I have a fancy," he said over his coffee, "that something is going to happen to me to-day." He spoke—as he moved and thought—slowly.

"Oh, don't say *that!*" said his housekeeper—who was also his remote cousin. For "something happening" was a euphemism that meant only one thing to her.

"You misunderstand me. I mean nothing unpleasant . . . though what I do mean I scarcely know.

"To-day," he continued, after a pause, "Peters' are going to sell a batch of plants from the Andamans and the Indies. I shall go up and see what they have. It may be I shall buy something good unawares. That may be what will happen to me."

He passed his cup to her for his second cupful of coffee.

"Are these the things collected by that poor young fellow you told me of the other day?" asked his cousin, as she filled his cup.

"Yes," he said, and became meditative over a piece of toast.

*G*LANT orchids are no novelty; neither are flesh-eating flowers. In this interesting story, H. G. Wells impresses us with one of his unusual moods. The story contains good science, and is not at all impossible, as any cultivator of flowers will tell you.

"Nothing ever does happen to me," he remarked presently, beginning to think aloud. "I wonder why? Things enough happen to other people. There is Harvey. Only the other week; on Monday he picked up sixpence, on Wednesday his chicks all had the staggers, on Friday his cousin came home from Australia, and on Saturday he broke his ankle. What a whirl of excitement!—compared to me."

"I think I would rather be without so much excitement," said his housekeeper. "It can't be good for you."

"I suppose its troublesome. Still . . . you see, nothing ever happens to me. When I was a little boy I never had accidents. I never fell in love as I grew up. Never married. . . . I wonder how it feels to have something happen to you, something really remarkable."

"That orchid-collector was only thirty-six—twenty years younger than myself—when he died. And he had been married twice and divorced once; he had had malarial fever four times, and once he broke his thigh. He killed a Malay once, and once he was wounded by a poisoned dart. And in the end he was killed by jungle-leeches. It must have all been very troublesome, but then it must have been very interesting, you know—except, perhaps, the leeches."

"I am sure it was not good for him," said the lady with conviction.

"Perhaps not." And then Wedderburn looked at his watch. "Twenty-three minutes past eight. I am going up by the quarter to twelve train, so that there is plenty of time. I think I shall wear my alpaca jacket—it is quite warm enough—and my gray felt hat and brown shoes. I suppose——"

He glanced out of the window at the serene sky and sunlit garden, and then nervously at his cousin's face.

"I think you had better take an umbrella if you are going to London," she said in a voice that admitted of no denial. "There's all between here and the station coming back."

When he returned he was in a state of mild excitement. He had made a purchase. It was rare that he could make up his mind quickly enough to buy, but this time he had done so.

"There are Vandas," he said, "and a Dendrobe and some Palaenophis." He surveyed his purchases lovingly as he consumed his soup. They were laid out on the spotless tablecloth before him, and he was telling his cousin all about them as he slowly meandered through his dinner. It was his custom to live all his visits to London over again in the evening for her and his own entertainment.

"I knew something would happen to-day. And I have bought all these. Some of them—some of them—I feel sure, do you know, that some of them will be remarkable. I don't know how it is, but I feel just as sure as if some one had told me that some of these will turn out remarkable."

"That one"—he pointed to a shrivelled rhizome—"was not identified. It may be a Palaenophis—or it may not. It may be a new species, or even a new genus. And it was the last that poor Batten ever collected."

"I don't like the look of it," said his housekeeper. "It's such an ugly shape."

"To me it scarcely seems to have a shape."

"I don't like those things that stick out," said his housekeeper.

"It shall be put away in a pot to-morrow."

"It looks," said the housekeeper, "like a spider shamming dead."

WEDDERBURN smiled and surveyed the root with his head on one side. "It is certainly not a pretty lump of stuff. But you can never judge of these things from their dry appearance. It may turn out to be a very beautiful orchid indeed. How busy I shall be to-morrow! I must see to-night just exactly what to do with these things, and to-morrow I shall set to work."

"They found poor Batten lying dead, or dying, in a mangrove swamp—I forget which," he began again presently, "with one of these very orchids crushed up under his body. He had been unwell for some days with some kind of native fever, and I suppose he fainted. These mangrove swamps are very unwholesome. Every drop of blood, they say, was taken out of him by the jungle-leeches. It may be that very plant that cost him his life to obtain."

"I think none the better of it for that."

"Men must work though women may weep," said Wedderburn with profound gravity.

"Fancy dying away from every comfort in a nasty swamp! Fancy being ill of fever with nothing to take but chlorodyne and quinine—if men were left to themselves they would live on chlorodyne and quinine—and no one around you but horrible natives! They say the Andaman islanders are most disgusting wretches—and, anyhow, they can scarcely make good nurses, not having the necessary training. And just for people in England to have orchids!"

"I don't suppose it was comfortable, but some men seem to enjoy that kind of thing," said Wedderburn. "Anyhow, the natives of his party were sufficiently civilized to take care of all his collection until his colleague, who was an ornithologist, came back again from the interior; though they could not tell the species of the orchid, and had let it wither. And it makes these things more interesting."

"It makes them disgusting. I should be afraid of some of the malaria clinging to them. And just think, there has been a dead body lying across that ugly thing! I never thought of that before. There! I declare I cannot eat another mouthful of dinner."

"I will take them off the table if you like, and put them in the window-seat. I can see them just as well there."

The next few days he was indeed singularly busy in his steamy little hothouse, fussing about with charcoal, lumps of peat, moss, and all the other mysteries of the orchid cultivator. He considered he was having a wonderfully eventful time. In the evening he would talk about these new orchids to his friends, and over and over again he reverted to his expectation of something strange.

Several of the Vandas and the Dendrobium died under his care, but presently the strange orchid began to show signs of life. He was delighted, and took his housekeeper right away from jam-making to see it at once, directly he made the discovery.

"That is a bud," he said, "and presently there will be a lot of leaves there, and those little things coming out here are aerial rootlets."

"They look to me like little white fingers poking out of the brown," said his housekeeper. "I don't like them."

"Why not?"

"I don't know. They look like fingers trying to get at you. I can't help my likes and dislikes."

"I don't know for certain, but I don't *think* there are any orchids I know that have aerial rootlets quite like that. It may be my fancy, of course. You see they are a little flattened at the ends."

"I don't like 'em," said his housekeeper, suddenly shivering and turning away. "I know it's very silly of me—and I'm very sorry, particularly as you like the things so much. But I can't help thinking of that corpse."

"But it may not be that particular plant. That was merely a guess of mine."

His housekeeper shrugged her shoulders. "Anyhow I don't like it," she said.

Wedderburn felt a little hurt at her dislike to the plant. But that did not prevent his talking to her about orchids generally, and this orchid in particular, whenever he felt inclined.

"There are such queer things about orchids," he said one day; "such possibilities of surprises. You know, Darwin studied their fertilisation, and showed that the whole structure of an ordinary orchid flower was contrived in order that moths might carry the pollen from plant to plant. Well, it seems that there are lots of orchids known, the flower of which cannot possibly be used for fertilisation in that way. Some of the Cypripediums, for instance; there are no insects known that can possibly fertilise them, and some of them have never been found with seed."

"But how do they form new plants?"

"By runners and tubers, and that kind of outgrowth. That is easily explained. The puzzle is, what are the flowers for?"

"Very likely," he added, "*my* orchid may be something extraordinary in that way. If so I shall study it. I have often thought of making researches as Darwin did. But hitherto I have not found the time, or something else has happened to prevent it. The leaves are beginning to unfold now. I do wish you would come and see them!"

But she said that the orchid-house was so hot it gave her the headache. She had seen the plant once again, and the aerial rootlets, which were now some of them more than a foot long, had unfortunately reminded her of tentacles reaching out after something; and they got into her dreams, growing after her with incredible rapidity. So that she had settled to her entire satisfaction that she would not see that plant again, and Wedderburn had to admire its leaves alone. They were of the ordinary broad form, and a deep glossy green, with splashes and dots of deep red towards the base. He knew of no other leaves quite like them. The plant was placed on a low bench near the thermometer, and close by was a simple arrangement by which a tap dripped on the hot-water pipes and kept the air steamy. And he spent his afternoons now with some regularity meditating on the approaching flowering of this strange plant.

And at last the great thing happened. Directly he entered the little glass house he knew that the spike had burst out, although his great *Palaenophis Lowii* hid the corner where his new darling stood. There was a new odour in the air, a rich, intensely sweet scent, that overpowered every other in that crowded, steaming little greenhouse.

Directly he noticed this he hurried down to the strange orchid. And, behold! the trailing green

spikes bore now three great splashes of blossom, from which this overpowering sweetness proceeded. He stopped before them in an ecstasy of admiration.

The flowers were white, with streaks of golden orange upon the petals; the heavy labellium was coiled into an intricate projection, and a wonderful bluish purple mingled there with the gold. He could see at once that the genus was altogether a new one. And the insufferable scent! How hot the place was! The blossoms swam before his eyes.

He would see if the temperature was right. He made a step towards the thermometer. Suddenly everything appeared unsteady. The bricks on the floor were dancing up and down. Then the white blossoms, the green leaves behind them, the whole greenhouse, seemed to sweep sideways, and then in a curve upward.

AT half-past four his cousin made the tea, according to their invariable custom. But Wedderburn did not come in for his tea.

"He is worshipping that horrid orchid," she told herself, and waited ten minutes. "His watch must have stopped. I will go and call him."

She went straight to the hothouse, and, opening the door, called his name. There was no reply. She noticed that the air was very close, and loaded with an intense perfume. Then she saw something lying on the bricks between the hot-water pipes.

For a minute, perhaps, she stood motionless.

He was lying, face upward, at the foot of the strange orchid. The tentacle-like aerial rootlets no longer swayed freely in the air, but were crowded together, a tangle of gray ropes, and stretched tight, with their ends closely applied to his chin and neck and hands.

She did not understand. Then she saw from under one of the exultant tentacles upon his cheek there trickled a little thread of blood.

With an inarticulate cry she ran towards him, and tried to pull him away from the leech-like suckers. She snapped two of these tentacles, and their sap dripped red.

Then the overpowering scent of the blossom began to make her head reel. How they clung to him! She tore at the tough ropes, and he and the white inflorescence swam about her. She felt she was fainting, knew she must not. She left him and hastily opened the nearest door, and, after she had panted for a moment in the fresh air, she had a brilliant inspiration. She caught up a flower-pot and smashed in the windows at the end of the greenhouse. Then she re-entered. She tugged now with renewed strength at Wedderburn's motionless body, and brought the strange orchid crashing to the floor. It still clung with the grimmest tenacity to its victim. In a frenzy, she lugged it and him into the open air.

Then she thought of tearing through the sucker rootlets one by one, and in another minute she had released him and was dragging him away from the horror.

He was white and bleeding from a dozen circular patches.

The odd-job man was coming up the garden, amazed at the smashing of glass, and saw her emerge, hauling the inanimate body with red-stained hands. For a moment he thought impossible things.

"Bring some water!" she cried, and her voice dis-

(Concluded on page 1202)

The MASTER OF THE WORLD *by Jules Verne*

A Sequel to "Robur the Conqueror"



Suddenly a sharp noise was heard from the mechanism which throbbed within our craft. The long gangways folded back on the sides of the machine, spread out like wings, and at the moment when the "Terror" reached the very edge of the falls, she arose into space, escaping from the thundering cataract.

WHEN the people of North Carolina first noticed the smoke issuing from the Great Eyrie in the Black Mountains region and heard the strange rumbling noises that threatened the safety of the very mountains, they were, naturally, not only mystified, but frightened as well. Some ventured the opinion that it might be an ancient volcano suddenly reawakened.

One thing was certain. It must not remain a mystery. So the Chief of Police, Mr. Ward, commissioned his most reliable Inspector, Mr. Strock, who, incidentally, is also the narrator of this story, to investigate this phenomenon, and spare no necessary expense. Mr. Strock went to Morganton and organized an expedition to climb to the top of Black Mountains, from which point they hoped to be able to solve the mystery of the Great Eyrie. But the mountain summit was unsurmountable and they had to return, as much in the dark as ever.

And then—some strange things happened. Along the New England shores a swift moving submarine-shaped vehicle was interrupting the peace and safety of that part of the country. Following this, apparently the same vehicle disturbed the Auto Races in Milwaukee by dashing past the fastest automobile with lightning speed, this time on land, and headed straight for the shore. It seemed to disappear into Lake Michigan as quickly and mysteriously as it came.

Later, an unknown "monster" of the sea was reported seen by whalers and coast steamers, whose chase it always easily evaded. No pleasure, or fishing boats were safe on the water, any more.

One day Mr. Strock received a letter, postmarked "Morganton," warning him against any further attempts at investigation. Following soon after this came news of the unwarranted and inexplicable turbulence of the seas, in apparently calm weather. Something that looked like a submarine was the probable cause. It dawned on a newspaper man that each of these bodies might be one and the same—an invention capable of three different uses—that of an automobile, a surface vessel, and a submarine.

The world became anxious to buy the invention at any price. America, having been the highest bidder, was rewarded with nothing more than a note, signed "Master of the World," on board "The Terror," in which he flatly refused to consider any offer, but reminded them, instead, that it was quite within his power to take whatever he might want, himself.


There seemed only one thing to do—to find the strange inventor and his marvelous conveyance, which Strock, with three other favored detectives, chosen by himself, forthwith proceeds to do.

The MASTER of the WORLD

By, JULES VERNE

Part II

CHAPTER XI The Campaign

O the undiscoverable commander had reappeared upon the territory of the United States! He had never shown himself in Europe either on the roads or in the seas. He had not crossed the Atlantic, which apparently he could have traversed in three days. Did he then intend to make only America the scene of his exploits? Ought we to conclude from this that he was an American?

Let me insist upon this point. It seemed clear that the submarine might easily have crossed the vast sea which separates the New and the Old World. Not only would its amazing speed have made its voyage short, in comparison to that of the fastest steamship, but also it would have escaped all the storms that make the voyage dangerous. Tempests did not exist for it. It had but to abandon the surface of the waves, and it could find absolute calm a few score feet beneath.

But the inventor had not crossed the Atlantic, and if he were to be captured now, it would probably be in Ohio, since Toledo is a city of that state.

This time the fact of the machine's appearance had been kept secret, between the police and the agent who warned them, and whom I was hurrying to meet. No journal—and many would have paid high for the opportunity—was printing the news.

We had decided that nothing should be revealed until our effort was at an end. No indiscretion would be committed by either my comrades or myself.

The man to whom I was sent with an order from Mr. Ward was named Arthur Wells. He awaited us at Toledo. The city of Toledo stands at the western end of Lake Erie. Our train sped during the night across West Virginia and Ohio. There was no delay; and before noon the next day the locomotive stopped in the Toledo depot.

John Hart, Nab Walker and I stepped out with traveling bags in our hands, and revolvers in our pockets. Perhaps we should need weapons for an attack, or even to defend ourselves. Scarcely had I stepped from the train when I picked out the man who awaited us. He was scanning the arriving passengers impatiently, evidently as eager and full of haste as I.

I approached him. "Mr. Wells?" said I.

"Mr. Strock?" asked he.

"Yes."

"I am at your command," said Mr. Wells.

¶ "Are we to stop any time in Toledo?" I asked.

"No; with your permission, Mr. Strock. A carriage with two good horses is waiting outside the station; and we must leave at once to reach our destination as soon as possible."

"We will go at once," I answered, signing to my two men to follow us. "Is it far?"

"Twenty miles."

*I*N the concluding chapters, Jules Verne finally gives us the solution of the "Terror." The reader may well pause and ask if such a machine as Jules Verne imagined will ever be constructed. If we allow the statement that history usually repeats itself, then there will be little doubt but that the ingenious machine pictured by Verne will in time be evolved. Remember that the submarine was met with jeers and hilarity when it was first described in "Twenty Thousand Leagues Under the Sea." There are many doubters today who claim that such a machine as Verne pictured in "The Master of the World" will never come about. It is our opinion that it will be evolved much sooner than most of us think.

"And the place is called?"

"Black Rock Creek."

Having left our bags at a hotel, we started on our drive. Much to my surprise I found there were provisions sufficient for several days packed beneath the seat of the carriage. Mr. Wells told me that the region around Black Rock Creek was among the wildest in the state. There was nothing there to attract either farmers or fishermen. We would find not an inn for our meals nor a room in which to sleep. Fortunately, during the July heat there would be no hardship even if we had to lie one or two nights under the stars.

More probably, however, if we were successful, the matter would not occupy us many hours. Either the commander of the "Terror" would be surprised before he had a chance to escape, or he would take to flight and we must give up all hope of arresting him.

I found Arthur Wells to be a man of about forty, large and powerful. I knew him by reputation to be one of the best of our local police agents. Cool in danger and enterprising always, he had proven his daring on more than one occasion at the peril of his life. He had been in Toledo on a wholly different mission, when chance had thrown him on the track of the "Terror."

We drove rapidly along the shore of Lake Erie, toward the southwest. This inland sea of water is on the northern boundary of the United States, lying between Canada on the north side and the States of Ohio, Pennsylvania and New York on the south. If I stop to mention the geographical position of this lake, its depth, its extent, and the waters nearest around, it is because the knowledge is necessary for the understanding of the events which were about to happen.

The surface of Lake Erie covers about ten thousand square miles. It is nearly six hundred feet above sea level. It is joined on the northwest, by means of the Detroit River, with the still greater lakes to the westward, and receives their waters. It has also rivers of its own, though of less importance, such as the Rocky and the Cuyahoga Rivers. Lake Erie empties at its northeastern end into Lake Ontario by means of Niagara River and its celebrated falls.

The greatest known depth of Lake Erie is over one hundred and thirty feet. Hence it will be seen that the mass of its waters is considerable. In short, this is a region of most magnificent lakes. The land, though not situated far northward, is exposed to the full sweep of the Arctic cold. The region to the northward is low, and the winds of winter rush down with extreme violence. Hence Lake Erie is sometimes frozen over from shore to shore.

The principal cities on the borders of this great lake are Buffalo at the east, which belongs to New York State, and Toledo in Ohio, at the west, with Cleveland and Sandusky, both Ohio cities, at the south. Smaller towns and villages are numerous along the shore. The traffic is naturally large, its annual value being estimated at considerably over two million dollars.

Our carriage followed a rough and little used road along the borders of the lake; and as we toiled along, Arthur Wells told me what he had learned.

Less than two days before, on the afternoon of July twenty-seventh, Wells had been riding on horseback toward the town of Herly. Five miles out-

side the town, he was riding through a little wood, when he saw, far up across the lake, a submarine which rose suddenly above the waves. He stopped, tied his horse, and stole on foot to the edge of the lake. There, from behind a tree he had seen—with his own eyes—this submarine advanced toward him, and stop at the mouth of Black Rock Creek. Was it the famous machine for which the whole world was seeking, which thus came directly to his feet?

When the submarine was close to the rocks, two men climbed out upon its deck and stepped ashore. Was one of them this Master of the World, who had not been seen since he was reported from Lake Superior? Was this the mysterious "Terror" which had thus risen from the depths of Lake Erie?

"I was alone," said Wells. "Alone on the edge of the Creek. If you and your assistants, Mr. Strock had been there, we four against two, we would have been able to reach these men and seize them before they could have regained their boat and fled."

"Probably," I answered. "But were there no others on the boat with them? Still, if we had seized the two, we could at least have learned who they were."

"And above all," added Wells, "if one of them turned out to be the captain of the 'Terror!'"

"I have only one fear, Wells; this submarine, whether it is the one we seek or another, may have left the creek since your departure."

"We shall know about that in a few hours, now. Pray Heaven they are still there! Then when night comes——"

"But," I asked, "did you remain watching in the wood until night?"

"No; I left after an hour's watching, and rode straight for the telegraph station at Toledo. I reached there late at night and sent immediate word to Washington."

"That was night before last. Did you return yesterday to Black Rock Creek?"

"Yes."

"The submarine was still there?"

"In the same spot."

"And the two men?"

"The same two men. I judge that some accident had happened, and they came to this lonely spot to repair it."

"Probably so," said I. "Some damage which made it impossible for them to regain their usual hiding-place. If only they are still here!"

"I have reason to believe they will be, for quite a lot of stuff was taken out of the boat, and laid about upon the shore; and as well as I could discern from a distance, they seemed to be working on board."

"Only the two men?"

"Only the two."

"But," protested I, "can two be sufficient to handle an apparatus of such speed, and of such intricacy, as to be at once automobile, boat and submarine?"

"I think not, Mr. Strock; but I only saw the same two. Several times they came to the edge of the little wood where I was hidden, and gathered sticks for a fire which they made upon the beach. The region is so uninhabited and the creek so hidden from the lake that they ran little danger of discovery. They seemed to know this."

"You would recognize them both again?"

"Perfectly. One was of middle size, vigorous,

and quick of movement, heavily bearded. The other was smaller, but stocky and strong. Yesterday, as before, I left the wood about five o'clock and hurried back to Toledo. There I found a telegram from Mr. Ward, notifying me of your coming; and I awaited you at the station."

SUMMED up, then, the news amounted to this: For forty hours past a submarine, presumably the one we sought, had been hidden in Black Rock Creek, engaged in repairs. Probably these were absolutely necessary, and we should find the boat still there. As to how the "Terror" came to be in Lake Erie, Arthur Wells and I discussed that, and agreed that it was a very probable place for her. The last time she had been seen was on Lake Superior. From there to Lake Erie the machine could have come by the roads of Michigan, but since no one had remarked its passage and as both the police and the people were specially aroused and active in that portion of the country, it seemed more probable that the "Terror" had come by water. There was a clear route through the chain of the Great Lakes and their rivers, by which, in her character of a submarine, she could easily proceed undiscovered.

And now, if the "Terror" had already left the creek, or if she escaped when we attempted to seize her, in what direction would she turn? In any case, there was little chance of following her. There were two revenue cutters at the port of Buffalo, at the other extremity of Lake Erie.* Before I left Washington, Mr. Ward had informed me of their presence; and a telegram to their commanders would, if there were need, start them in pursuit of the "Terror." But despite their splendid speed, how could they vie with her! And if she plunged beneath the waters, they would be helpless. Moreover Arthur Wells averred that in case of a battle, the advantage would not be with the destroyers, despite their large crews, and many guns. Hence, if we did not succeed this night, the campaign would end in failure.

Arthur Wells knew Black Rock Creek thoroughly, having hunted there more than once. It was bordered in most places with sharp rocks against which the waters of the lake beat heavily. Its channel was some thirty feet deep, so that the "Terror" could take shelter either upon the surface or under water. In two or three places the steep banks gave way to sand beaches which led to little gorges reaching up two or three hundred feet toward the forest.

It was seven in the evening when our carriage reached these woods. There was still daylight enough for us to see easily, even in the shade of the trees. To have crossed openly to the edge of the creek would have exposed us to the view of the men of the "Terror," if she were still there, and thus give her warning to escape.

"Had we better stop here?" I asked Wells, as our rig drew up to the edge of the woods.

"No, Mr. Strock," said he. "We had better leave the carriage deeper in the woods, where there will be no chance whatever of our being seen."

"Can the carriage drive under these trees?"

"It can," declared Wells. "I have already ex-

plored these woods thoroughly. Five or six hundred feet from here, there is a little clearing, where we will be completely hidden, and where our horses may find pasture. Then, as soon as it is dark, we will go down to the beach, at the edge of the rocks which shut in the mouth of the creek. Thus if the "Terror" is still there, we shall stand between her and escape."

Eager as we all were for action, it was evidently best to do as Wells suggested and wait for night. The intervening time could well be occupied as he said. Leading the horses by the bridle, while they dragged the empty carriage, we proceeded through the heavy woods. The tall pines, the stalwart oaks, the cypress scattered here and there, made the evening darker overhead. Beneath our feet spread a carpet of scattered herbs, pine needles and dead leaves. Such was the thickness of the upper foliage that the last rays of the setting sun could no longer penetrate here. We had to feel our way; and it was not without some knocks that the carriage reached the clearing ten minutes later.

This clearing, surrounded by great trees, formed a sort of oval, covered with rich grass. Here it was still daylight, and the darkness could scarcely deepen for over an hour. There was thus time to arrange an encampment and to rest awhile after our hard trip over the rough and rocky roads.

Of course, we were intensely eager to approach the Creek and see if the "Terror" was still there. But prudence restrained us. A little patience, and the night would enable us to reach a commanding position unsuspected. Wells urged this strongly; and despite my eagerness, I felt that he was right.

The horses were unharnessed, and left to browse under the care of the coachman who had driven us. The provisions were unpacked, and John Hart and Nab Walker spread out a meal on the grass at the foot of a superb cypress which recalled to me the forest odors of Morganton and Pleasant Garden. We were hungry and thirsty; and food and drink were not lacking. Then our pipes were lighted to calm the anxious moments of waiting that remained.

Silence reigned within the wood. The last song of the birds had ceased. With the coming of night the breeze fell little by little, and the leaves scarcely quivered even at the tops of the highest branches. The sky darkened rapidly after sundown and twilight deepened into obscurity.

I looked at my watch, it was half-past eight. "It is time, Wells."

"When you will, Mr. Strock."

"Then let us start."

We cautioned the coachman not to let the horses stray beyond the clearing. Then we started. Wells went in advance, I followed him, and John Hart and Nab Walker came behind. In the darkness, we three would have been helpless without the guidance of Wells. Soon we reached the farther border of the woods; and before us stretched the banks of Black Rock Creek.

All was silent; all seemed deserted. We could advance without risk. If the "Terror" was there, she had cast anchor behind the rocks. But was she there? That was the momentous question! As we approached the dénouement of this exciting affair, my heart was in my throat.

Wells motioned to us to advance. The sand of the shore crunched beneath our steps. The two hundred feet between us and the mouth of the Creek

* By the treaty between the United States and Canada, there are no vessels of war whatever on the Great Lakes. These might, however, have been little launches belonging to the customs service.

were crossed softly, and a few minutes sufficed to bring us to the rocks at the edge of the lake.

There was nothing! Nothing!

The spot where Wells had left the "Terror" twenty-four hours before was empty. The "Master of the World" was no longer at Black Rock Creek.

CHAPTER XII

Black Rock Creek

HUMAN nature is prone to illusions. Of course, there had been all along a probability that the "Terror" had deserted the locality, even admitting that it was she that Wells had seen the previous day. If some damage to her triple system of locomotion had prevented her from regaining her usual hiding-place, either by land or by water and obliged her to seek refuge in Black Rock Creek, what ought we to conclude now upon finding her here no longer? Obviously, that, having finished her repairs, she had continued on her way, and was already far beyond the waters of Lake Erie.

But probable as this result had been from the first, we had more and more ignored it as our trip proceeded. We had come to accept as a fact that we should meet the "Terror," that we should find her anchored at the base of the rocks where Wells had seen her.

And now what disappointment! I might even say, what despair! All our efforts gone for nothing! Even if the "Terror" was still upon the lake, to find her, reach her and capture her, was beyond our power, and—it might as well be fully recognized—beyond all human power.

We stood there, Wells and I, completely crushed, while John Hart and Nab Walker, no less chagrined, went tramping along the banks of the Creek, seeking any trace that had been left behind.

Posted there, at the mouth of the Creek, Wells and I exchanged scarcely a word. What need was there of words to enable us to understand each other! After our eagerness and our despair, we were now exhausted. Defeated in our well-planned attempt, we felt as unwilling to abandon our campaign, as we were unable to continue it.

Nearly an hour slipped by. We could not resolve to leave the place. Our eyes still sought to pierce the night. Sometimes a glimmer, due to the sparkle of the waters, trembled on the surface of the lake. Then it vanished, and with it the foolish hope that it had roused. Sometimes again, we thought we saw a shadow outlined against the dark, the silhouette of an approaching boat. Yet again some eddies would swirl up at our feet, as if the Creek had been stirred within its depths. These vain imaginings were dissipated one after the other. They were but the illusions raised by our strained fancies.

At length our companions rejoined us. My first question was, "Nothing new?"

"Nothing," said John Hart.

"You have explored both banks of the Creek?"

"Yes," responded Nab Walker, "as far as the shallow water above; and we have not seen even a vestige of the things which Mr. Wells saw laid on the shore."

"Let us wait awhile," said I, unable to resolve upon a return to the woods.

At that moment our attention was caught by a

sudden agitation of the waters, which swelled upward at the foot of the rocks.

"It is like the swell from a vessel," said Wells.

"Yes," said I, instinctively lowering my voice. "What has caused it? The wind has completely died out. Does it come from something on the surface of the lake?"

"Or from something underneath," said Wells, bending forward, the better to determine.

The commotion certainly seemed as if caused by some boat, whether from beneath the water, or approaching the creek from outside upon the lake.

Silent, motionless, we strained eyes and ears to pierce the profound obscurity. The faint noise of the waves of the lake lapping on the shore beyond the creek, came to us distinctly through the night. John Hart and Nab Walker drew a little aside upon a higher ridge of rocks. As for me, I leaned close to the water to watch the agitation. It did not lessen. On the contrary it became momentarily more evident, and I began to distinguish a sort of regular throbbing, like that produced by a screw in motion.

"There is no doubt," declared Wells, leaning close to me, "there is a boat coming toward us."

"There certainly is," responded I, "unless they have whales or sharks in Lake Erie."

"No, it is a boat," repeated Wells. "Is she headed toward the mouth of the creek, or is she going further up it?"

"This is just where you saw the boat twice before?"

"Yes, just here."

"Then if this is the same one, and it can be no other, she will probably return to the same spot."

"There!" whispered Wells, extending his hand toward the entrance of the creek.

Our companions rejoined us, and all four, crouching low upon the bank, peered in the direction he pointed.

We vaguely distinguished a black mass moving through the darkness. It advanced very slowly and was still outside the creek, upon the lake, perhaps a cable's length* to the northeast. We could scarcely hear even now the faint throbbing of its engines. Perhaps they had stopped and the boat was only gliding forward under their previous impulse.

It seemed, then, that this was indeed the submarine which Wells had watched, and it was returning to pass this night, like the last, within the shelter of the creek.

Why had it left the anchorage, if only to return? Had it suffered some new disaster, which again impaired its power? Or had it been compelled to leave, with its repairs still unfinished? What cause constrained it to return here? Was there some imperious reason why it could no longer be turned into an automobile, and go darting away across the roads of Ohio?

To all these questions which came crowding upon me, I could give no answer. Furthermore both Wells and I kept reasoning under the assumption that this was really the "Terror" commanded by the "Master of the World" who had dated from it his letter of defiance to the government. Yet this premise was still unproven, no matter how confident we might feel of it.

Whatever boat this was, that stole so softly through the night, it continued to approach us.

* A cable length is generally taken at 600 feet, about one tenth of a sea mile.

Assuredly its captain must know perfectly the channels and shores of Black Rock Creek, since he ventured here in such darkness. Not a light showed upon the deck. Not a single ray from within the cabin glimmered through any crevice.

A moment later, we heard some machinery moving very softly. The swell of the eddies grew stronger, and in a few moments the boat touched the "quay."

This word "quay," exactly describes the spot. The rocks at our feet formed a level, five or six feet above the water, and descended to it perpendicularly, exactly like a landing wharf.

"We must not stop here," whispered Wells, seizing me by the arm.

"No," I answered, "they might see us. We must lie crouched upon the beach! Or we might hide in some crevice of the rocks."

"We will follow you."

There was not a moment to lose. The dark mass was now close at hand, and on its deck, but slightly raised above the surface of the water, we could trace the silhouettes of two men.

Were there, then, really only two on board?

We stole softly back to where the ravines rose toward the woods above. Several niches in the rocks were at hand. Wells and I crouched down in one, my two assistants in another. If the men on the "Terror" landed, they could not see us; but we could see them, and would be able to act as opportunity offered.

There were some slight noises from the boat, a few words exchanged in our own language. It was evident that the vessel was preparing to moor. Then almost instantly, a rope was thrown out, exactly at the point on the quay where we had stood.

Leaning forward, Wells could discern that the rope was seized by one of the mariners, who had leaped ashore. Then we heard a grappling-iron scrape along the ground.

Some moments later, steps crunched upon the sand. Two men came up the ravine, and went onward toward the edge of the woods, guiding their steps by a ship lantern.

Where were they going? Was Black Rock Creek a regular hiding place of the "Terror?" Had her commander a depot here for stores or provisions? Did they come here to restock their craft, when the whim of their wild voyaging brought them to this part of the continent? Did they know this deserted, uninhabited spot so well, that they had no fear of ever being discovered here?

"What shall we do?" whispered Wells.

"Wait till they return, and then——" My words were cut short by a surprise. The men were not thirty feet from us, when, one of them, chancing to turn suddenly, the light of their lantern fell full upon his face.

He was one of the two men who had watched before my house in Long Street. I could not be mistaken. I recognized him as positively as my old servant had done. It was he; it was assuredly one of the spies of whom I had never been able to find any further traces! There was no longer any doubt, my warning letter had come from them. It was therefore from the "Master of the World;" it had been written from the "Terror;" and this was the "Terror." Once more I asked myself what could be the connection between this machine and the Great Eyrie!

In whispered words, I told Wells of my discovery. His only comment was, "It is all incomprehensible!"

Meanwhile the two men had continued on their way to the woods, and were gathering sticks beneath the trees. "What if they discover our encampment?" murmured Wells.

"No danger, if they do not go beyond the nearest trees."

"But if they do discover it?"

"They will hurry back to their boat, and we shall be able to cut off their retreat."

Toward the creek, where their craft lay, there was no further sound. I left my hiding-place; I descended the ravine to the quay; I stood on the very spot where the grappling-iron was fast among the rocks.

The "Terror" lay there, quiet, at the end of its cable. Not a light was on board; not a person visible, either on the deck, or on the bank. Was not this my opportunity? Should I leap on board and there await the return of the two men?

"Mr. Strook!" It was Wells, who called to me softly from close at hand.

I drew back in all haste and crouched down beside him. Was it too late to take possession of the boat? Or would the attempt perhaps result in disaster from the presence of others watching on board?

At any rate, the two men with the lantern were close at hand returning down the ravine. Plainly they suspected nothing. Each carrying a bundle of wood, they came forward and stopped upon the quay.

Then one of them raised his voice, though not loudly. "Hullo! Captain!"

"All right," answered a voice from the boat.

Wells murmured in my ear, "There are three!"

"Perhaps four," I answered, "perhaps five or six!"

The situation grew more complicated. Against a crew so numerous, what ought we to do? The least imprudence might cost us dearly! Now that the two men had returned, would they re-embark with their wood? Then would the boat leave the creek, or would it remain anchored until day? If it withdrew, would it not be lost to us? It could leave the water of Lake Erie, and cross any of the neighboring states by land; or it could retrace its road by the Detroit River which would lead it to Lake Huron and the Great Lakes above. Would such an opportunity as this, in the narrow waters of Black Rock Creek, ever occur again!

"At least," said I to Wells, "we are four. They do not expect attack; they will be surprised. The result is in the hands of Providence."

I was about to call our two men, when Wells again seized my arm. "Listen!" said he.

One of the men hailed the boat, and it drew close up to the rocks. We heard the Captain say to the two men ashore, "Everything is all right, up there?"

"Everything, Captain."

"There are still two bundles of wood left there?"

"Two."

"Then one more trip will bring them all on board the 'Terror.'"

The "Terror!" It was she!

"Yes; just one more trip," answered one of the men.

"Good; then we will start off again at daybreak."

Were there then but three of them on board?

The Captain, this Master of the World, and these two men?

Evidently they planned to take aboard the last of their wood. Then they would withdraw within their machine, and go to sleep. Would not that be the time to surprise them, before they could defend themselves?

Rather than to attempt to reach and capture the ship in face of this resolute Captain who was guarding it, Wells and I agreed that it was better to let his men return unassailed, and wait till they were all asleep.

It was now half an hour after ten. Steps were once more heard upon the shore. The man with a lantern and his companion, again remounted the ravine toward the woods. When they were safely beyond hearing, Wells went to warn our men, while I stole forward again to the very edge of the water.

The "Terror" lay at the end of a short cable. As well as I could judge, she was long and slim, shaped like a spindle, without chimney, without masts, without rigging, such a shape as had been described when she was seen on the coast of New England.

I returned to my place, with my men in the shelter of the ravine; and we looked to our revolvers, which might well prove of service.

Five minutes had passed since the men reached the woods, and we expected their return at any moment. After that, we must wait at least an hour before we made our attack; so that both the Captain and his comrades might be deep in sleep. It was important that they should have not a moment either to send their craft darting out upon the waters of Lake Erie, or to sink it beneath the waves where we would have been entrapped with it.

In all my career I have never felt such impatience. It seemed to me that the two men must have been detained in the woods. Something had barred their return.

Suddenly a loud noise was heard, the tumult of run-away horses, galloping furiously along the shore!

They were our own, which, frightened, and perhaps neglected by the driver, had broken away from the clearing, and now came rushing along the bank.

At the same moment, the two men reappeared, and this time they were running with all speed. Doubtless they had discovered our encampment, and had at once suspected that there were police hidden in the woods. They realized that they were watched, they were followed, they would be seized. So they dashed recklessly down the ravine, and after loosening the cable, they would doubtless endeavor to leap aboard. The "Terror" would disappear with the speed of a meteor, and our attempt would be wholly defeated!

"Forward," I cried. And we scrambled down the sides of the ravine to cut off the retreat of the two men.

They saw us and, on the instant, throwing down their bundles, fired at us with revolvers, hitting John Hart in the leg.

We fired in our turn, but less successfully. The men neither fell nor faltered in their course. Reaching the edge of the creek, without stopping to unloose the cable, they plunged overboard, and in a moment were clinging to the deck of the "Terror."

Their captain, springing forward, revolver in hand, fired. The ball grazed Wells.

Nab Walker and I seizing the cable, pulled the

black mass of the boat toward shore. Could they cut the rope in time to escape us?

Suddenly the grappling-iron was torn violently from the rocks. One of its hooks caught in my belt, while Walker was knocked down by the flying cable. I was entangled by the iron and the rope and dragged forward—

The "Terror," driven by all the power of her engines, made a single bound and darted out across Black Rock Creek.

CHAPTER XIII

On Board The Terror

WHEN I came to my senses it was daylight. A half light pierced the thick glass port-hole of the narrow cabin wherein someone had placed me—how many hours ago, I could not say! Yet it seemed to me by the slanting rays, that the sun could not be very far above the horizon.

I was resting in a narrow bunk with coverings over me. My clothes, hanging in a corner, had been dried. My belt, torn in two by the hook of the iron, lay on the floor.

I felt no wound nor injury, only a little weakness. If I had lost consciousness, I was sure it had not been from a blow. My head must have been drawn beneath the water, when I was tangled in the cable. I should have been suffocated, if someone had not dragged me from the lake.

Now, was I on board the "Terror?" And was I alone with the Captain and his two men? This seemed probable, almost certain. The whole scene of our encounter rose before my eyes, Hart lying wounded upon the bank; Wells firing shot after shot, Walker hurled down at the instant when the grappling hook caught my belt! And my companions? On their side, must they not think that I had perished in the waters of Lake Erie?

Where was the "Terror" now, and how was it navigating? Was it moving as an automobile? Speeding across the roads of some neighboring State? If so, and if I had been unconscious for many hours, the machine with its tremendous powers must be already far away. Or, on the other hand, were we, as a submarine, following some course beneath the lake?

No, the "Terror" was moving upon some broad liquid surface. The sunlight, penetrating my cabin, showed that the window was not submerged. On the other hand, I felt none of the jolting that the automobile must have suffered even on the smoothest highway. Hence the "Terror" was not traveling upon land.

As to deciding whether she was still traversing Lake Erie, that was another matter. Had not the Captain reascended the Detroit River, and entered Lake Huron, or even Lake Superior beyond? It was difficult to say.

At any rate I decided to go up on deck. From there I might be able to judge. Dragging myself somewhat heavily from the bunk, I reached for my clothes and dressed, though without much energy. Was I not probably locked within this cabin?

The only exit seemed by a ladder and hatchway above my head. The hatch rose readily to my hand, and I ascended half way on deck.

My first care was to look forward, backward, and on both sides of the speeding "Terror." Everywhere a vast expanse of waves! No shore in sight!

Nothing but the horizon formed by sea and sky!

Whether it was a lake or the ocean I could easily settle. As we shot forward at such speed, the water cut by the bow, rose furiously upward on either side, and the spray lashed savagely against me.

I tasted it. It was fresh water, and very probably that of Lake Erie. The sun was but midway toward the zenith, so it could scarcely be more than seven or eight hours since the moment when the "Terror" had darted from Black Rock Creek.

This must therefore be the following morning, that of the thirty-first of July.

Considering that Lake Erie is two hundred and twenty miles long, and over fifty wide, there was no reason to be surprised that I could see no land, neither that of the United States to the southeast nor of Canada to the northwest.

At this moment there were two men on the deck, one being at the bow on the look-out, the other in the stern, keeping the course to the northeast, as I judged by the position of the sun. The one at the bow was he whom I had recognized as he ascended the ravine at Black Rock. The second was his companion who had carried the lantern. I looked in vain for the one whom they had called Captain. He was not in sight.

It will be readily appreciated how eager was my desire to stand in the presence of the creator of this prodigious machine, of this fantastic personage who occupied and preoccupied the attention of all the world, the daring inventor who did not fear to engage in battle against the entire human race, and who proclaimed himself "Master of the World."

I approached the man on the look-out, and after a minute of silence I asked him, "Where is the Captain?"

He looked at me through half-closed eyes. He seemed not to understand me. Yet I knew, having heard him the night before, that he spoke English. Moreover, I noticed that he did not appear surprised to see me out of my cabin. Turning his back upon me, he continued to search the horizon.

I stepped then toward the stern, determined to ask the same question about the Captain. But when I approached the steersman, he waved me away with his hand, and I obtained no other response.

It only remained for me to study this craft, from which we had been repelled with revolver shots, when we had seized upon its anchor rope.

I therefore set leisurely to work to examine the construction of this machine, which was carrying me—whither? The deck and the upper works were all made of some metal which I did not recognize. In the center of the deck, a scuttle half raised covered the room where the engines were working regularly and almost silently. As I had seen before, neither masts, nor rigging! Not even a flagstaff at the stern! Toward the bow there arose the top of a periscope by which the "Terror" could be guided when beneath the water.

On the sides were folded back two sort of out-shoots resembling the gangways on certain Dutch boats. Of these I could not understand the use.

In the bow there rose a third hatch-way which presumably covered the quarters occupied by the two men when the "Terror" was at rest.

At the stern, a similar hatch gave access probably to the cabin of the captain, who remained unseen. When these different hatches were shut down, they had a sort of rubber covering which closed them

hermetically tight, so that the water could not reach the interior when the boat plunged beneath the surface.

As to the motor, which imparted such prodigious speed to the machine, I could see nothing of it, nor of the propellor. However, the fast speeding boat left behind it only a long, smooth wake. The extreme fineness of the lines of the craft, caused it to make scarcely any waves, and enabled it to ride lightly over the crest of the billows even in a rough sea.

As was already known, the power by which the machine was driven, was neither steam nor gasoline, nor any of those similar liquids so well known by their odor, which are usually employed for automobiles and submarines. No doubt the power here used was electricity, generated on board, at some high power. Naturally I asked myself whence comes this electricity, from primary batteries, or from accumulators? But how were these batteries or accumulators charged? Perhaps, indeed, the electricity was drawn directly from the surrounding air or from the water, by processes hitherto unknown. And I asked myself with intense eagerness if, in the present situation, I might be able to discover these secrets.

Then I thought of my companions, left behind on the shore of Black Rock Creek. One of them, I knew, was wounded; perhaps the others were also. Having seen me dragged overboard by the hawser, could they possibly suppose that I had been rescued by the "Terror?" Surely not! Doubtless the news of my death had already been telegraphed to Mr. Ward from Toledo. And now who would dare to undertake a new campaign against this "Master of the World?"

These thoughts occupied my mind as I awaited the captain's appearance on the deck. He did not appear.

I soon began to feel very hungry, for I must have fasted now nearly twenty-four hours. I had eaten nothing since our hasty meal in the woods, even if that had been the night before. And judging by the pangs which now assailed my stomach, I began to wonder if I had not been snatched on board the "Terror" two days before—or even more.

Happily the question as to whether they meant to feed me, and how they meant to feed me, was solved at once. The man at the bow left his post, descended, and reappeared. Then, without saying a word, he placed some food before me and returned to his place. Some potted meat, dried fish, sea-biscuit, and a pot of ale so strong that I had to mix it with water, such was the meal to which I did full justice. My fellow travelers had doubtless eaten before I came out of the cabin, and they did not join me.

There was nothing further to attract my eyes, and I sank again into thought. How would this adventure finish? Would I see this invisible captain at length, and would he restore me to liberty? Could I regain it in spite of him? That would depend on circumstances! But if the "Terror" kept thus far away from the shore, or if she traveled beneath the water, how could I escape from her? Unless we landed, and the machine became an automobile, must I not abandon all hope of escape?

Moreover—why should I not admit it?—to escape without having learned anything of the "Terror's" secrets would not have contented me at all. Although I could not thus far flatter myself upon the success,

of my campaign, and though I had come within a hairbreadth of losing my life, and though the future promised far more of evil than of good, yet after all, a step forward had been attained. To be sure, if I was never to be able to re-enter into communication with the world, if, like this "Master of the World" who had voluntarily placed himself outside the law, I was now placed outside humanity, then the fact that I had reached the "Terror" would have little value.

THE craft continued headed to the northeast, following the longer axis of Lake Erie. She was advancing at only half speed; for, had she been doing her best, she must some hours before have reached the northeastern extremity of the lake.

At this end Lake Erie has no other outlet than the Niagara River, by which it empties into Lake Ontario. Now, this river is barred by the famous cataract some fifteen miles beyond the important city of Buffalo. Since the "Terror" had not retreated by the Detroit River, down which she had descended from the upper lakes, how was she to escape from these waters, unless indeed she crossed by land?

The sun passed the meridian. The day was beautiful; warm but not unpleasantly so, thanks to the breeze made by our passage. The shores of the lake continued invisible, on both the Canadian and the American side.

Was the captain determined not to show himself? Had he some reason for remaining unknown? Such a precaution would indicate that he intended to set me at liberty in the evening, when the "Terror" could approach the shore unseen.

Toward two o'clock, however, I heard a slight noise; the central hatchway was raised. The man I had so impatiently awaited appeared on deck.

I must admit he paid no more attention to me, than his men had done. Going to the stern, he took the helm. The man whom he had relieved, after a few words in a low tone, left the deck, descending by the forward hatchway. The captain, having scanned the horizon, consulted the compass, and slightly altered our course. The speed of the "Terror" increased.

This man, so interesting both to me and to the world, must have been some years over fifty. He was of middle height, with powerful shoulders, still very erect; a strong head, with thick hair rather gray than white, smooth shaven cheeks, and a short, crisp beard. His chest was broad, his jaw prominent, and he had that characteristic sign of tremendous energy, bushy eyebrows drawn sharply together. Assuredly he possessed a constitution of iron, splendid health, and warm red blood beneath his sunburned skin.

Like his companions the captain was dressed in sea clothes covered by an oil-skin coat, and with a woolen cap which could be pulled down to cover his head entirely, when he so desired.

Need I add that the captain of the "Terror" was the other of the two men, who had watched my house in Long street? Moreover, if I recognized him, he also must recognize me as chief-inspector Strook, to whom had been assigned the task of penetrating the Great Eyrie.

I looked at him curiously. On his part, while he did not seek to avoid my eyes, he showed at least a singular indifference to the fact that he had a stranger on board.

As I watched him, the idea came to me, a suggestion which I had not connected with the first view of him in Washington, that I had already seen this characteristic figure. Was it in one of the photographs held in the police department, or was it merely a picture in some shop window? But the remembrance was very vague. Perhaps I merely imagined it.

Well, though his companions had not had the politeness to answer me, perhaps he would be more courteous. He spoke the same language as I, although I could not feel quite positive that he was of American birth. He might indeed have decided to pretend not to understand me, so as to avoid all discussion while he held me prisoner.

In that case, what did he mean to do with me? Did he intend to dispose of me without further ceremony? Was he only waiting for night to throw me overboard. Did even the little which I knew of him, make me a danger of which he must rid himself? But in that case, he might better have left me at the end of his anchor line. That would have saved him the necessity of drowning me over again.

I turned, I walked to the stern, I stopped full in front of him. Then, at length, he fixed full upon me a glance that burned like a flame.

"Are you the captain?" I asked.

He was silent.

"This boat! Is it really the 'Terror'?"

To this question also there was no response. Then I reached toward him; I would have taken hold of his arm.

He repelled me without violence, but with a movement that suggested tremendous restrained power.

Planting myself again before him, I demanded in a louder tone, "What do you mean to do with me?"

Words seemed almost ready to burst from his lips, which he compressed with visible irritation. As though to check his speech, he turned his head aside. His hand touched a regulator of some sort, and the machine rapidly increased its speed.

Anger almost mastered me. I wanted to cry out "So be it! Keep your silence! I know who you are, just as I know your machine, recognized at Madison, at Boston, at Lake Kirdall. Yes; it is you, who have rushed so recklessly over our roads, our seas and our lakes! Your boat is the "Terror;" and you her commander, wrote that letter to the government. It is you who fancy you can fight the entire world. You, who call yourself the "Master of the World!"

And how could he have denied it! At that moment I saw the famous initials inscribed upon the helm!

Fortunately I restrained myself; and despairing of getting any response to my questions, I returned to my seat near the hatchway of my cabin.

For long hours, I patiently watched the horizon in the hope that land would soon appear. Yes, I sat waiting! For I was reduced to that! Waiting! No doubt, before the day closed, the "Terror" must reach the end of Lake Erie, since she continued her course steadily to the northeast.

CHAPTER XIV

Niagara

THE hours passed, and the situation did not change. The steersman returned on deck, and the captain, descending, watched the movement of the engines. Even when our speed increased, these engines continued working without noise, and with remarkable smoothness. There was never one of those inevitable breaks, with which in many motors the engines sometimes miss a stroke. I concluded that the "Terror," in each of its transformations must be worked by rotary engines. But I could not assure myself of this.

For the rest, our direction did not change. Always we headed toward the northeast end of the lake, and hence toward Buffalo.

Why, I wondered, did the captain persist in following this route? He could not intend to stop at Buffalo, in the midst of a crowd of boats and shipping of every kind. If he meant to leave the lake by water, there was only the Niagara River to follow; and its Falls would be impassable, even to such a machine as this. The only escape was by the Detroit River, and the "Terror" was constantly leaving that farther behind.

Then another idea occurred to me. Perhaps the captain was only waiting for night to return to the shore of the lake. There, the boat, changed to an automobile, would quickly cross the neighboring States. If I did not succeed in making my escape, during this passage across the land, all hope of regaining my liberty would be gone.

True, I might learn where this "Master of the World" hid himself. I might learn what no one had yet been able to discover, assuming always that he did not dispose of me at one time or another—and what I expected his "disposal" would be, is easily comprehended.

I knew the northeast end of Lake Erie well, having often visited that section of New York State which extends westward from Albany to Buffalo. Three years before, a police mission had led me to explore carefully the shores of the Niagara River, both above and below the cataract and its Suspension Bridge. I had visited the two principal islands between Buffalo and the little city of Niagara Falls, I had explored Navy Island and also Goat Island, which separates the American Falls from those of the Canadian side.

Thus if an opportunity for flight presented itself, I should not find myself in an unknown district. But would this chance offer? And at heart, did I desire it, or would I seize upon it? What secrets still remained in this affair in which good fortune—or was it evil fortune—had so closely entangled me?

On the other hand, I saw no real reason to suppose that there was any chance of my reaching the shores of the Niagara River. The "Terror" would surely not venture into this trap which had no exit. Probably she would not even go to the extremity of the lake.

Such were the thoughts that spun through my excited brain, while my eyes remained fixed upon the empty horizon.

And always one persistent question remained insoluble. Why had the captain written to me personally that threatening letter? Why had he spied upon me in Washington? What bond attached him to the Great Eyrie? There might indeed be sub-

terranean canals which gave him passage to Lake Kirdall, but could he pierce the impenetrable fortress of the Eyrie? No! That was beyond him!

Toward four o'clock in the afternoon, reckoning by the speed of the "Terror" and her direction, I knew we must be approaching Buffalo; and indeed, its outlines began to show some fifteen miles ahead. During our passage, a few boats had been seen, but we had passed them at a long distance, a distance which our captain could easily keep as great as he pleased. Moreover, the "Terror" lay so low upon the water, that at even a mile away it would have been difficult to discover her.

Now, however, the hills encircling the end of Lake Erie, came within vision, beyond Buffalo, forming the sort of funnel by which Lake Erie pours its waters into the channel of the Niagara river. Some dunes rose on the right, groups of trees stood out here and there. In the distance, several freight steamers and fishing smacks appeared. The sky became spotted with trails of smoke, which were swept along by a light eastern breeze.

What was our captain thinking of in still heading toward the port of Buffalo! Did not prudence forbid him to venture further? At each moment, I expected that he would give a sweep of the helm and turn away toward the western shore of the lake. Or else, I thought, he would prepare to plunge beneath the surface. But this persistence in holding our bow toward Buffalo was impossible to understand!

At length the helmsman, whose eyes were watching the northeastern shore, made a sign to his companion. The latter, leaving the bow, went to the central hatchway, and descended into the engine room. Almost immediately the captain came on deck, and joining the helmsman, spoke with him in a low voice.

The latter, extending his hand toward Buffalo, pointed out two black spots, which showed five or six miles distant on the starboard side. The captain studied them attentively. Then shrugging his shoulders, he seated himself at the stern without altering the course of the "Terror."

A quarter of an hour later, I could see plainly that there were two smoke clouds at the point they had studied so carefully. Little by little the black spots beneath these became more defined. They were two long, low steamers, which, coming from the port of Buffalo, were approaching rapidly.

Suddenly it struck me that these were the two revenue cutters of which Mr. Ward had spoken, and which I had been told to summon in case of need.

These vessels were of the newest type, the fastest boats yet constructed in the country. Driven by powerful engines of the latest make, they had covered almost thirty miles an hour. It is true, the "Terror" commanded an even greater speed, and always, if she were surrounded so that flight was impossible, she could submerge herself out of reach of all pursuit. In truth, the pursuers would have had to be submarines to attack the "Terror" with any chance of success. And I know not, if even in that case, the contest would have been equal.

Meanwhile, it seemed to me evident that the commanders of the two ships had been warned, perhaps by Mr. Wells, who, returning swiftly to Toledo, might have telegraphed to them the news of our defeat. It appeared, moreover, that they had seen

the "Terror," for they were headed at full speed toward her. Yet our captain, seemingly giving them no thought whatever, continued his course toward the Niagara River.

What would the revenue cutters do? Presumably, they would maneuver so as to seek to shut the "Terror" within the narrowing end of the lake where the Niagara offered her no passage.

Our captain now took the helm. One of the men was at the bow, the other in the engine room. Would the order be given for me to go down into the cabin?

It was not, to my extreme satisfaction. To speak frankly, no one paid any attention to me. It was as if I had not been on board. I watched, therefore, not without mixed emotions, the approach of the pursuers. Less than two miles distant now they separated in such a way as to hold the "Terror" between their fires.

As to the "Master of the World," his manner indicated only the most profound disdain. He seemed sure that these destroyers were powerless against him. With a touch to his machinery he could distance them, no matter what their speed! With a few turns of her engine, the "Terror" would dart beyond their cannon shots! Or, in the depths of the lake, what projectiles could find the submarine!

FIVE minutes later, scarcely a mile separated us from the two powerful fighters which pursued us. Our captain permitted them to approach still closer. Then he pressed upon a handle. The "Terror," doubling the action of her propellers, leaped across the surface of the lake. She played with the destroyers! Instead of turning in flight, she continued her forward course. Who knew if she would not even have the audacity to pass between her two enemies, to coax them after her, until the hour when, as night closed in, they would be forced to abandon the useless pursuit!

The city of Buffalo was now in plain view on the border of the lake. I saw its huge buildings, its church towers, its grain elevators. Only four or five miles ahead, Niagara river opened to the northward.

Under these new conditions which way should I turn? When we passed in front of the destroyers, or perhaps between them, should I not throw myself into the water? I was a good swimmer, and such a chance might never occur again. The captain could not stop to recapture me. By diving could I not easily escape, even from a bullet? I should surely be seen by one or other of the pursuers. Perhaps, even, their commanders had been warned of my presence on board the "Terror." Would not a boat be sent to rescue me?

Evidently my chance of success would be even greater, if the "Terror" entered the narrow waters of Niagara River. At Navy Island I would be able to set foot on territory that I knew well. But to suppose that our captain would rush into this river where he might be swept over the great cataract! That seemed impossible! I resolved to await the destroyers' closest approach and at the last moment I would decide.

Yet my resolution to escape was but half-hearted. I could not resign myself thus to lose all chance of following up this mystery. My instincts as a police official revolted. I had but to reach out my hand in order to seize this man who had been outlawed! Should I let him escape me? No! I would not save myself! Yet, on the other hand, what fate awaited

me, and where would I be carried by the "Terror" if I remained on board?

It was a quarter past six. The destroyers, quivering and trembling under the strain of their speed, gained on us perceptibly. They were now directly astern, leaving between them a distance of twelve or fifteen cable lengths. The "Terror," without increasing her speed, saw one of them approach on the port side, the other to starboard.

I did not leave my place. The man at the bow was close by me. Immovable at the helm, his eyes burning beneath his contracted brows, the captain waited. He meant, perhaps, to finish the chase by one last maneuver.

Suddenly, a puff of smoke rose from the destroyer on our left. A projectile, brushing the surface of the water, passed in front of the "Terror," and sped beyond the destroyer on our right.

I glanced around anxiously. Standing by my side, the lookout seemed to await a sign from the captain. As for him, he did not even turn his head; and I shall never forget the expression of disdain imprinted on his visage.

At this moment I was pushed suddenly down the hatchway of my cabin, which was fastened above me. At the same instant the other hatchways were closed; the deck became watertight. I heard a single throb of the machinery, and the plunge was made, the submarine disappeared beneath the waters of the lake.

Cannon shot still boomed above us. Their heavy echo reached my ear; then everything was peace. Only a faint light penetrated through the porthole into my cabin. The submarine, without the least rolling or pitching, sped silently through the deeps.

I had seen with what rapidity, and also with what ease the transformation of the "Terror" had been made. No less easy and rapid, perhaps, would be her change to an automobile.

And now what would this "Master of the World" do? Presumably he would change his course, unless, indeed, he preferred to speed to land, and there continue his route along the roads. It still seemed more probable, however, that he would turn back toward the west, and after distancing the destroyers, regain the Detroit River. Our submersion would probably only last long enough for us to escape out of cannon range, or until night forbade pursuit.

Fate, however, had decreed a different ending to this exciting chase. Scarce ten minutes had passed when there seemed some confusion on board. I heard steps on the deck, and the hatchways were reopened, including mine. I sprang up the ladder.

The captain had resumed his place at the helm, while the two men were busy below. I looked to see if the destroyers were still in view. Yes! Only a quarter of a mile away! The "Terror" had already been seen, and the powerful vessels which enforced the mandates of our government were swinging into position to give chase. Once more the "Terror" sped in the direction of Niagara River.

I must confess, I could make nothing of this maneuver. Plunging into a *cul-de-sac*, no longer able to seek the depths because of the accident, the "Terror" might, indeed, temporarily distance her pursuers; but she must find her path barred by them when she attempted to return. Did she intend to land, and if so, could she hope to outrun the telegrams which would warn every police agency of her approach?

We were now not half a mile ahead. The destroyers pursued us at top speed, though being now directly behind, they were in poor position for using their guns. Our captain seemed content to keep this distance; though it would have been easy for him to increase it, and then at nightfall, to dodge back behind the enemy.

Already Buffalo had disappeared on our right, and a little after seven o'clock the opening of the Niagara River appeared ahead. If he entered there, knowing that he could not return, our captain must have lost his mind! And in truth was he not insane, this man who proclaimed himself, who believed himself, "Master of the World."

I watched him there, calm, impassive, not even turning his head to note the progress of the destroyers, and I wondered at him.

This end of the lake was absolutely deserted. Freight steamers bound for the towns on the banks of the upper Niagara are not numerous, as its navigation is dangerous. Not one was in sight. Not even a fishing-boat crossed the path of the "Terror." Even the two destroyers would soon be obliged to pause in their pursuit, if we continued our mad rush through these dangerous waters.

I have said that the Niagara River flows between New York and Canada. Its width, of about three-quarters of a mile, narrows as it approaches the falls. Its length, from Lake Erie to Lake Ontario, is about forty-five miles. It flows in a northerly direction, until it empties the waters of Lake Superior, Michigan, Huron, and Erie into Ontario, the last lake of this mighty chain. The celebrated falls, which occur in the midst of this great river have a height of over a hundred and fifty feet. One part is called the Horse-shoe Falls, because they curve inward like the iron shoe. The Indians have given them the name of "Thunder of Waters," and in truth a mighty thunder roars from them without cessation, and with a tumult which is heard for several miles away.

Between Lake Erie, and the little city of Niagara Falls, two islands divide the current of the river, Navy Island, three miles above the cataract, and Goat Island, which separates the American and the Canadian Falls. Indeed, on the lower point of this latter isle stood once that "Terrapin Tower," so daringly built in the midst of the plunging waters on the very edge of the abyss. It has been destroyed: for the constant wearing away of the stone beneath the cataract makes the ledge move with the ages slowly up the river, and the tower has been drawn into the gulf.

The town of Fort Erie stands on the Canadian shore at the entrance of the river. Two other towns are set along the banks above the falls, Schlosser on the right bank, and Chippewa on the left, located on either side of Navy Island. It is at this point that the current, bound within a narrower channel, begins to move at tremendous speed, to become, two miles further on, the celebrated cataract.

The "Terror" had already passed Fort Erie. The sun in the west touched the edge of the Canadian horizon, and the moon, faintly seen, rose above the mists of the south. Darkness would not envelop us for another hour.

The destroyers, with huge clouds of smoke streaming from their funnels, followed us a mile behind. They sped between banks green with shade trees and dotted with cottages which lay among lovely gardens.

Obviously the "Terror" could no longer turn back. The destroyers shut her in completely. It is true their commanders did not know, as I did, that an accident to her machinery had forced her to the surface, and that it was impossible for her to escape them by another plunge. Nevertheless, they continued to follow, and would assuredly maintain their pursuit to the very last.

I marveled at the intrepidity of their chase through these dangerous waters. I marveled still more at the conduct of our captain. Within a half hour now, his course would be barred by the cataract. No matter how perfect his machine, it could not escape the power of the great falls. If the current once mastered our engines, we should inevitably disappear in the gulf nearly two hundred feet deep which the waters have dug at the base of the falls! Perhaps, however, our captain had still power to turn to one of the shores and flee by the automobile routes.

In the midst of this excitement, what action should I take personally? Should I attempt to gain the shores of Navy Island, if we indeed advanced that far? If I did not seize this chance, never after what I had learned of his secrets, never would the "Master of the World" restore me to liberty.

I suspected, however, that my flight was no longer possible. If I was not confined within my cabin, I no longer remained unwatched. While the captain retained his place at the helm, his assistant by my side never removed his eyes from me. At the first movement, I should be seized and locked within my room. For the present, my fate was evidently bound up with that of the "Terror."

The distance which separated us from the two destroyers was now growing rapidly less. Soon they were but a few cable-lengths away. Could the motor of the "Terror," since the accident, no longer hold its speed! Yet the captain showed not the least anxiety, and made no effort to reach land!

We could hear the hissing of the steam which escaped from the valves of the destroyers, to mingle with the streamers of black smoke. But we heard, even more plainly, the roar of the cataract, now less than three miles away.

The "Terror" took the left branch of the river in passing Navy Island. At this point, she was within easy reach of the shore, yet she shot ahead. Five minutes later, we could see the first trees of Goat Island. The current became more and more irresistible. If the "Terror" did not stop, the destroyers could not much longer follow her. If it pleased our accursed captain to plunge us into the vortex of the falls, surely they did not mean to follow into the abyss!

Indeed, at this moment they signaled each other, and stopped the pursuit. They were scarce more than six hundred feet from the cataract. Then their thunders burst on the air and several cannon shot swept over the "Terror" without hitting its low-lying deck.

The sun had set, and through the twilight the moon's rays shone upon us from the south. The speed of our craft, doubled by the speed of the current, was prodigious! In another moment, we should plunge into that black hollow which forms the very center of the Canadian Falls.

With a glance of horror, I saw the shores of Goat Island flash by, then came the Isles of the Three Sisters, drowned in the spray from the abyss.

I sprang up; I started to throw myself into the

water, in the desperate hope of gaining this last refuge. One of the men seized me from behind.

Suddenly a sharp noise was heard from the mechanism which throbbled within our craft. The long gangways folded back on the sides of the machine, spread out like wings, and at the moment when the "Terror" reached the very edge of the falls, she arose into space, escaping from the thundering cataract in the center of a lunar rainbow.

CHAPTER XV

The Eagle's Nest

ON the morrow, when I awoke after a sound sleep, our vehicle seemed motionless. It seemed to me evident that we were not running upon land. Yet neither were we rushing through or beneath the waters; nor yet soaring across the sky. Had the inventor regained that mysterious hiding-place of his, where no human being had ever set foot before him?

And now, since he had not disembarassed himself of my presence, was his secret about to be revealed to me?

It seemed astonishing that I had slept so profoundly during most of our voyage through the air. It puzzled me and I asked if this sleep had not been caused by some drug, mixed with my last meal, the captain of the "Terror" having wished thus to prevent me from knowing the place where we landed. All that I can recall of the previous night is the terrible impression made upon me by that moment when the machine, instead of being caught in the vortex of the cataract, rose under the impulse of its machinery like a bird with its huge wings beating with tremendous power!

So this machine actually fulfilled a four-fold use! It was at the same time automobile, boat, submarine, and airship. Earth, sea and air—it could move through all three elements! And with what power! With what speed! A few instants sufficed to complete any one of its marvelous transformations. The same engine drove it along all its courses! And I had been a witness of its metamorphoses! But that of which I was still ignorant, and which I could perhaps discover, was the source of the power which drove the machine, and above all, who was the inspired inventor who, after having created it, in every detail, guided it with so much ability and audacity!

At the moment when the "Terror" rose above the Canadian Falls, I was held down against the hatchway of my cabin. The clear, moonlit evening had permitted me to note the direction taken by the airship. It followed the course of the river and passed the Suspension Bridge three miles below the falls. It is here that the irresistible rapids of the Niagara River begin, where the river bends sharply to descend toward Lake Ontario.

On leaving this point, I was sure that we had turned toward the east. The captain continued at the helm. I had not addressed a word to him. What good would it do? He would not have answered. I noted that the "Terror" seemed to be guided in its course through the air with surprising ease. Assuredly the roads of the air were as familiar to it as those of the seas and of the lands!

In the presence of such results, could one not understand the enormous pride of this man who proclaimed himself "Master of the World?" Was he not in control of a machine infinitely superior to any

that had ever sprung from the hand of man, and against which men were powerless? In truth, why should he sell this marvel? Why should he accept the millions offered him? Yes, I comprehended now that absolute confidence in himself which was expressed in his every attitude. And where might not his ambition carry him, if by its own excess it mounted some day into madness!

A half hour after the "Terror" soared into the air, I had sunk into complete unconsciousness, without realizing its approach. I repeat, it must have been caused by some drug. Without doubt, our commander did not wish me to know the road he followed.

Hence I cannot say whether the aviator continued his flight through space, or whether the mariner sailed the surface of some sea or lake, or the chauffeur sped across the American roads. No recollection remains with me of what passed during that night of July thirty-first.

Now, what was to follow from this adventure? And especially concerning himself, what would be its end?

I have said that at the moment when I awoke from my strange sleep, the "Terror" seemed to me completely motionless. I could hardly be mistaken; whatever had been her method of progress, I should have felt some movement, even in the air. I lay in my berth in the cabin, where I had been shut in without knowing it, just as I had been on the preceding night which I had passed on board the "Terror" on Lake Erie.

My business now was to learn if I would be allowed to go on deck here where the machine had landed. I attempted to raise the hatchway. It was fastened.

"Ah!" said I, "am I to be kept here until the "Terror" recommences its travels?" Was not that, indeed, the only time when escape was hopeless?

My impatience and anxiety may be appreciated. I knew not how long this halt might continue.

I had not a quarter of an hour to wait. A noise of bars being removed came to my ear. The hatchway was raised from above. A wave of light and air penetrated my cabin.

With one bound I reached the deck. My eyes in an instant swept round the horizon.

The "Terror," as I had thought, rested quietly on the ground. She was in the midst of a rocky hollow measuring from fifteen to eighteen hundred feet in circumference. A floor of yellow gravel carpeted its entire extent, unrelieved by a single tuft of herbage.

This hollow formed an almost regular oval, with its longer diameter extending north and south. As to the surrounding wall, what was its height, what the character of its crest, I could not judge. Above us was gathered a fog so heavy, that the rays of the sun had not yet pierced it. Heavy trails of cloud drifted across the sandy floor. Doubtless the morning was still young, and this mist might later be dissolved.

It was quite cold here, although this was the first day of August. I concluded therefore that we must be far in the north, or else high above sea-level. We must still be somewhere on the American Continent; though where, it was impossible to surmise. Yet no matter how rapid our flight had been, the airship could not have traversed either ocean in the dozen hours since our departure from Niagara.

At this moment, I saw the captain come from an

opening in the rocks, probably a grotto, at the base of this cliff hidden in the fog. Occasionally, in the mists above, appeared the shadows of huge birds. Their raucous cries were the sole interruption to the profound silence. Who knows if they were not affrighted by the arrival of this formidable, winged monster, which they could not match either in might or speed.

Everything led me to believe that it was here that the "Master of the World" withdrew in the intervals between his prodigious journeys. Here was the garage of his automobile; the harbor of his boat; the hangar of his air-ship.

And now the "Terror" stood motionless at the bottom of this hollow. At last I could examine her; and it looked as if her owners had no intention of preventing me. The truth is that the commander seemed to take no more notice of my presence than before. His two companions joined him, and the three did not hesitate to enter together into the grotto I had seen. What a chance to study the machine—at least its exterior! As to its inner parts, probably I should never get beyond conjecture.

In fact, except for that of my cabin, the hatchways were closed; and it would be vain for me to attempt to open them. At any rate, it might be more interesting to find out what kind of a propeller drove the "Terror" in these many transformations.

I jumped to the ground and found I was left at leisure, to proceed with this first examination.

The machine was, as I have said, spindle-shaped. The bow was sharper than the stern. The body was of aluminum, the wings of a substance whose nature I could not determine. The body rested on four wheels, about two feet in diameter. These had pneumatic tires of a diameter to assure ease of movement at any speed. Their spokes spread out like paddles or battledores; and when the "Terror" moved either on or under the water, they must have increased her pace.

These wheels were not, however, the principal propeller. This consisted of two "Parson's" turbines placed on either side of the keel. Driven with extreme rapidity by the engine, they urged the boat onward in the water by twin screws, and I even questioned if they were not powerful enough to propel the machine through the air.

The chief aerial support, however, was that of the great wings, now again in repose, and folded back along the sides. Thus the theory of the "heavier than air" flying machine was employed by the inventor, a system which enabled him to dart through space with a speed probably superior to that of the largest birds.

As to the agent which set in action these various mechanisms, I repeat, it was, it could be, no other than electricity. But from what source did his batteries get their power? Had he somewhere an electric factory, to which he must return? Were the dynamos, perhaps working in one of the caverns of this hollow?

The result of my examination was that, while I could see that the machine used wheels and turbine screws and wings, I knew nothing of either its engine, or of the force which drove it. To be sure, the discovery of this secret would be of little value to me. To employ it I must first be free. And after what I knew—little as that really was—the "Master of the World" would never release me.

There remained, it is true, the chance of escape.

But would an opportunity ever present itself? If there could be none during the voyages of the "Terror," might there possibly be, while we remained in this retreat?

The first question to be solved was the location of this hollow. What communication did it have with the surrounding region? Could one only depart from it by a flying machine? And in what part of the United States were we? Was it not reasonable to estimate, that our flight through the darkness had covered several hundred leagues?

There was one very natural hypothesis which deserved to be considered, if not actually accepted. What more natural harbor could there be for the "Terror" than the Great Eyrie? Was it too difficult a flight for our aviator to reach the summit? Could he not soar anywhere that the vultures and the eagles could? Did not that inaccessible Eyrie offer to the "Master of the World" just such a retreat as our police had been unable to discover, one in which he might well believe himself safe from all attacks? Moreover, the distance between Niagara Falls and this part of the Blue Ridge Mountains, did not exceed four hundred and fifty miles, a flight which would have been easy for the "Terror."

Yes, this idea more and more took possession of me. It crowded out a hundred other unsupported suggestions. Did not this explain the nature of the bond which existed between the Great Eyrie and the letter which I had received with our commander's initials? And the threats against me if I renewed the ascent! And the espionage to which I had been subjected! And all the phenomena of which the Great Eyrie had been the theater, were they not to be attributed to this same cause—though what lay behind the phenomena was not yet clear? Yes, the Great Eyrie! The Great Eyrie!

But since it had been impossible for me to penetrate here, would it not be equally impossible for me to get out again, except upon the "Terror?" Ah, if the mists would but lift! Perhaps I should recognize the place. What was as yet a mere hypothesis, would become a starting point to act upon.

However, since I had freedom to move about, since neither the captain nor his men paid any heed to me, I resolved to explore the hollow. The three of them were all in the grotto toward the north end of the oval. Therefore I would commence my inspection at the southern end.

Reaching the rocky wall, I skirted along its base and found it broken by many crevices; above, arose more solid rocks of that feldspar of which the chain of the Alleghanies largely consists. To what height the rock wall rose, or what was the character of its summit, was still impossible to see. I must wait until the sun had scattered the mists.

In the meantime, I continued to follow along the base of the cliff. None of its cavities seemed to extend inward to any distance. Several of them contained débris from the hand of man, bits of broken wood, heaps of dried grasses. On the ground were still to be seen the footprints that the captain and his men must have left, perhaps months before, upon the sand.

My jailers, being doubtless very busy in their cabin, did not show themselves until they had arranged and packed several large bundles. Did they purpose to carry those on board the "Terror?" And were they packing up with the intention of permanently leaving their retreat?

In half an hour my explorations were completed and I returned toward the center. Here and there were heaped up piles of ashes, bleached by weather. There were fragments of burned planks and beams; posts to which clung rusted iron-work; armatures of metal twisted by fire; all the remnants of some intricate mechanism destroyed by the flames.

Clearly at some period not very remote the hollow had been the scene of a conflagration, accidental or intentional. Naturally I connected this with the phenomena observed at the Great Eyrie, the flames which rose above the crest, the noises which had so frightened the people of Pleasant Garden and Morganton. But of what mechanisms were these the fragments, and what reason had our captain for destroying them?

At this moment I felt a breath of air; a breeze came from the east. The sky swiftly cleared. The hollow was filled with light from the rays of the sun which appeared midway between the horizon and the zenith.

A cry escaped me! The crest of the rocky wall rose a hundred feet above me. And on the eastern side was revealed that easily recognizable pinnacle, the rock like a mounting eagle. It was the same that had held the attention of Mr. Elias Smith and myself, when we had looked up at it from the outer side of the Great Eyrie.

Thus there was no further doubt. In its flight during the night, the airship had covered the distance between Lake Erie and North Carolina. It was in the depth of this Eyrie that the machine had found shelter! This was the nest, worthy of the gigantic and powerful bird created by the genius of our captain! The fortress, whose mighty walls none but he could scale! Perhaps even, he had discovered in the depths of some cavern some subterranean passage by which he himself could quit the Great Eyrie, leaving the "Terror" safely sheltered within.

At last I saw it all! This explained the first letter sent me from the Great Eyrie itself with the threat of death. If we had been able to penetrate into this hollow, who knows if the secrets of the "Master of the World" might not have been discovered before he had been able to set them beyond our reach.

I stood there, motionless; my eyes fixed on that mounting eagle of stone, prey to a sudden, violent emotion. Whatsoever might be the consequences to myself, was it not my duty to destroy this machine, here and now, before it could resume its menacing flight of mastery across the world?

Steps approached behind me. I turned. The inventor stood by my side, and pausing, looked me in the face.

I was unable to restrain myself; the words burst forth—"The Great Eyrie! The Great Eyrie!"

"Yes, Inspector Strock."

"And you! You are the "Master of the World?"

"Of that world to which I have already proved myself to be the most powerful of men."

"You!" I reiterated, stupefied with amazement.

"I," responded he, drawing himself up in all his pride, "I, Robur—Robur, the Conqueror!"

CHAPTER XVI.

Robur, The Conqueror

ROBUR the Conqueror! This then was the likeness I had vaguely recalled. Some years before the portrait of this extraordinary man

had been printed in all the American newspapers, under date of the thirteenth of June, the day after this personage had made his sensational appearance at the meeting of the Weldon Institute at Philadelphia.

I had noted the striking character of the portrait at the time; the square shoulders; the back like a regular trapezoid, its longer side formed by that geometrical shoulder line; the robust neck; the enormous spheroidal head. The eyes at the least emotion, burned with fire, while above them were the heavy, permanently contracted brows, which signaled such energy. The hair was short and crisp, with a glitter as of metal in its lights. The huge breast rose and fell like a blacksmith's forge; and the thighs, the arms and hands, were worthy of the mighty body. The narrow beard was the same also, with the smooth shaven cheeks which showed the powerful muscles of the jaw.

And this was Robur the Conqueror, who now stood before me, who revealed himself to me, hurling forth his name like a threat, within his own impenetrable fortress!

Let me recall briefly the facts which had previously drawn upon the Robur the Conqueror the attention of the entire world. The Weldon Institute was a club devoted to aeronautics under the presidency of one of the chief personages of Philadelphia, commonly called Uncle Prudent. Its secretary was Mr. Phillip Evans. The members of the Institute were devoted to the theory of the "lighter than air" machine, and under their two leaders, were constructing an enormous dirigible balloon, the "Goahead."

At a meeting in which they were discussing the details of the construction of their balloon, this unknown Robur had suddenly appeared and, ridiculing all their plans, had insisted that the only true solution of flight lay with the heavier than air machines, and that he had proven this by constructing one.

He was, in his turn doubted and ridiculed by the members of the club, who called him in mockery, "Robur, the Conqueror." In the tumult that followed, revolver shots were fired, and the intruder disappeared.

That same night, he had by force abducted the president and the secretary of the club, and had taken them, much against their will upon a voyage in the wonderful air-ship the "Albatross" which he had constructed. He meant thus to prove to them beyond argument the correctness of his assertions. This ship, a hundred feet long, was upheld in the air by a large number of vertical screws and was driven forward by horizontal screws at its bow and stern. It was managed by a crew of at least half a dozen men, who seemed absolutely devoted to their leader, Robur.

After a voyage almost completely around the world, Mr. Prudent and Mr. Evans managed to escape from the "Albatross" after a desperate struggle. They even managed to cause an explosion on the airship, destroying it, and involving the inventor and all his crew in a terrific fall from the sky into the Pacific ocean.

Mr. Prudent and Mr. Evans then returned to Philadelphia. They had learned that the "Albatross" had been constructed on an unknown isle of the Pacific called Island X; but since the location of this hiding-place was wholly unknown, its discovery lay scarcely within the bounds of possibility. More-

over, the search seemed entirely unnecessary, as the vengeful prisoners were quite certain that they had destroyed their jailers.

Hence the two millionaires, restored to their homes, went calmly on with the construction of their own machine, the "Goahead." They hoped by means of it to soar once more into the regions they had traversed with Robur, and to prove to themselves that their lighter than air machine was at least the equal of the heavy "Albatross." If they had not persisted, they would not have been true Americans.

On the twentieth of April in the following year the "Goahead" was finished and the ascent was made, from Fairmount Park in Philadelphia. I myself was there with thousands of other spectators. We saw the huge balloon rise gracefully; and, thanks to its powerful screws, it maneuvered in every direction with surprising ease. Suddenly a cry was heard, a cry repeated from a thousand throats. Another airship had appeared in the distant skies and it now approached with marvelous rapidity. It was another "Albatross," perhaps even superior to the first. Robur and his men had escaped death in the Pacific; and, burning for revenge, they had constructed a second airship in their secret Island X.

Like a gigantic bird of prey, the "Albatross" hurled itself upon the "Goahead." Doubtless, Robur, while avenging himself wished also to prove the immeasurable superiority of the heavier than air machines.

Mr. Prudent and Mr. Evans defended themselves as best they could. Knowing that their balloon had nothing like the horizontal speed of the "Albatross," they attempted to take advantage of their superior lightness and rise above her. The "Goahead," throwing out all her ballast, soared to a height of over twenty thousand feet. Yet even there the "Albatross" rose above her, and circled round her with ease.

Suddenly an explosion was heard. The enormous gasbag of the "Goahead," expanding under the dilation of its contents at this great height, had finally burst.

Half-emptied, the balloon fell rapidly.

Then to our universal astonishment, the "Albatross" shot down after her rival, not to finish the work of destruction, but to bring rescue. Yes! Robur, forgetting his vengeance, rejoined the sinking "Goahead," and his men lifted Mr. Prudent, Mr. Evans, and the aeronaut who accompanied them, out upon the platform of his craft. Then the balloon, being at length entirely empty, fell to its destruction among the trees of Fairmount Park.

The public was overwhelmed with astonishment, with fear! Now that Robur had recaptured his prisoners, how would he avenge himself? Would they be carried away, this time, forever?

The "Albatross" continued to descend, as if to land in the clearing at Fairmount Park. But if it came within reach, would not the infuriated crowd throw themselves upon the airship, tearing both it and its inventor to pieces?

The "Albatross" descended within six feet of the ground. I remember well the general movement forward with which the crowd threatened to attack it. Then Robur's voice rang out in words which even now I can repeat almost as he said them:

"Citizens of the United States, the president and the secretary of the Weldon Institute are again in my power. In holding them prisoners I would but

be exercising my natural right of reprisal for the injuries they have done me. But the passion and resentment which have been roused both in them and you by the success of the 'Albatross,' show that the souls of men are not yet ready for the vast increase of power which the conquest of the air will bring to them. Uncle Prudent, Phillip Evans, you are free."

The three men rescued from the balloon leaped to the ground. The airship rose some thirty feet out of reach, and Robur re-commenced:

"Citizens of the United States, the conquest of the air is made; but it shall not be given into your hands until the proper time. I leave, and I carry my secret with me. It will not be lost to humanity, but shall be entrusted to them when they have learned not to abuse it. Farewell, Citizens of the United States!"

Then the "Albatross" rose under the impulse of its mighty screws, and sped away amidst the hurrahs of the multitude.

I have ventured to remind my readers of this last scene somewhat in detail, because it seemed to reveal the state of mind of the remarkable personage who now stood before me. Apparently he had not then been animated by sentiments hostile to humanity. He was content to await the future; though his attitude undeniably revealed the immeasurable confidence which he had in his own genius, the immense pride which his almost superhuman powers had aroused within him.

It was not astonishing, moreover, that this haughtiness had little by little been aggravated to such a degree that he now presumed to enslave the entire world, as his public letter had suggested by its significant threats. His vehement mind had with time been roused to such over-excitement that he might easily be driven into the most violent excesses.

As to what had happened in the years since the last departure of the "Albatross" I could only partly reconstruct this even with my present knowledge. It had not sufficed the prodigious inventor to create a flying machine, perfect as that was! He had planned to construct a machine, which could conquer all the elements at once. Probably in the workshops of Island X, a selected body of devoted workmen had constructed, one by one, the pieces of this marvelous machine, with its quadruple transformation. Then the second "Albatross" must have carried these pieces to the Great Eyrie, where they had been put together, within easier access of the world of men than the far-off island had permitted. The "Albatross" itself had apparently been destroyed, whether by accident or design, within the eyrie. The "Terror" had then made its appearance on the roads of the United States and in the neighboring waters. And I have told under what conditions, after having been vainly pursued across Lake Erie, this remarkable masterpiece had risen through the air, carrying me a prisoner on board.

CHAPTER XVII

In the Name of the Law

WHAT was to be the issue of this remarkable adventure? Could I bring it to any dénouement whatever, either sooner or later? Did not Robur hold the results wholly in his own hands? Probably I would never have such an opportunity for escape as had befallen Mr. Prudent and Mr.

Evans amid the islands of the Pacific. I could only wait. And how long might the waiting last?

To be sure, my curiosity had been partly satisfied. But even now I knew only the answer to the problems of the Great Eyrie. Having at length penetrated its circle, I comprehended all the phenomena observed by the people of the Blue Ridge Mountains. I was assured that neither the country-folk throughout the region, nor the townfolk of Pleasant Garden and Morganton were in danger of volcanic eruptions or earthquakes. No subterranean forces whatever were battling within the bowels of the mountains. No crater had arisen in this corner of the Alleghanies. The Great Eyrie served merely as the retreat of Robur the Conqueror. This impenetrable hiding-place where he stored his materials and provisions, had without doubt been discovered by him during one of his aerial voyages in the "Albatross." It was a retreat probably even more secure than that as yet undiscovered Island X in the Pacific.

This much I knew of him, but of this marvelous machine of his, of the secrets of its construction and propelling force, what did I really know? Admitting that this multiple mechanism was driven by electricity, and that this electricity, as we knew it in the "Albatross," had been extracted directly from the surrounding air by some new process, what were the details of its mechanism? I had not been permitted to see the engine; doubtless I should never see it.

On the question of my liberty I argued thus: Robur evidently intends to remain unknown. As to what he intends to do with his machine, I fear, recalling his letter, that the world must expect from it more of evil than of good. At any rate, the incognito which he has so carefully guarded in the past he must mean to preserve in the future. Now only one man can establish the identity of the "Master of the World" with "Robur the Conqueror." This man is I, his prisoner, I who have the right to arrest him, I, who ought to put my hand on his shoulder, saying, "In the Name of the Law——"

On the other hand, could I hope for a rescue from without. Evidently not. The police authorities must know everything that had happened at Black Rock Creek. Mr. Ward, advised of all the incidents, would have reasoned on the matter as follows: when the "Terror" quitted the creek, dragging me at the end of her hawser, I had either been drowned or, since my body had not been recovered, I had been taken on board the "Terror" and was in the hands of its commander.

In the first case, there was nothing more to do than to write "deceased" after the name of John Strook, chief inspector of the federal police in Washington.

In the second case, could my confrères hope ever to see me again? The two destroyers which had pursued the "Terror" into the Niagara River had stopped, perforce, when the current threatened to drag them over the falls. At that moment, night was closing in, and what could be thought on board the destroyers but that the "Terror" had been engulfed in the abyss of the cataract? It was scarce possible that our machine had been seen when, amid the shades of night, it rose above the Horseshoe Falls, or when it winged its way high above the mountains on its route to the Great Eyrie.

With regard to my own fate, should I decide to question Robur? Would he consent even to appear

to hear me? Was he not content with having hurled his name at me? Would not that name seem to him to answer everything?

That day wore away without bringing the least change to the situation. Robur and his men continued actively at work upon the machine, which apparently needed considerable repair. I concluded that they meant to start forth again very shortly, and to take me with them. It would, however, have been quite possible to leave me at the bottom of the Eyrie. There would have been no way by which I could have escaped, and there were provisions at hand sufficient to keep me alive for many days.

What I studied particularly during this period was the mental state of Robur. He seemed to me under the dominance of a continuous excitement. What was it that his ever-seething brain now meditated? What projects was he forming for the future? Toward what region would he now turn? Would he put in execution the menaces expressed in his letter—the menaces of a madman?

The night of that first day, I slept on a couch of dry grass in one of the grottoes of the Great Eyrie. Food was set for me in this grotto each succeeding day. On the second and third of August, the three men continued at their work, scarcely once, however, exchanging any words, even in the midst of their labors. When the engines were all repaired to Robur's satisfaction, the men began putting stores aboard their craft, as if expecting a long absence. Perhaps the "Terror" was about to traverse immense distances; perhaps even, the captain intended to regain his Island X, in the midst of the Pacific.

Sometimes I saw him wander about the Eyrie buried in thought, or he would stop and raise his arm toward heaven, as if in defiance of that God, with Whom he assumed to divide the empire of the world. Was not his overweening pride leading him toward insanity? An insanity which his two companions, hardly less excited than he, could do nothing to subdue? Had he not come to regard himself as mightier than the elements which he had so audaciously defied even when he possessed only an airship, the "Albatross?" And now, how much more powerful had he become, when earth, air and water combined to offer him an infinite field where none might follow him!

Hence I had much to fear from the future, even the most dread catastrophes. It was impossible for me to escape from the Great Eyrie, before being dragged into a new voyage. After that, how could I possibly get away while the "Terror" sped through the air or the ocean? My only chance must be when she crossed the land, and did so at some moderate speed. Surely a distant and feeble hope to cling to!

It will be recalled that after our arrival at the Great Eyrie, I had attempted to obtain some response from Robur, as to his purpose with me; but I had failed. On this last day I made another attempt.

In the afternoon I walked up and down before the large grotto where my captors were at work. Robur, standing at the entrance, followed me steadily with his eyes. Did he mean to address me?

I went up to him. "Captain," said I, "I have already asked you a question, which you have not answered. I ask it again: What do you intend to do with me?"

We stood face to face scarce two steps apart. With arms folded, he glared at me, and I was terrified by his glance. Terrified, that is the word!

The glance was not that of a sane man. Indeed, it seemed to reflect nothing whatever of humanity within.

I repeated my question in a more challenging tone. For an instant I thought that Robur would break his silence and burst forth.

"What do you intend to do with me? Will you set me free?"

Evidently my captor's mind was obsessed by some other thought, from which I had only distracted him for a moment. He made again that gesture which I had already observed; he raised one defiant arm toward the zenith. It seemed to me as if some irresistible force drew him toward those upper zones of the sky, that he belonged no more to the earth, that he was destined to live in space, a perpetual dweller in the clouds.

Without answering me, without seeming to have understood me, Robur re-entered the grotto.

HOW long this sojourn or rather relaxation of the "Terror" in the Great Eyrie was to last, I did not know. I saw, however, on the afternoon of this third of August, that the repairs and the embarkation of stores were completed. The hold and lockers of our craft must have been completely crowded with the provisions taken from the grottoes of the Eyrie.

Then the chief of the two assistants, a man whom I now recognized as that John Turner who had been mate of the "Albatross," began another labor. With the help of his companion, he dragged to the center of the hollow all that remained of their materials, empty cases, fragments of carpentry, peculiar pieces of wood which clearly must have belonged to the "Albatross," which had been sacrificed to this new and mightier engine of locomotion. Beneath this mass there lay a great quantity of dried grasses. The thought came to me that Robur was preparing to leave this retreat forever!

In fact, he could not be ignorant that the attention of the public was now keenly fixed upon the Great Eyrie; and that some further attempt was likely to be made to penetrate it. Must he not fear that some day or other the effort would be successful, and that men would end by invading his hiding-place? Did he not wish that they should find there no single evidence of his occupation?

The sun disappeared behind the crests of the Blue Ridge. His rays now lighted only the very summit of Black Dome towering in the northwest. Probably the "Terror" awaited only the night in order to begin her flight. The world did not yet know that the automobile and boat could also transform itself into a flying machine. Until now, it had never been seen in the air. And would not this fourth transformation be carefully concealed, until the day when the "Master of the World" chose to put into execution his insensate menaces?

Toward nine o'clock profound obscurity enveloped the hollow. Not a star looked down on us. Heavy clouds driven by a keen eastern wind covered the entire sky. The passage of the "Terror" would be invisible, not only in our immediate neighborhood, but probably across all the American territory and even the adjoining seas.

At this moment, Turner, approaching the huge stack in the middle of the Eyrie, set fire to the grass beneath.

The whole mass flared up at once. From the

midst of a dense smoke, the roaring flames rose to a height which towered above the walls of the Great Eyrie. Once more the good folk of Morganton and Pleasant Garden would believe that the crater had reopened. These flames would announce to them another volcanic upheaval.

I watched the conflagration. I heard the roarings and cracklings which filled the air. From the deck of the "Terror," Robur watched it also.

Turner and his companion pushed back into the fire the fragments which the violence of the flames cast forth. Little by little the huge bonfire grew less. The flames sank down into a mere mass of burnt-out ashes; and once more all was silence and blackest night.

Suddenly I felt myself seized by the arm. Turner drew me toward the "Terror." Resistance would have been useless. And moreover what could be worse than to be abandoned without resources in this prison whose walls I could not climb!

As soon as I set foot on the deck, Turner also embarked. His companion went forward to the look-out; Turner climbed down into the engine-room, lighted by electric bulbs, from which not a gleam escaped outside.

Robur himself was at the helm, the regulator within reach of his hand, so that he could control both our speed and our direction. As for me, I was forced to descend into my cabin, and the hatchway was fastened above me. During that night, as on that of our departure from Niagara, I was not allowed to watch the movements of the "Terror."

Nevertheless, if I could see nothing of what was passing on board, I could hear the noises of the machinery. I had first the feeling that our craft, its bow slightly raised, lost contact with the earth. Some swerves and balancings in the air followed. Then the turbines underneath spun with prodigious rapidity, while the great wings beat with steady regularity.

Thus the "Terror," probably forever, had left the Great Eyrie, and launched into the air as a ship is launched into the waters. Our captain soared above the double chain of the Alleghanies, and without doubt he would remain in the upper zones of the air until he had left all the mountain region behind.

But in what direction would he turn? Would he pass in flight across the plains of North Carolina, seeking the Atlantic Ocean? Or would he head to the west to reach the Pacific? Perhaps he would seek, to the south, the waters of the Gulf of Mexico. When day came how should I recognize which sea we were upon, if the horizon of water and sky encircled us on every side?

Several hours passed; and how long they seemed to me! I made no effort to find forgetfulness in sleep. Wild and incoherent thoughts assailed me. I felt myself swept over worlds of imagination, as if swept through space by an aerial monster. At the speed which the "Terror" possessed, whither might I not be carried during this interminable night? I recalled the unbelievable voyage of the "Albatross," of which the Weldon Institute had published an account, as described by Mr. Prudent and Mr. Evans. What "Robur, the Conqueror" had done with his first airship, he could do even more readily with this quadruple machine.

At length the first rays of daylight brightened my cabin. Would I be permitted to go out now, to take

my place upon the deck, as I had done upon Lake Erie?

I pushed upon the hatchway: it opened. I came half way out upon the deck.

All about was sky and sea. We floated in the air above an ocean, at a height which I judged to be about a thousand or twelve hundred feet. I could not see Robur, so he was probably in the engine room. Turner was at the helm, his companion on the look-out.

Now that I was upon the deck, I saw what I had not been able to see during our former nocturnal voyage, the action of those powerful wings which beat upon either side at the same time that the screws spun beneath the flanks of the machine.

By the position of the sun, as it slowly mounted from the horizon, I realized that we were advancing toward the south. Hence, if this direction had not been changed during the night, this was the Gulf of Mexico which lay beneath us.

A hot day was announced by the heavy livid clouds which clung to the horizon. These warnings of a coming storm did not escape the eye of Robur when toward eight o'clock he came on deck and took Turner's place at the helm. Perhaps the cloud-bank recalled to him the waterspout in which the "Albatross" had so nearly been destroyed, or the mighty cyclone from which he had escaped only, as if by a miracle, above the Antarctic Sea.

It is true that the forces of Nature which had been too strong for the "Albatross" might easily be evaded by this lighter and more versatile machine. It could abandon the sky where the elements were in battle and descend to the surface of the sea; and if the waves beat against it there too heavily, it could always find calm in the tranquil depths.

Doubtless, however, there were some signs by which Robur, who must be experienced in judging, decided that the storm would not burst until the next day.

He continued his flight; and in the afternoon, when we settled down upon the surface of the sea, there was not a sign of bad weather. The "Terror" is a sea bird, an albatross or frigate-bird, which can rest at will upon the waves! Only we have this advantage, that fatigue has never any hold upon this metal organism, driven by the inexhaustible electricity!

The whole vast ocean around us was empty. Not a sail nor a trail of smoke was visible even on the limits of the horizon. Hence our passage through the clouds had not been seen and signaled ahead.

The afternoon was not marked by any incident. The "Terror" advanced at easy speed. What her captain intended to do, I could not guess. If he continued in this direction, we should reach some one of the West Indies, or beyond that, at the end of the Gulf, the shore of Venezuela or Colombia. But when night came, perhaps we would again rise in the air to clear the mountainous barrier of Guatemala and Nicaragua, and take flight toward Island X, somewhere in the unknown regions of the Pacific.

Evening came. The sun sank in an horizon red as blood. The sea glistened around the "Terror" which seemed to raise a shower of sparks in its passage. There was a storm at hand. Evidently our captain thought so. Instead of being allowed to remain on deck, I was compelled to re-enter my cabin, and the hatchway was closed above me.

In a few moments, from the noises that followed,

I knew that the machine was about to be submerged. In fact, five minutes later, we were moving peacefully forward through the ocean's depths.

Thoroughly worn out, less by fatigue than by excitement and anxious thought, I fell into a profound sleep, natural this time and not provoked by any soporific drug. When I awoke, after a length of time which I could not reckon, the "Terror" had not yet returned to the surface of the sea.

This maneuver was executed a little later. The daylight pierced my porthole; and at the same moment I felt the pitching and tossing to which we were subjected by a heavy sea.

I was allowed to take my place once more outside the hatchway; my first thought was for the weather. A storm was approaching from the northwest. Vivid lightning darted amid the dense, black clouds. Already we could hear the rumbling of thunder echoing continuously through space. I was surprised—more than surprised, frightened!—by the rapidity with which the storm rushed upward toward the zenith. Scarcely would a ship have had time to furl her sails to escape the shock of the blast, before it was upon her! The advance was as swift as it was terrible.

Suddenly the wind was unchained with unheard of violence, as if it had suddenly burst from this prison of cloud. In an instant a frightful sea uprose. The breaking waves, foaming along all their crests, swept with their full weight over the "Terror." If I had not been wedged solidly against the rail, I should have been swept overboard!

There was but one thing to do—to change our machine again into a submarine. It would find security and calm at a few dozen feet beneath the surface. To continue to brave the fury of this outrageous sea was impossible.

Robur himself was on deck, and I awaited the order to return to my cabin—an order which was not given. There was not even any preparation for the plunge. With an eye more burning than ever, impassive before this frightful storm, the captain looked it full in the face, as if to defy it, knowing that he had nothing to fear.

It was imperative that the "Terror" should plunge below without losing a moment. Yet Robur seemed to have no thought of doing so. No! he preserved his haughty attitude as of a man who in his immeasurable pride, believed himself above or beyond humanity.

Seeing him thus, I asked myself, with almost superstitious awe, if he were not indeed a demoniac being, escaped from some supernatural world.

A cry leaped from his mouth, and was heard amid the shrieks of the tempest and the howlings of the thunder. "I, Robur! Robur!—The Master of the World!"

He made a gesture which Turner and his companions understood. It was a command; and without any hesitation, these unhappy men, insane as their master, obeyed it.

The great wings shot out, and the airship rose as it had risen above the falls of Niagara. But if on that day it had escaped the might of the cataract, this time it was amidst the might of the hurricane that we attempted our insensate flight.

The air-ship soared upward into the heart of the sky, amid a thousand lightning flashes, surrounded and shaken by the bursts of thunder. It steered

amid the blinding, darting lights, courting destruction at every instant.

Robur's position and attitude did not change. With one hand on the helm, the other on the speed regulator, while the great wings beat furiously, he headed his machine toward the very center of the storm, where the electric flashes were leaping from cloud to cloud.

I must throw myself upon this madman to prevent him from driving his machine into the very middle of this aerial furnace! I must compel him to descend, to seek beneath the water, a safety which was no longer possible either upon the surface of the sea or in the sky! Beneath, we could wait until this frightful outburst of the elements was at an end!

Then, amid this wild excitement, my own passions, all my instincts of duty, arose within me! Yes, this was madness! Yet must I not arrest this criminal whom my country had outlawed, who threatened the entire world with his terrible invention? Forgetting where I was, one against three, uplifted in mid-sky above a howling ocean, I leaped toward the stern, and in a voice which rose above the tempest, I cried as I hurled myself upon Robur:

"In the name of the law, I——"

Suddenly the "Terror" trembled as if from a violent shock. All her frame quivered, as the human frame quivers under the electric fluid. Struck by the lightning in the very middle of her powerful batteries, the air-ship spread out on all sides and went to pieces.

With her wings fallen, her screws broken, with bolt after bolt of the lightning darting amid her ruins, the "Terror" fell from the height of more than a thousand feet into the ocean beneath.

CHAPTER XVIII

The Old Housekeeper's Last Comment

WHEN I came to myself, after having been unconscious for many hours, a group of sailors whose care had restored me to life, surrounded the door of a cabin in which I lay. By my pillow sat an officer who questioned me; and as my senses slowly returned, I answered.

I told them everything. Yes, everything! And assuredly my listeners must have thought that they had upon their hands an unfortunate whose reason had not returned with his consciousness.

I was on board the steamer *Ottawa*, in the Gulf of Mexico, headed for the port of New Orleans. This ship, while flying before the same terrific thunder-storm which destroyed the "Terror," had encountered some wreckage, among whose fragments was entangled my helpless body.

Thus I found myself back among humankind once more, while "Robur the Conqueror" and his two companions had ended their adventurous careers in the waters of the Gulf. The "Master of the World" had disappeared forever, struck down by those thunder-bolts which he had dared to brave in the region of their fullest power. He carried with him the secret of his extraordinary machine.

Five days later the *Ottawa* sighted the shores of Louisiana; and on the morning of the tenth of August she reached her port. After taking a warm leave of my rescuers, I set out at once by train for Washington, which more than once I had despaired

of ever seeing again.

I went first of all to the Bureau of Police, meaning to make my earliest appearance before Mr. Ward.

What was the surprise, the stupefaction, and also the joy of my chief, when the door of his cabinet opened before me! Had he not every reason to believe, from the report of my companions, that I had perished in the waters of Lake Erie?

I informed him of all my experiences since I had disappeared, the pursuit of the destroyers on the lake, the soaring of the "Terror" from amid Niagara Falls, the halt within the crater of the Great Eyrie, and the catastrophe, during the storm, above the Gulf of Mexico.

He learned for the first time that the machine created by the genius of this Robur, could traverse the air as it did the earth and the sea.

In truth, did not the possession of so complete and marvelous a machine justify the name of "Master of the World," which Robur had taken to himself? Certain it is that the comfort and even the lives of the public must have been forever in danger from him; and that all methods of defence must have been feeble and ineffective.

Mr. Ward could scarcely believe my story. "Well, my dear Strock," said he at last, "you have come back; and that is the main thing. Next to this notorious Robur, you will be the man of the hour. I hope that your head will not be turned with vanity, like that of this crazy inventor!"

"No, Mr. Ward," I responded, "but you will agree with me that never was inquisitive man put to greater straits to satisfy his curiosity."

"I agree, Strock; and the mysteries of the Great Eyrie, the transformation of the "Terror," you have discovered them! But unfortunately, the still greater secrets of this "Master of the World" have perished with him."

The same evening the newspapers published an account of my adventures, the truthfulness of which could not be doubted. Then, as Mr. Ward had prophesied, I was the man of the hour.

One of the papers said, "Thanks to Inspector Strock, the American police still lead the world. While others have accomplished their work, with more or less success, by land and by sea, the American police hurl themselves in pursuit of criminals through the depths of lakes and oceans and even through the sky."

Yet, in following, as I have told, in pursuit of the "Terror," had I done anything more than by the close of the present century will have become the regular duty of my successors?

It is easy to imagine what a welcome my old housekeeper gave me when I entered my house in Long Street. When my apparition—does not the word seem just—stood before her, I feared for a moment she would drop dead, poor woman! Then, after hearing my story, with eyes streaming with tears, she thanked Providence for having saved me from so many perils.

"No, sir," said she, "now—was I wrong?"

"Wrong? About what?"

"In saying that the Great Eyrie was the home of the devil?"

"Nonsense; this Robur was not the devil!"

"Ah, well!" replied the old woman, "he was worthy of being so!"

LAKH-DAL DESTROYER of SOULS

by W. F. Hammond



"For God's sake, stand back!" shouted Errell. "It is dying of Bubonic plague!" The others needed no second bidding and the space cleared as if by magic.



ERRELL, do you believe in Evil Spirits?"

The question, asked in all seriousness by no less a personage than General Scott Humiston, head of the Intelligence Bureau at Washington, was addressed to his son-in-law, Professor Fiske Errell, himself perhaps the greatest criminologist the world has ever known.

The two men were seated in Errell's study at his home in Arshamomoque, Long Island, whither the General had journeyed for his usual week-end visit with Jerry, his daughter. It was late November. Outside, the wind howled fitfully, rattling the casements and shrieking through the treetops like the wailing of so many lost souls, hastening to the scene of their crimes.

It was just the night for that sort of question, Errell reflected, as he hesitated for a moment before replying. When he did speak, it was with the air of one who had chosen his words carefully.

"No, and yes," he said. "If by Evil Spirits you mean supernatural, disembodied beings capable of wreaking bodily harm or even mental distress upon people, my answer is 'No.' I do believe, however, that there are fiends in human guise, whose sole aim seems to be the downfall of mankind in general, monsters who delight in the misery and misfortune of others and who devote their whole time and energy to the accomplishment of this base desire."

"And you think these 'fiends,' as you call them, are strictly human?" persisted the General.

"Just what are you driving at?" demanded Errell, roused at last from his usual calm. "You have an object in asking these questions."

"Yes, I have," admitted the other slowly. "Certain things are transpiring today, both in this country and abroad, which can only be accounted for by the existence of a living, breathing Embodiment of Evil—a creature half-human, half-demon, whose diabolic designs and ruthless will are carried out through a secret organization, with ramifications in every part of the civilized world."

"And the headquarters of this fiend?" queried the professor.

"That is for you and me to discover, if possible," replied the General, "for I tell you frankly," and there was no mistaking the gravity of his manner—"I tell you frankly, that unless we track this evil creature to his hiding-place and crush him as we would a loathsome toad, our boasted Western civilization will collapse and we shall become a nation of raving maniacs."

"I believe you really mean it," said Errell, impressed in spite of himself by the other's manner.

"Mean it? Of course I mean it!" exclaimed Gen. Humiston, at the same time bringing his fist down on the table with a bang. "Good God, man, don't you read the papers? Haven't you read of the crime waves that are sweeping this country, the hold-ups, the gang wars, the murders and suicides? Don't you realize that insanity is increasing among us at a frightful rate, that our asylums are already overcrowded and the whole land overrun with morons?"

"Yes, to all three questions," was the sober rejoinder.

"And before coming to this country," continued the General, "this same Evil Mind exercised his devilish arts in Europe. He it was who instigated the World War, the most terrible conflict of modern times, a struggle marked not only by wholesale slaughter and world-wide suffering, but which left in its wake a trail of lawlessness, of physical violence and moral turpitude, the end of which no man may foresee."

"Ah, then you do not believe that the Kaiser was responsible for that war?"

"Only so far as he was the unconscious instrument of this Devil in human guise, this monster whose own minions speak his name shudderingly and with bated breath. He is known among them as 'Lakh-Dal,' or 'Destroyer of Souls.'"

"And his headquarters?" queried Errell for the second time.

"That is something I cannot tell you exactly, although my men are hot on his trail. We do know, however, that he came from a spot in the remote fastnesses of the Himalayas, near the sacred city of Lhasa, which, as you probably know, is not only the capital of Tibet, but also the residence of Dalai Lama, supreme head of the Lamaist hierarchy. Four great monasteries are located there, which are much frequented by Chinese and Mongols, while close at hand is the great temple of Buddha.

"The actual hiding place of Lakh-Dal, however, is believed to be on the eastern shore of Yamdok-tso, a mysterious lake of intense color, framed in a background of sombre majesty. Few white men have penetrated this region and still fewer have lived to tell the tale."

"Then you don't think he is there now?" asked Errell.

"No," came the answer. The General paused a moment, then added slowly and impressively: "At this very moment he is within fifty miles of New York City."

"The devil you say!" exclaimed the professor. Then, curiously: "What makes you think so?"

"These, and these, and these," and with the words, the head of the Intelligence Bureau thrust a sheaf of newspaper clippings into his hands.

The first of them were dated a month back and came from papers along the Pacific Coast.

"Stanford Professor Suffers Mental Collapse"; "San Francisco Editor Stricken with Aphasia"; "Noted Scientist Victim of Paresis"; "Senator Blank Has Nervous Break-down"; "Vice Rampant in Hollywood."

Then came a batch from Denver dated a week later but similar in their import; these, in turn, being succeeded by still later despatches from Chicago—stories of daring hold-ups, gang-wars, revolting murders and another Herrin massacre.

Following these came more recent clippings from Cleveland papers, from those of Buffalo, Pittsburgh, Philadelphia and finally New York. All told the same sordid story of mental or moral degeneracy,

IN presenting our new author to you, we just want to make one thing plain in connection with this story, and that is, if you are at all nervous, don't read it before you go to bed. If you do, we assure you you won't sleep for the rest of the night. Here is a scientific story plus—one of the few that contains good science and thrilling episodes, adventure and tense situations. It is one of those stories that will remain fresh in your memory for years to come.

of honorable careers cut short, of brutal homicides, maniacal attacks on women, of suicide and shame.

"A fairly well-blazed trail," remarked the professor, but there was no humor in his voice. "If your theory holds good, Lakh-Dal is in New York right now."

And it was at this psychological moment that the telephone bell rang.

"For you, General," announced his son-in-law, handing him the instrument.

"No. 264 speaking," came a voice over the wire. "Two high-powered cars, containing eight men dressed as Europeans, but unmistakably Chinese by birth, passed over the Queensboro bridge shortly after 7 o'clock this evening. Twenty minutes later they were picked up by No. 47 on the Jericho turnpike, headed east. At 8 o'clock No. 383 reported them en route from Patchogue to Riverhead, on your side of the island. They may be on their way to Arshamomoque, so be on your guard."

"Very good," replied the Chief. He hung up the phone and repeated what he had heard to Errell.

"Forewarned is forearmed," was that gentleman's comment.

CHAPTER II

ERRELL looked at his watch.

"Eight-thirty," he said. "If your friends are coming here, it's about time they showed up."

He turned to the General as he spoke, to find that individual sitting bolt upright in an attitude of frozen horror, his eyeballs starting from their sockets and one shaking hand pointing to the wall opposite the curtained window.

Errell's quick eye followed the outstretched arm and that which he beheld might well have affrighted a stouter heart than his.

Straight up the grey side-wall there slithered and squirmed a horde of slimy, wriggling, mottled lizards each one fully six inches in length. They appeared to follow each other in an endless stream from the floor; but a quick downward glance betrayed no sign of them on the floor itself.

And then, as the two watchers sat glued to their chairs, scarcely breathing and hardly able to credit their eyes, the noxious reptiles, as if obeying the command of some unseen master, proceeded to arrange themselves in the form of living letters. Thus, from the crawling, creeping Things, there presently was evolved this message:

"THOSE WHO DARE TO OPPOSE LAKH-DAL, DIE!"

Errell was the first to recover his mental poise. With a single bound he reached the window and threw up the shade.

As he did so, the glass above his head was shattered by a bullet from the darkness beyond, the missile passing so close that a lock of his hair was severed.

"Duck!" shouted the General, suiting the action to the word.

The younger man needed no second urging. The next second he had switched off the lights, plunging the room into the blackness of night.

And in that sombre gloom still another surprise awaited them; for plainly outlined on the same side wall, but this time in letters that glowed with a

weird, unearthly phosphorescence, appeared the warning:

"A WORD TO THE WISE IS SUFFICIENT"

Under cover of this same darkness the two men slipped downstairs, Errell extinguishing the lights as they descended. Jerry, wholly unaware of their danger, was in another part of the house, putting the children to bed.

"Are you armed?" this from the General, in a sibilant whisper.

"Colt automatic," was the terse reply. "And you?"

"Same here; two of 'em. Let's go!"

Errell unlocked the rear door and they stepped out.

"Shoot first and investigate afterwards," ordered the Chief, but his advice was unnecessary. As they rounded the corner of the house they heard the roar of two big cars, tearing up the road in their flight toward New York.

"The telephone!" exclaimed Humiston. "Quick, get the sheriff at Riverhead and head them off!"

Back into the house they rushed and Errell grabbed the instrument, only to set it down the next moment with a look of disgust.

"They've cut the wire, damn them!" he cried.

"Never mind," was the consoling reply, "they've shown their hand. The next move is up to us."

They made their way back to the study and Errell snapped on the lights again. As he expected, there was no trace of their late visitors, nothing to indicate that anything out of the ordinary had transpired, save the shattered window and a spent bullet in the ceiling. General Humiston pried this out with his knife as he stood on the table.

"Luger automatic," he pronounced it, as he held the flattened object up, "such as is used in the German army; but that signifies nothing."

Errell fastened a piece of cardboard over the broken pane and the two resumed their seats before the fire.

"How do you explain the presence of those beastly reptiles?" In his excitement, the General disregarded biological distinctions.

"I don't," was the laconic answer.

"But dammit, man," protested the old soldier, "they were alive and crawling all over that wall. We both saw them!"

"Yes, and men have seen pink elephants and green monkeys," retorted the professor, "but that doesn't prove that such animals exist."

"Oh, then you think we were hypnotized?" hopefully.

"I didn't say that, either," said Errell. "I am more inclined to consider it a conjuror's trick, such as fakirs perform for the edification of credulous tourists in India."

"There's no trick about this bullet," and the General picked up the object in question.

"No," admitted the professor, "that's real enough. However," he added, more briskly, "I hardly think they will return tonight. To make assurance doubly sure, though, I'll untie Kaiser Bill, my police dog. And now let's go down to Jerry, who of course must be told nothing of all this."

The next day was Sunday. The New York papers do not reach Arshamomoque, which is 90 miles east of the metropolis, until noon. It was half after the hour when Jerry's father, who had motored to Greenport, rushed into the house, greatly excited.

In his arms he clutched half a dozen papers, all topped with screaming headlines:

"Evangelist Goes Insane While Preaching;" "Bubonic Plague Victim in New York;" "Prominent Banker Attacked by Mysterious Illness;" "War Looms With Mexico;" "U. S. Marines in Nicaragua;" "New Killer Brands Victims With Weird Emblem."

"Do you believe me NOW?" said the Bureau chief, as he thrust the papers into Errell's hands.

As he read, the rôle of professor slipped from the young man's shoulders and he became again the great criminologist—calm, resourceful, relentless, a man whose very name was fraught with terror to evildoers.

"Jerry," he said, turning to his wife, "your father and I are leaving for New York right after dinner. I may be gone several days and during my absence I want you to keep the dog with you day and night. On no account be out after dark."

"Why, Fiske dear," came the troubled reply, "what do you mean? Surely there is nothing to fear in this peaceful village."

"Nothing worse than an assassin's bullet, I hope," was the grim response, and he told her of the attempt on his life the night before; omitting, however, all mention of the grisly apparition on the wall.

"Your father will send some of his men out this afternoon to look after you," he added reassuringly. "One of them, Jim Funston, you know already."

"But you?" she questioned in sudden terror. "You will be in danger too?"

"I am always in danger, dear," he replied calmly. "The underworld does not forget and you know they have good reason to fear me."

"But this is something different!" she cried, with woman's swift intuition. "I can see it in your face. Oh promise me, both of you, that you will be careful. You are all I have."

CHAPTER III

LATE that same afternoon, General Humiston sat in his New York office on the top floor of a huge skyscraper. With him, besides Errell, were three of his trusted lieutenants, to whom he related briefly the events of the previous night.

"May I offer a suggestion?" ventured No. 264. "It is that we get in touch with No. 17 as soon as possible. He spent eight years in China and on one occasion, disguised as a Chinaman, he actually entered the sacred temple at Peking. He speaks the language fluently and over in Mott Street they believe him to be one of themselves."

"Locate him," ordered the General curtly, "and make an appointment for 9 o'clock to-morrow morning if possible." With that the conference broke up.

Errell decided to spend the night there, but instead of sharing the other's bed, he elected to sleep on the couch in the room adjoining. It was shortly after seven the next morning when he knocked on the door of the General's chamber.

There was no response. Again he knocked and listening intently, he thought he heard a muffled groan. A turn of the knob showed the door was locked on the inside. Without hesitating a second, Errell placed the muzzle of his automatic against the lock and fired. With the shattering of the lock, he pushed open the door and rushed over to the bed.

General Humiston lay stretched out, flat on his

back. His eyes were fixed in a glassy stare and his face was the color of death. He was still breathing, but there was a look on his face as of one suddenly bereft of his reason. The few words he mumbled were unintelligible.

Errell's first thought was that he had suffered a stroke. The next moment, Lakh-Dal's warning recurred to him, and into his mind an idea flashed that sent him on a run to the nearest drugstore. Here he secured a powerful medical battery with vibrating coil, and returning to the General's bedside, he affixed one electrode to the stricken man's forehead and the other against the base of the brain, after which he turned on the current.

And then he did a curious thing. Bending over the prostrate man, with his hands he made strange passes through the air, at the same time muttering certain mystic words that sounded like Chinese.

Whether it was the life-quickenings vibrations of the battery, or the mysterious incantation, it is hard to say, but the patient's pallor gave way to a normal, healthy glow, the glassy stare was superseded by the light of intelligence, and the General sat up briskly in bed.

"What's all this?" he cried, as he took in the battery and wires.

"First aid stuff," replied Errell grimly. "Our friend Lakh-Dal has been busy again. When I broke into your room twenty minutes ago, you were in a condition bordering on imbecility. Another ten minutes and I would have been too late."

"Too late?" repeated his father-in-law dazedly, "Do you mean I would have been dead?"

"Worse than that," came the answer, in tones that carried conviction. "You would have been a raving maniac!"

Seasoned veteran that he was, General Humiston paled as he took in the other's words.

"But how could he get at me, way up here?" he cried. "And what is to prevent this Devil in human guise from completing his work the next time?"

"As to the first, I will tell you more later. This is neither the time nor the place for a detailed discussion. As to the latter part of your question, which is perfectly natural under the circumstances, I would suggest that you place a screen of sheet lead a quarter of an inch thick and four feet high around your bed at night, with another sheet of the same metal underneath the springs."

"I get you," said the General. "This Chinese devil has somehow discovered the long-sought Death ray."

Errell nodded. "Not only the Death ray," he replied, and his voice took on a sudden gravity, "but, if what I fear is true, he has discovered other rays even more terrible in their power for evil."

"But of that, more anon. Right at this very moment he may be exercising his devilish arts on some poor wretch, while we stand by powerless to interfere, since we know neither his identity nor his present whereabouts."

"My God, this is awful!" exclaimed Gen. Humiston, for none knew better than he, that upon his shoulders rested the responsibility of rounding up this hellish crew and crushing its evil master, as one would a poisonous snake.

"The first thing to do is to get in touch with No. 17," said Errell, taking command by tacit consent. "Get 264 on the phone." It was the fearless

enemy of the underworld speaking now, the man whose relentless energy and mysterious powers had made his name a byword among criminals of all classes.

No. 264 was located and reported that the man they wanted was in a room over Ching Foo's laundry in Mott Street. The place could be reached through a vacant house on the next street and Ching Foo himself would admit whoever was sent, through the basement door under the front steps. He also gave a pass-word.

"Just time for coffee and rolls first," said Errell and ten minutes later they were in a white-tiled restaurant, with a morning paper spread before them.

"Look!" and the General pointed to a headline.

"Strange Unrest in Chinatown. Tong Outbreak Feared." The story itself, written by someone who knew his facts, told of the arrival of a new leader from the Far East, a leader, whose power over his followers was that of life and death, and whose mission was fraught with sinister importance.

"Somebody has blabbed," commented Errell briefly. "I hate to think what his fate will be."

"And now," he continued, with a sudden change of manner, "I'm going to find No. 17. If I am not back by 11 o'clock, come after me and come prepared for trouble. I'll be dressed as a Chink."

"But you don't speak that language, do you?" asked the General, in surprise.

"I served for a whole year as a priest of the Inner Temple," was the astounding reply. "Outside of the Supreme Head of the Order, not a soul in the temple city knew me for other than that which I seemed."

"But I don't understand," said General Humiston and the head of the Intelligence Bureau looked with renewed interest at this strange son-in-law of his.

"It was during an uprising in Peking," was the reply, in short, jerky sentences. "I happened to rescue the emerald eye of the great image of Buddha from a band of half-drunken troopers. I was wounded in the scrap and it was the high priest himself who nursed me back to health. Out of gratitude for the restoration of the jewel and in order to insure my safety, he initiated me into many of the sacred rites of the Order."

General Humiston stared at him open-mouthed.

"Well, I'll be damned," he said, "and I thought all this time that you got your dope from books, that you were one of these self-taught detectives! No wonder the yeggs say you bear a charmed life!"

CHAPTER IV.

AT precisely 9 o'clock a typical Chinese dope-seller might have been slinking along the sidewalk in front of the vacant house at the rear of Ching Foo's laundry. Every now and then he glanced furtively behind him, as if at any moment he feared the heavy hand of the law might descend upon his cringing shoulder.

One last "look-see" and he vanished from sight as if the earth had swallowed him. Then came a peculiar knock at the basement door.

"17-264," said the stranger, in purest Chinese. Ching Foo unlocked the door. If he felt any surprise at the sound of his own tongue, his impassive, mask-like countenance gave no sign of it. Silently he led the way through the basement, across the narrow courtyard at the rear and up a dark stairway to the room over his laundry.

A soft knock, thrice repeated, and a voice from within uttered the Chinese equivalent for "Enter."

Errell dismissed his guide and stepped into the room. He found himself facing a man perhaps forty years old, dressed like himself in flowing eastern garb and seated at a small table so that he faced the door. One hand rested carelessly in the open drawer, but Errell knew it clutched a loaded revolver.

For a moment neither spoke. Then, low but distinct and seemingly coming from within the room itself, came the sweet, muffled sound of temple bells; a cloud of perfumed incense spread over them, and upon Errell's silken coat a faint blue circle appeared. Within this circle, in deepest red, shone the symbol of China's highest priesthood.

And then from his lips, in the singsong tones peculiar to that cult, came the words: "Buddha's blessing be upon thee."

No. 17 stared. Where had he last heard those words? Ah, yes, he remembered now. It was in the sacred temple of the Inner City at Peking. He closed his eyes. Again he saw the prostrate forms of the worshippers, packed closely together and giving off that indescribable odor characteristic of China; again he heard the weird chanting of the priests and the solemn booming of the great bell of the temple; again the pungent incense assailed his nostrils. Even the face of the head priest bore a strange resemblance to this man who stood before him. With an effort he roused himself and spoke:

"Who are you and what is your mission?" he asked, and there was that in his voice which showed he was not to be trifled with.

"Fiske Errell," came the reply in English, and with the words the Eastern air dropped from him and except for his clothes and the yellow tint so skilfully applied to his skin, there was no trace of Chinese about him. "General Humiston sent me to you. What do you know of Lakh-Dal?"

No. 17 stepped silently to the little window and looked out; then went with cat-like tread to the door, which he opened quickly and noiselessly to peer up and down the passageway, before closing it and locking it again.

"For God's sake be careful how you mention that name here," he warned. "His spies are everywhere and he seems gifted with supernatural power. This very night he is to visit his wrath upon Fu Yung, the poor devil who spilled that story to the papers last night."

"Do you know where this unholy punishment is to take place? And is there any way we can manage to be present?" asked Errell.

"What do you call yourself in Chinese?" asked the other, a speculative look in his eye.

"Hop Sing," came the reply in that tongue. "I peddle opium from my room in Pell Street."

"And I am Hip Leong," said No. 17. "I am a waiter in Sam Lee's chop suey place across the street. There is a secret passage from the kitchen to a series of rooms in the house next door. In one of these rooms Lakh-Dal has established his temporary headquarters and from this room he issues his commands. The large room on the next floor is fitted up like a council chamber and it is here that the clan to-night will see how Lakh-Dal deals with those who disobey him. There will be at least seventy present and hardly any one of two there will know

the other. I can give you the password that will admit you, but after that you must look out for yourself. You are taking a frightful risk."

"What time shall I come to Sam Lee's?" Errell's tones were as cool as if they were discussing the weather.

"They have excellent chow mein there. You might try a dish of it at, say, 8 o'clock."

"I'll be there," was the prompt reply. "And now the password and any further details you think necessary."

"The word for tonight is 'DEATH.'" Every member, before entering the council chamber, dons a black robe and cowl, with a black handkerchief covering the lower half of the face. The robes and cowls hang in the anteroom. The handkerchief you bring with you."

"Thanks. Now I'll lay my plans. If anything goes wrong tonight, Lakh-Dal will think Hell has broken loose; but I am not yet ready to strike the final blow."

Errell had risen as he spoke. No. 17 pressed a button beneath the table. Ching Foo appeared in answer to the summons and without a word escorted the visitor to the basement door, through which he had entered.

Back to his old hang-out went the fearless criminologist. When he emerged, twenty minutes later, it was as a tough-looking specimen, evidently a seaman still groggy from a night with the pipe. The man boarded a crosstown car and entered a resort on West Street frequented by longshoremen and seafaring men. He nodded to the proprietor as an old acquaintance and passed through a rear room in which sat half a dozen Lascars drinking and shaking dice. One of these swarthy fellows arose and lurched after him, closing the door behind him as he entered the smaller room further back.

"Did you find No. 17?" he asked, after making sure no one could overhear them.

"Yes," answered Errell. "Tell General H. to fill up a sightseeing bus with a score of his best men and come to Sam Lee's chop suey house in Mott Street at 8 o'clock tonight as up-state hicks on a trip to Chinatown."

"No. 17 is known there as Hip Leong, one of the waiters. We are going to be present at a council meeting in the house next door presided over by Lakh-Dal himself. There will be at least 60 others there and the time is set for 9 o'clock. If anything goes wrong, I will fire three shots in quick succession."

"You sure have got your nerve with you," said No. 264 admiringly. "I'd hate to trust my head in that den of wolves."

Errell laughed—the laugh of a man absolutely devoid of fear.

"Well, I must be going," he said. "I've got a lot to do between now and 8 o'clock tonight."

Together they left the speak-easy, only to separate at the next corner. No. 264 made his way by a circuitous route back to Headquarters, while the other returned to his room on the East Side.

CHAPTER V

THERE was an air of suppressed excitement in Sam Lee's brilliantly lighted restaurant that night. Beneath a multitude of Chinese lanterns the tables were filled to capacity. There was a

crowd of sightseers among them; for one thing, a busload of country chaps under the tutelage of a "rubberneck" conductor, whose frequent trips to that quarter had made his face familiar to the residents of Mott Street.

Nevertheless a keen observer might have noticed, as the hour of 9 o'clock drew near, that here and there a silent figure would rise from one of the tables and unobtrusively make his way to the lavatory which adjoined the kitchen. That none of them returned was a fact which apparently escaped the notice of the other diners.

On the surface everything seemed normal, but beneath the stolid exteriors of the Chinese frequenters of the place and the expression of bland innocence on their yellow faces, there ran an undercurrent of mounting excitement, a sense of mystery and nervous apprehension bordering on actual fear.

Presently, at a signal from Hip Leong, the individual known as Hop Sing left his chair and, like the others who had preceded him, glided silently to the lavatory, thence to the kitchen and through a rear door, which gave on to a gloomy passageway. With the closing of this door behind him, Errell found himself in utter darkness.

Which way should he go? A step to the right might plunge him through an open shaft to the cellar, while a deadly knife-thrust or the strangler's cord might await a false step in the other direction.

He flattened himself against the wall beside the door and stood motionless, every sense alert and ears strained for the slightest sound.

And then the door through which he had entered opened again to admit a second silent figure. The newcomer hesitated not a second, but even before the door had swung to, advanced straight ahead to what appeared to be a blank wall.

Against this wall he knocked softly—three times, then once, then twice—when to Errell's amazement, the whole wall, for a distance of ten feet or more, raised itself from the floor to a height of four feet while the man passed under it, after which it dropped back again, all without the slightest sound.

A moment later and Errell gave the same signal. Again the wall slid up and as he ducked beneath the barrier he noticed that the whole section was built of sheet steel and worked on roller bearings.

Looking about him in his new surroundings, he found himself in a small ante-room, around the sides of which were rows of hooks, from which depended the black robes of which No. 17 had spoken. Quickly he donned one of these and fastened his black handkerchief over his face below the eyes. Then, with a reassuring pat on the automatic in its shoulder holster, he advanced boldly to the door with the peephole and whispered the dread password.

At once the heavy door of reinforced steel swung open and he passed through into a room approximately 60 feet long by 30 feet wide. Along the sides and at one end were double rows of chairs. At the further end was a raised platform and on this platform a massive chair to serve as a throne.

A tall cabinet equipped with a luminous dial and several projecting knobs stood at one end of the platform. At least that was Errell's first impression, but as his eyes grew more accustomed to the semi-darkness of the council-room he perceived, that what he had first thought was a dial, was in reality a circular opening in the face of the cabinet, through which

streamed a weird, ghostly light from some unseen course.

But that which gripped the imagination and added grim realism to the scene, was a second chair on the platform, directly facing the cabinet—a chair which was in every respect a replica of its grisly prototype in the death chamber at Sing Sing, save for the absence of connecting wires.

A bell tinkled in the distance; there was an expectant hush and then the black curtains behind the throne parted and Lakh-Dal stood before them. After him came two black-robed figures holding in their grasp the struggling, writhing body of a Chinaman, from whose twisted lips poured forth a stream of frantic appeals which ended in a piercing shriek, ere a rough hand was clapped over his mouth.

Still resisting desperately, the wretched man was thrust with brutal force into the fatal chair; his arms and legs were quickly strapped to the frame and an iron clamp such as photographers used in olden times affixed to his head in such a way as to hold that member rigid.

Amid a breathless silence, Lakh-Dal advanced to the edge of the platform. He was dressed in a long flowing robe of black silk, across the front of which was emblazoned a yellow dragon. Beneath this emblem were several mystic characters whose meaning Errell, from his seat, could not decipher. It was the man's face which held his attention, for if ever the Devil looked through the eyes of a living man, that man was Lakh-Dal.

He spoke, and every man present leaned forward to catch his words.

"I have called you here to show you how Lakh-Dal deals with traitors. First, I will destroy his soul, and after that his living body!"

At a signal, one of his underlings shoved the cabinet up to an open window, through which shone the rays of a full moon. The back of the cabinet was then thrown open, so that the moonbeams poured directly into it. At the same instant all the lights in the council chamber were switched off, plunging the room into the blackness of night.

And then, full on the face of the man in the chair there flashed a dazzling light from the cabinet—a light of concentrated brightness whose flat white was tinged with an unnatural shade of blue.

"Lunar rays?" questioned Errell. "No, *Lunacy rays!* This Chinese devil has isolated the rays which cause dogs to bay at the moon—the rays which turn those of weak minds into imbeciles and cause those already insane to become raving maniacs!"

The screams of the doomed man changed to a howl of pure anguish as he heard his fate pronounced. He frothed at the mouth and his muscles threatened to burst the restraining straps. Then, realizing that further resistance was useless, he gave a shuddering moan and closed his eyes, only to open them again with a yell of terror as the light from the cabinet fell full on his face.

And then ensued a scene which those who witness it were never to forget.

Under the malign influence of those mysterious rays, the man's face changed horribly. The light of intelligence faded from his eyes and his lower jaw sagged weakly. In five minutes those watching beheld a hopeless lunatic, whose vacuous grimaces and grotesque mouthings were fearful to behold.

Again the lights were turned on and again Lakh-Dal held up his hand to command attention.

"You have seen. Look again!"

At a word from their master, his two helpers advanced with drawn knives toward the figure in the chair and slashed away the clothing so as to expose the naked body of the mumbling Thing which had been a man.

The cabinet was wheeled away from the window and the shades tightly drawn. When it was placed in position, ten feet from the chair, the room was again plunged into utter darkness. Once more those who looked on gripped the arms of their chairs and eyes that glittered strangely peered fearfully from above the black masks.

Again the light streamed forth from the cabinet, changing rapidly from yellow to green, through the various shades of blue to a pale violet and then disappeared in ultra-violet.

Probably, of all those present, Errell was the only one who recognized the effects of these as the effects of the actinic rays, by means of which Nature produces chemical changes. But even he was unprepared for that which followed. It was gruesome and horrible beyond all belief; for again the rays from the cabinet changed, this time giving a weird glow, which Errell mentally classified as due to super-ultra-violet rays—those still further beyond the ultra-violet in the solar spectrum. What the function of these rays was, he was soon to know.

Under the faint light (if it could be called light) which now issued from the infernal contrivance, the wretched man's body appeared to shrivel and the skin to fall away. At the same time the atmosphere in the council chamber became permeated with the putrid odor of decaying flesh, the foul stench of a moldering corpse.

And then, to the horror of those who watched and, causing them to draw in their breath with a hissing sound clearly audible in that awful hush, a grinning skeleton stared at them through sightless sockets. Even this faded away and complete blackness reigned.

When the lights in the hall flashed up again, the platform was empty. Lakh-Dal had vanished behind the thick curtains. The meeting was at an end. Those who had come in answer to their Master's summons, hastened away, shaken to their very souls by this demonstration of his power.

CHAPTER VI.

AMONG late arrivals at Sam Lee's restaurant the next evening was a roughly dressed seaman, somewhat the worse for liquor, who, with more or less difficulty, made his way to a table in one of the side booths and slumped heavily into a chair without bothering to remove his cap.

Curiously enough, this table was one of those served by Hip Leong, the waiter, who came presently to take his order.

"Gimme a bowl of chop suey and some coffee," growled the stranger, in tones that could be heard throughout the room. Then, in a low voice: "That was some show he pulled off last night, Seventeen!"

Neither by look nor manner did No. 17 betray himself, although it is doubtful if in his whole life he had been more surprised. He filled Errell's glass with water, then shuffled out to the kitchen, from which he presently returned with the steaming dish

of chop suey. This he placed before his strange customer.

The latter slapped down a heavy silver dollar on the table.

"Keep the change," he growled again, and began to eat.

Hip Leong picked up the coin, but not before his quick eye had glimpsed the folded paper beneath it, which he deftly pained. In the seclusion of the washroom, he unfolded this paper and read as follows:

"Where is Lakh-Dal tonight?"

He turned the paper over and wrote rapidly for a minute. When, a few minutes later, he removed the plates from the table, he slipped the paper under Errell's hand. On it he had written:

"Opium joint over Lee Yung's tea store across street. Sliding panel between second and third booths. Don't know password."

"Good stuff!" growled the stranger again as he rose unsteadily to his feet; but whether he referred to the food or to the information conveyed to him by the waiter, there was none to say.

Shortly before midnight, the same half-drunken sailor stumbled into Lee Yung's store and pulling out a roll of bills, closed his eyes meaningly, and muttered "Smoke."

Such visitors were by no means uncommon at that hour of the night and after one quick glance, the old Chinaman rose from his seat back of the counter and beckoned him to follow. Through a rear room they went, and up a narrow stairway, at the top of which was a locked door.

The opening of this door, in response to Lee Yung's signal, revealed a typical opium layout—the berths being arranged in tiers along both sides of the room. The partly drawn curtains showed most of them to be occupied by sleepy-eyed users of the drug, both men and women and of various nationalities.

By good fortune (or was it "good"?) the newcomer found himself assigned to booth No. 3, right next to the secret panel. Presently a little stand was placed beside him, on which were a pipe and enough of the drug for several "pills." The curtain was then partly drawn and he was left to his own devices.

The first thing Errell did, on finding himself alone in his booth, was to light the tiny bowl and blow a cloud of smoke through the stem of the pipe to give the impression of smoking. He then drew a dictaphone from his coarse blouse, pressed the transmitter firmly against the wall at the head of his berth, and held the receiver to his ear.

Hardly had he done so when there came the sound of padded footsteps, a soft tapping on the secret panel and the Chinese equivalent of "Ich dien," or, in English, "I serve." This was followed by the faint noise of a sliding panel, the sound of retreating footsteps, then silence.

Replacing the dictaphone in his blouse, Errell raised himself cautiously on one arm and looked out.

The room was hazy with smoke, the pungent fumes of the drug making it difficult for him to refrain from sneezing. As far as he could determine, all the other patrons of the place were either asleep or in a condition bordering on insensibility. Even the pock-marked attendant had taken advantage of the lateness of the hour and the condition of his

"guests" to light up his own pipe and he sat with his back against the door, his eyes closed in poppy slumber.

Errell's next act was to remove his own shoes and to coolly appropriate a pair of Chinese slippers with felt soles from the next booth. Holding his pipe in one hand, as an excuse for seeking a new supply of the weed in case the attendant should awaken, he approached the secret panel and tapped softly. He waited a second and then uttered the password, although he had detected no response.

To his surprise and gratification, the panel slid open at once, thereby admitting him to a narrow hallway lighted by a single lamp. There was not a soul in sight, yet as he stepped across the threshold the panel closed silently behind him in sinister fashion. Unconsciously he tightened his hold on the automatic in his right hand.

A narrow streak of light showed beneath a door at the far end of the hall, but the room this side of it seemed dark. He tried the knob. It yielded to his touch and the door swung open.

And then, from out of the blackness which surrounded him—a blackness which seemed vibrant with menace—something soft and clinging dropped over his head and shoulders, the sickish-sweet odor of chloroform assailed his nostrils and he felt himself slipping—down, down, down into a bottomless pit.

When he awoke, it was to find himself bound hand and foot, in a chair which he realized to his horror was the identical one occupied on the previous night by the unfortunate victim of Lakh-Dal's wrath.

At the same moment, a mocking laugh sounded behind him.

"And so the great Professor Errell condescends to honor me with his presence!" With the words, Lakh-Dal stepped into view.

His voice was that of a cultured scholar, a gentleman of high rank, but the eyes which blazed from that mask-like face were those of a friend incarnate!

There was something so malevolent, so merciless, so devilish, in their gaze that involuntarily Errell shuddered; but when he made answer, it was in words of cold contempt that stung like a lash.

"False disciple of Light—renegade priest who forsook the teachings of Buddha to sell thy soul to the Devil in thy quest of the occult—thy time is short. Even now the temple bells are tolling and the arms of Charon reach out for thee."

It was the voice of a high priest speaking, a priest of the Inner Temple in which Lakh-Dal had once served, and at the words Lakh-Dal cringed like a whipped cur. Then the Evil within him regained the ascendancy and his lips curled in a sneer.

"How about yourself?" he jeered. "Your own condition would seem to leave something to be desired."

Suddenly his manner changed. He came close to Errell's chair and when he spoke again it was in words surcharged with venom and hate.

"Thou fool!" he hissed. "Knowest thou why I have permitted thee to creep into my house like a common thief, when I might have struck thee dead? It is because I would use thy knowledge of chemistry in my work."

"Not a chance!" The retort came like the snap of a whip.

"Sayest thou so?" mocked the other. "We shall see."

He clapped his hands and at the sound two huge Chinamen stepped from behind the screen where they had been concealed.

"Bring him into the laboratory," commanded Lakh-Dal, leading the way.

The first thing that Errell noticed, when they were in the other room, was the morning sun streaming in through the east window.

"Then I must have been unconscious for seven or eight hours," he reasoned. "That means that No. 17 must have communicated with the General ere this and help is on the way."

With this comforting thought to cheer him, he looked about him with renewed interest. The room was, as Lakh-Dal had said, a laboratory. There were rows and rows of test tubes, retorts, crucibles, bottles containing variously colored chemicals, a set of dissecting instruments, hypodermic syringes and other devices for chemical and medical research.

On one end of a long table stood a wire cage three feet long by two in width, with a sliding door over the top. Inside this cage were two huge sewer rats, backed into a corner and teeth bared for a desperate fight for life.

At Lakh-Dal's command, his helpers lifted this cage to the floor and wheeled it into position three feet from the mysterious cabinet, which had previously been shoved up to the now open window, so that the sun's rays streamed through the aperture in front directly into the cage in which the rats were huddled.

LAKH-DAL stepped to the cabinet and began twirling the knobs. As he did so, the solar rays changed from bright yellow to orange, then to red and then to a still deeper red.

"Infra-red rays," said Errell aloud, his scientific interest aroused.

"Precisely," was the answer. "But there are other rays with which perhaps you are less familiar, such as these—" and he gave the knob a further twist.

The color changed from dark red to black, tinged with red, and in the twinkling of an eye the two rats had disappeared, leaving but a little heap of ashes.

Lakh-Dal re-set the cabinet knobs and closed the window. He then proceeded to separate a quantity of fuller's earth into a number of little piles, perhaps two-score in number. Unfastening the wire cage from its base, he lifted it and carefully scooped up the little pile of ashes.

While Errell looked on in puzzled wonderment, he proceeded to deposit a tiny portion of these ashes upon each little heap of fuller's earth, then reached up and took down a glass-stoppered bottle labeled "Cocytin."

Only then did Errell begin dimly to suspect what the other was up to.

Lakh-Dal removed the stopper and shook out a minute quantity on to the little mounds before him, stirring them gently at the same time.

Nothing happened.

Errell gave vent to a derisive laugh. His merriment was short-lived, however.

Without deigning to notice the interruption, Lakh-Dal produced a second and much smaller cabinet, which he held in his hands as one would a bullseye Kodak. He then pulled down the shades over the window, leaving the room in semi-darkness.

"Going to photograph 'em?" asked Errell sarcastically.

Still without replying, the man from China made some further adjustments on the camera-like box and pointed it directly toward the first of the little mounds of earth.

And then a strange and fearsome thing happened, a thing which turned Errell's scoffing to wonder and his spine to ice; for even as he leaned forward in fascinated horror, the handful of dirt began to quiver and squirm, to flop about from side to side, and finally to assume the flabby outlines of a new-born rat! And then, as the mysterious rays continued to play upon it, the loathsome thing gathered strength and, lifting itself up on its legs, started to run about.

The yellow devil who had created it seized the creature by the back of the neck and dropped it into the wire cage. Again and again he repeated the same process until the cage was filled with some forty of these "synthetic" rats, climbing up on the wires and biting and snapping at each other.

Then, and only then, did Lakh-Dal see fit to speak, which he did in faultless English.

"What you have seen," he said, "shows you that I have mastered the problem of creating life from inanimate matter. I could just as easily have reduced you to ashes and raised up a thousand men in your stead.

"It has been said that life is but a form of vibration. This little box, which in your ignorance you assumed to be a camera, is a machine for utilizing the Millikan, or Cosmic rays. These rays vibrate faster than any other rays known to science and consequently have the shortest wavelength, there being, in fact, 635,000,000,000,000 of them to the inch!

"Buddha has said that man is made of dust. I go a step further and say 'of dust and cocytin,' which you saw me put together just now. With all the necessary ingredients present, it remained only to release the trigger of potentiality, which I did by means of the Cosmic ray."

"But why select rats?" queried Errell, scientific interest for the moment overshadowing personal fears.

"Ah," replied Lakh-Dal in silken accents, "that is where you come in."

He lifted a cloth and revealed a small cage containing but a single rat, but a rat so swollen and diseased as to make it even more hideously repulsive than its mates.

"Bubonic plague!" announced Lakh-Dal grimly, an evil smile playing over his yellow face. "It will be your pleasant task to inoculate these other rats with serum from this beauty."

"And then what?" asked Errell, knowing what the answer would be.

"And then I shall release them in congested quarters of the city and provide you with a fresh supply."

"I'll see you in hell first!" shouted Errell.

"Even that might be arranged," retorted the other, with a Mephistophelian leer, "but how about your wife and little boy?"

"What do you mean?"

"Why, only that in case you refuse to obey me, I shall have to find means to persuade you. Would you enjoy seeing your son an idiot and your wife a raving maniac?"

"You devil! Kill me and be done with it."

"No, that would be a waste of good material,"

and Lakh-Dal grinned sardonically. "With proper handling you will make a good servant."

Then, with rising anger: "Unless you have completed this task ere the sun goes down, tomorrow morning will find your wife and baby in the condition I have described."

Errell groaned and bowed his head. And at that very moment there came the crash of splintering wood and No. 17 hurled himself into the room, closely followed by General Humiston and a dozen Secret Service operatives.

Taken wholly by surprise, the arch conspirator and his two husky assistants were seized and bound without a shot being fired. The straps which held Errell captive were released and he was free to stretch his cramped limbs.

"Thank God we got here in time!" cried the General, seizing his hand and pumping it vigorously. "And now, what?" he asked.

Errell glanced around. "Take those two fellows away," he said, "and leave me alone with Lakh-Dal for ten minutes. I have a message for him. First, however, bind him securely to that stool," pointing to the object in question.

His orders were carried out; Errell retired behind a screen. When he reappeared, a few minutes later, Lakh-Dal gasped in amazement, for it was a high priest of the Inner Temple that confronted him, even to the secret emblem which shone through the silken robe.

At the same moment came the soft tones of temple bells and the smell of incense. When Errell next spoke, it was in the solemn voice of one intoning the service for the dead.

"Miserable wretch," he said, facing the cowering man on the stool, "thou who has foresworn thy sacred vows in order to serve the Devil, the Great Master hath come hither to pronounce judgment upon thee and the bells toll thy doom. Listen!"

And then, apparently from a spot directly over the head of the doomed man, there came the sound of another voice—sonorous, commanding, majestic:

"Lakh-Dal, meanest and most contemptible of all men, in that thou hast defiled the temple of thy soul and hath prostituted it to the service of Baal, woe be unto you! Thy life is forfeit to Buddha and even now bony hands reach forth to tear the spirit from thy body and bear it away to everlasting torment."

At the last words, Lakh-Dal shrieked aloud. His head wobbled, he frothed at the mouth and the light of reason forsook his eyes. The man had become a hopeless idiot!

Errell smiled grimly. "So much for ventriloquism," he remarked.

It was while he was behind the screen, changing back to his former attire, that the door burst open again and a woman rushed in, followed closely by General Humiston and the others. She was dressed in the garb worn by Chinese women for their dead, her face was pale and disheveled and in one hand she carried a two-edged sword such as those worn by the Samurai.

"Aiyeh! Aiyeh!" she shrieked, and before anyone could stop her she had rushed up to the gibbering Lakh-Dal, had lifted the heavy weapon in her two hands and with one slashing blow had completely severed the wretched man's head from his body.

Then, while those who watched stood paralyzed with horror, the crazed woman placed the hilt of

her weapon on the floor, threw herself forward upon the sharp point of the blade and fell dead beside the headless body.

"It was her husband whom Lakh-Dal executed in the Council chamber night before last," said Errell pityingly. "Leave the bodies as they are until the coroner comes. Meantime I have other work to do. Two of you men back that cabinet up to the window, and you (pointing to two others) lift that cage of rats to the table in front of it."

He pushed up the window, to permit the sun to shine directly into the cabinet, then twirled the knobs as Lakh-Dal had done. Again the light changed from yellow to darkest red and then to still darker, and to the utter amazement of the spectators, the rats which but a moment before had been squealing and jumping about vanished, and only a thin layer of ashes on the floor of the cage remained.

"How about this fellow?" asked 264, pointing to the swollen rat in the smaller cage.

"For God's sake, stand back!" shouted Errell, "it is dying of Bubonic plague!"

The others needed no second bidding and the space before the little cage cleared as if by magic.

Errell took the precaution to don a pair of rubber gloves before lifting the cage gingerly to a position in front of the cabinet. A twist of the knob and the mass of corruption within the cage was reduced to ashes. Not content with this, he made assurance doubly sure by immersing both cage and contents in a strong solution of carbolic acid.

His next step was to empty the contents of every vial into the open sink and to smash the receptacles, after which he seized one of the heavy axes, with which his rescuers had forced their way through the door at the head of the stairs, and with a few vigorous blows he demolished the accursed cabinet.

The smaller box, with which Lakh-Dal had controlled the Millikan, or Cosmic ray, he took with him for future study. By this time, the coroner had arrived, and General Humiston gave a satisfactory explanation of their presence and that of the two bodies.

CHAPTER VII.

IT was on the Saturday evening succeeding the events of the previous chapter that Professor Errell, seated once more in his study at Arshamomque, related to General Humiston the full story of his experiences and the means he had employed to accomplish the downfall of Lakh-Dal, that arch-fiend and enemy of the white race.

Jerry, who sat close beside her husband as he talked, shuddered and clung to him involuntarily when he described the tragic fate that befell Fu Yung in the Council chamber.

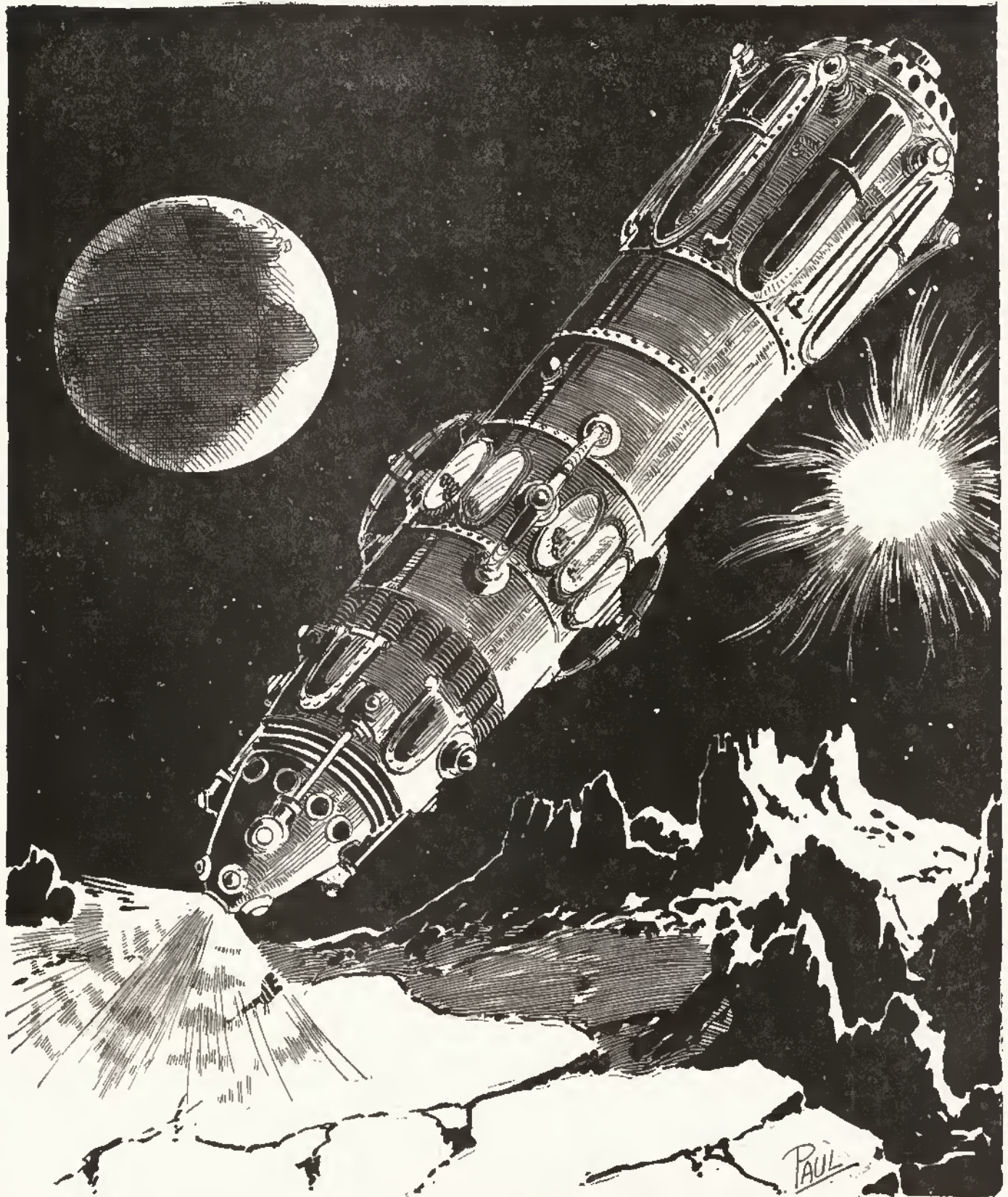
"But what was that cabinet, anyway?" asked the General, "who had followed every word of the recital with the utmost interest.

"It was a refinement of the modern spectroscope, which Lakh-Dal had perfected to a degree beyond anything as yet known to science," was the reply. "As you probably know, when sunlight is passed through a glass prism, it breaks up into rays of different wavelengths. These rays, viewed through the spectroscope, appear as bands of lines and colors, one above the other in the following order: Violet, indigo, blue, green, yellow, orange and red. For this reason they are known as the prismatic colors, and

(Continued on page 1201)

SUB-SATELLITE

by Charles Cloukey



When they were within a couple of thousands of miles of the moon, he checked their speed by exploding a charge at the end of the rocket nearest the moon. . . . The rocket was only a few hundred feet above the broad summit of the lunar peak, so Jarvis let it fall.



LOOKED up from my book. My friend and roommate, C. Jerry Clankey, in his big easy-chair across the room, was gazing intently at the ceiling and talking out loud to himself. This was a peculiar and often annoying habit of his, but this time I could not help being interested in what he was saying.

"It behaved precisely according to the laws of celestial mechanics," he was saying, "exactly as a satellite. Perhaps one could call it a sub-satellite. And then there was the matter of the Doctor's will. The diamonds!

"It was marvelous," he continued to the ceiling, "one chance out of thousands. Duseau swore he would have his revenge. I wonder if he was satisfied. And Jacqueline—"

Jerry stopped suddenly as he noticed that I was looking at him curiously. He became embarrassed.

"Pardon me," I said, "but if you don't mind, I'd like to know what in the world you are talking about. I'm not particularly dense, but I entirely fail to see any connection between celestial mechanics, satellites, diamonds, and revenge. And who is Jacqueline? Would you mind—"

He interrupted me, smiling slightly. "I suppose," he said, "that even in this enlightened era of the twenty-first century, there are portions of Tibet where news travels rather slowly. As you, Kornfield, have only returned to New York today, you are perhaps still ignorant of the fact that Dr. D. Francis Javis actually succeeded with his plans for reaching the moon."

"I heard a man in Paris mention it yesterday," I informed him, "but I don't know the details. After our plane was forced down in the Dangla Mountains, and Basehore had accidentally broken the only radio with the expedition, we were cut off from civilization for four and a half months. Tell me about the moon trip. What did he find there? And what has that to do with the Doctor's will? And who is Jacqueline?"

"All right," said Jerry, leaning back comfortably in his chair, "I'll tell you. Even the newspapers didn't get it all, though I suppose the reporters thought they did. Listen, and I'll tell you the whole story":

As you know, Kornfield, (said C. Jerry Clankey), I was the chief radio engineer on Javis' staff. I designed the transmitter, and the receiver, too, that he took to the moon, and by means of which he was able to communicate with my installation at Albany. I also supervised the construction of a simplified television outfit, which Javis discarded in the last hour before he left, in order to make room for an additional supply of concentrated food.

But I should start at the beginning. Perhaps you remember that Javis discovered, about ten years ago, how to produce artificial diamonds, of greater hardness, size, brilliance, and beauty than the genuine stone. After he had manufactured almost two billion dollars' worth, he destroyed his invention. Since then, many scientists have tried to rediscover his secret, but without success.

He sold about half of the diamonds to secure capi-

tal with which to make his moon trip, and deposited the rest in a specially constructed vault here in New York. He also made a will, in which, for some reason of his own, he left his entire fortune to his elder son, Donald, cutting off the younger, Jack, without a cent. Then he started to work on his project of reaching the moon.

I've often wondered why he wanted to reach the moon. One would hardly think that the love of knowledge would be so great that a man would be willing to work ten years, spend a billion dollars, and finally risk his life in an attempt to reach the moon, merely to satisfy that love. But Javis was a queer man. The money meant nothing to him. Neither, apparently, did the risk. He prepared for his journey and he went, regardless of consequences.

You know, of course, the type of vehicle he chose—a projectile-shaped rocket, of the type proposed by Dr. Goddard over a century ago, propelled, once it was out of the earth's atmosphere, by explosive gases. But I won't go into that. You understand the principle. While in the atmosphere, it was flown as an ordinary plane, by propellers.

THE unique feature of the Doctor's rocket, however, was the ingenious construction of the wings, which allowed them to be withdrawn into the body of the rocket, after the atmosphere had been left behind.

This feature had been designed by R. Henri Duseau, the French scientist and engineer, who was one of Javis' most able assistants. Just why they quarreled will probably never be known. They were both hot-tempered. So when Javis paid Duseau off, and discharged him, the impulsive Frenchman swore revenge.

It had been generally understood, though it appears that there was no written contract or agreement, that Duseau was to be the one to accompany Javis in his attempt to reach the moon, because Duseau had once been an air mail pilot in France, and could attend to the navigation of the craft while it was in the atmosphere. The rocket was, in spite of its great size, only designed to carry two passengers, because the rest of the available space had to be utilized to carry food, fuel, the radio equipment I had designed, the Doctor's scientific instruments, and various other necessary objects.

To be discharged after almost nine years of work was a great disappointment to Duseau. He had a natural craving for adventure, and also, I believe, for fame. He wanted

to achieve great celebrity by his part in the moon trip. He was exceedingly temperamental, and perhaps this characteristic, together with his persuasion that he had been treated unfairly by Javis, was responsible for the attitude of jealous enmity he held for the Doctor after his discharge. Just how far he was destined to carry his bitter hate, the world was soon to learn.

To take Duseau's place, Javis hired Richard C. Brown, the famous stunt-flier and dare-devil, paying him in advance a flat sum of one million dollars. Men have risked their lives for less.

Dick Brown was a curious character. He was a

HERE is a novel type of interplanetary story, with some excellent science mixed throughout. Possibly the only practical space flyer that has come up for consideration so far, that is considered seriously by science, is the Goddard type of rocket flyer. This is based on sound scientific premises and sooner or later, one of these space flyers will come into being. The curious idea of the Sub-Satellite itself, is excellent, and you will enjoy it.

happy-go-lucky, devil-may-care kid, game as they make 'em, reckless and foolhardy, only about twenty years old, and had the reputation of bearing a charmed life.

Brown made several test flights in the rocket. He was able to see on all sides by means of an ingenious arrangement of periscopes. As an airplane, the great craft functioned perfectly, having a maximum speed of about 350 miles per hour, and a ceiling of approximately 41,000 feet. How it would behave as a rocket remained to be seen.

After the trouble with Duseau, came the trouble with Donald, the Doctor's oldest son. I had always considered him more or less of a good-for-nothing vagabond. I don't know exactly what happened, but it seems that in an insane moment of drunken anger, he had drawn a revolver and fired, point-blank, at his father. Because he was drunk, he missed completely. The Doctor tried to hush up the affair, but in some way, news of the attempted parricide leaked out, and caused a lot of unpleasant publicity.

Javis told me, in a moment of confidence, that he intended to revise his will before he left, to give his entire fortune, including the diamonds, to his other son, Jack, who was a well-known banker and business man, in spite of his youth. Javis also intended to completely disinherit Donald, but he never changed the will. He went off to the moon without attending to the matter. He didn't have time, I suppose.

He and Brown left for the moon just ten days after his last experimental rocket had burst upon the moon, proving the existence of some, though very little, atmosphere on our satellite. This small rocket he sent to the moon contained a chemical compound which could not explode without oxygen. As it was observed by many astronomers to explode upon hitting the moon, it was obvious that our satellite possessed an atmosphere, however rare.

Javis had another purpose also in sending out these small rockets. By observing them, he could form an idea of the way the large one would act in space. When he had obtained all the data he desired, he made his preparations to depart.

FOR a week his whole establishment was in an uproar. The food, fuel, radio, and scientific instruments were put aboard, while Brown tuned up his motors to perfection. When I saw Javis dismantling and packing a light-weight Marvite machine gun, I ventured to make an inquiry.

"Surely," I said, "you don't expect to have any use for that on the moon, do you?"

"I hope not," Javis replied, "but we know that there is air upon the moon, so it is highly probable that there is some form of life there. I'm taking this gun because it is the most powerful weapon in the world for its size, and we might meet some monsters." He smiled, and finished packing the shining, deadly little weapon. Yet it seemed to me that there was no necessity for such a powerful gun. But he was taking no chances. If there were monsters on the moon, he would be prepared.

The next day they left. I will never forget it. As dozens of cameras and televisors clicked and buzzed on every side, Javis and Brown entered the rocket. Brown was smiling. It was an adventure to him. If he realized what slim chances he had of ever returning to the earth again, he gave no indication of the fact. But the face of Javis was grave. It was more than a mere adventure to him. This

trip meant the realization of his life's ambition.

The field was cleared. The massive air-tight door was closed. Suddenly the three enormous propellers burst into action. With the incomparable skill of the born airman, Brown took off. Quickly he took the great plane as high as the motors would carry it. To the observers on the ground, it was only a speck in the cloudless sky.

Then those who were watching it with binoculars saw a brilliant green flash appear at the tail of the rocket. It darted suddenly upward. It was necessary to develop a speed greater than seven miles a second in order to leave the earth, and it was apparent that Javis was gradually attaining this tremendous velocity.

Through the rarefied upper strata of the atmosphere shot the great rocket. It left the earth.

JERRY was silent for awhile. I waited as patiently as I could for him to resume his narrative. But when his silence grew prolonged, I ventured to speak.

"I think," I said, "that I can guess now what you meant by a sub-satellite. I gather that the rocket, obeying the laws of celestial mechanics was captured by the attraction of the moon, revolving around it as a satellite, or sub-satellite, rather."

"Kornfield," said Jerry, "never jump at conclusions. I noticed that you were reading that remarkable story by Verne, 'A Trip to the Moon.' When you stop to consider that it was written almost two centuries ago, the amount of scientific prophecy and foresight in it is amazing. It's interesting to note how famous that story has become during the short time that has elapsed since Javis' great accomplishment. Before his tragic trip, the story was known to only a few learned men who had made a study of nineteenth century literature. But now it is famous, as an example of dreams coming true, of imagination becoming reality. Yesterday's impossibilities are today's facts. And tomorrow—what? But I am digressing.

"In that story, the author's imaginary projectile is deflected from its course by the moon's attraction. But this didn't happen to Javis. He could steer his rocket, you remember, by exploding his gases at any one of fifty different points on its exterior. He landed all right. When they were within a couple of thousand of miles of the moon, he checked their speed by exploding a charge at the end of the rocket nearest the moon. As it began to fall toward the surface of our satellite, he checked it again in the same manner.

"He had to repeat this process several times. Finally the rocket was only a few hundred feet above the broad summit of a lunar peak. So Javis let it fall. Owing to the elaborate shock-absorbing system, and the inferior force of lunar gravity, no damage was done.

"After working nine years, and spending almost a billion dollars, Javis had succeeded in reaching the moon. He landed on the summit of an exceedingly tall mountain near the Mare Tranquillitatis."

"But, then," I protested, "to what were you referring when you spoke about a sub-satellite? And you haven't told me yet who Jacqueline is."

"Be patient, Bob, be patient," he admonished, "I have not yet concluded my narrative." He smiled quizzically. "All in good time, my lad," he said, "control your impatience and all your questions will

be answered." Then he plunged once more into his story:

I HAVE, continued C. Jerry Clankey, gone ahead of my story. I've told you of the landing on the moon. But several very important events occurred before the rocket reached its destination.

The greatest danger, perhaps, that confronted the extra-terrestrial pioneers was the danger from meteors¹. These meteors are by no means scarce. There are uncounted millions in this solar system alone. Nor are they all as small as you might assume. Many weigh dozens, and some weigh hundreds of tons. Nor are they slow. Most of them are hurtling many miles through space every second. Nor are they visible, until they enter the earth's great protecting blanket of atmosphere, where they become ignited by friction, and are usually entirely consumed before they reach the ground.

So you can see that to devise an apparatus that would enable Javis to avoid these unseen obstacles was no easy task, though, of course, Javis made his attempt in February, in which month the earth meets comparatively few meteors.

Gibson and I took two years to complete the marvelous apparatus. This work was mostly detail, as the principle is not new. Radio waves, like light waves, and sound waves, reflect upon striking various objects. When any meteor large enough to be dangerous came within fifty thousand miles of the rocket, it reflected the radio signal sent out by the special transmitter at five second intervals. The time which elapsed between the sending and the receiving of the reflected signal was measured by a new German instrument, which can accurately record thousandths of a second.

Because of the remarkable advances that have been made in the last fifty years in the manufacture of automatic calculating machines, the distance of the meteor could be ascertained, and its course automatically plotted on the celestial chart which Javis had prepared. As the course of the rocket was also electrically plotted on this chart, Javis could determine several minutes in advance if there were any danger of a collision. Then he had merely to press the button which exploded his gases at the right point on the rocket to send it off in a new direction, avoiding the meteor.

Of course, Kornfield, you understand that this description I have just given you of the apparatus which enabled Javis to avoid large meteors, is necessarily incomplete, inadequate, and faulty, and perhaps it was stated rather poorly. You cannot describe in two minutes a wonderful piece of mechanism which took two years to construct. But perhaps you can form some idea of the unbelievable complexity of the instrument from what I have told you. It performed its functions perfectly.

The huge rocket had left the earth. Though Javis was strapped in his seat, controlling the gigantic vehicle's course with light touches of his finger on the numerous electric push-buttons which surrounded

him, Brown had unstrapped himself, and was roaming around the rocket's interior, enjoying the almost complete absence of gravity. Being thirsty, he obtained a drink of water from the watertank, but he had to suck it through a straw, as without gravity, liquids would not flow. When the two travelers became tired, they took their injections of procaine.

Procaine, you know, is an artificial drug, which, while it possesses the stimulating qualities of cocaine raised to the *n*th degree, is not habit-forming. Javis and Brown did not intend to lose any time by sleeping.

Seven hours after leaving the earth, Brown reported over the radio that all was well. Ten minutes later he found Duseau.

The dam' fool had somehow managed to get aboard the rocket before the take-off. Perhaps he did it by bribing one of the guards. He had concealed himself between the two tanks which contained the motor fuel intended for use when the rocket should return to the earth's atmosphere.

He must have been insane. I can account for his actions in no other way. He had become a monomaniac, and his one thought was to do all possible injury to D. Francis Javis. And he did not intend to stop at murder. When discovered, he drew an automatic and fired.

The bullets were poisoned. If Brown or Javis had merely been scratched by one of them, the wound would have been fatal. But Duseau missed, although one bullet went through Brown's coatsleeve. He escaped death by less than two inches. The same bullet demolished the radio receiver. Then, as the gun jammed for lack of proper oiling, Brown leaped upon the cursing stowaway, knocking him over. As there was practically no gravity, Duseau didn't exactly fall, but Brown's blow to the jaw caused his head to strike the protruding valve of an oxygen tank with sufficient force to render him completely unconscious for thirty-five minutes. Brown tied his hands and feet with a piece of rope that had been left aboard the rocket when it was being loaded. When Duseau regained consciousness, he started such a tirade of abuse that Brown gagged him also.

Then Brown reported the whole affair over the radio, adding that it was useless for us to try to reply, as Duseau's bullet had rendered their receiver totally useless.

ON the earth, Gibson and I recorded with telegraphes every word received from the moon party. My station at Albany was packed with reporters from newspapers and radio news services, eager for the latest details. The whole world gasped when it heard of Duseau's unsuccessful plan to capture the moon rocket and kill the two men whom he hated. Every nation waited impatiently for more news.

Nothing else of importance, except three narrow escapes from meteors, took place until they reached the moon. I have already told you of their extraordinary landing upon the summit of a lunar peak. After they landed, they ate a hurried meal, and then ventured out upon our satellite's untrodden surface.

I have here, Kornfield, a large composite photographic chart of the moon. Here you see the Mare Tranquillitatis, or "Sea of Tranquillity." What a name for such a scene of violence! You see the jagged mountains, the enormous craters! Dead volcanoes! But are they volcanoes? No one knows

¹ *Note.* In trying to present a truly scientific solution of the problem of reaching the moon, the author has purposely refrained from all mention of the Millikan Cosmic Ray, because so comparatively little is known about this subject at the present time. The reader may assume, however, that Javis' large staff of scientists, backed by a billion dollars, was able to discover some suitable method of neutralizing or counteracting the probably harmful effects that this ray might have upon human beings.

positively. If they are, how terrible must have been the eruptions, in the days when the moon was young! Consider the size of those stupendous craters. Many exceed fifty miles in diameter—Theophilus is sixty-four miles! And the largest known terrestrial crater, which is Aso San, in Japan, is less than seven miles in diameter. But I am digressing again.

This peak that I have marked with red ink is the one upon which they landed. You observe that it is not crateriform in shape. It is a mountain, not a volcano. Its summit is remarkably level, and is roughly twelve hundred feet square. On this miniature plateau the moon rocket finally landed and came to rest. The mountain is almost ten miles high.

When Jarvis and Brown emerged from the rocket, several facts were brought to their attention. One was the inferior gravity. They could leap thirty feet with the greatest ease. Another was the contrast between sunlight and shadow. The rare lunar atmosphere does not diffuse the light to any appreciable degree. It is, of course, entirely too rare to support human life. Jarvis and Brown were equipped with oxygen masks.

They found no form of life. The moon is dead. Its day of splendor is past. What secrets it still holds, no man can guess. The two explorers were only able to investigate an extremely small portion of the moon's surface, because of their limited food supply, and also because they landed about forty-eight hours after the lunar dawn, and intended to stay for the equivalent of ten earth-days, leaving a couple of days before the lunar sunset. You cannot carry on a very extensive exploration in ten days.

During the seventy-two hours after their landing, they thoroughly explored the peculiar truncated peak upon which they landed. They took many photos, and also collected several samples of the rocks for later analysis. Of course, men found out many years ago, by means of polarization photometers and various other instruments, that the surface rocks of the moon are mostly pumice and other stone high in silica. But Jarvis intended to bring his samples back to the earth and find out exactly what they contained. Perhaps he had hopes of rare minerals. I do not know.

They returned to the rocket frequently, and Brown reported their discoveries over the radio.

They kept Duseau bound. When they ate, they fed him. He remained sullen, silent, brooding over his misfortune, and planning revenge. The longer he was kept bound, the greater grew his maniacal unreasoning hate.

When Jarvis was satisfied with his investigation of the mountain upon which they had landed, which he had whimsically named "Mount Olympus," he decided to undertake a similar exploration of the nearest neighboring peak, which was west of "Mount Olympus" and about the same height as it. I think Jarvis named this other mountain "Mount Parnassus," but I am not sure.

Jarvis and Brown took another shot of procaine apiece, and set out. Brown carried the concentrated food and the portable radio sending equipment which I had designed, while the Doctor burdened himself with a spare oxygen apparatus for each of them, a very limited water supply, and a few of his scientific instruments, including a couple of recording thermometers.

Although they intended to be away from the rocket at least seventy-two hours, they left Duseau bound,

without food. They could not trust him loose. Jarvis did not intend to give up his chance to explore "Mount Parnassus" out of consideration for the man who had tried to murder him. Brown didn't want to be left out of the adventure either. So they left Duseau bound. He would have to get along without food.

THE two explorers reached their destination in a remarkably short time. Even though they were burdened with large packs, they could jump many feet with the utmost ease. They descended "Mount Olympus" by leaps and bounds, and ascended "Mount Parnassus." Even though they were greatly fatigued after many hours of steady jumping, they kept on. They reached the summit, and a bullet passed between them.

How Duseau escaped from his bonds is not known. Perhaps in a moment of desperation, he had summoned enough strength to burst them. Or perhaps he wore them through by steady rubbing against some sharp edge.

He escaped, and set up the machine gun. When his two enemies reached the summit of the neighboring peak, he fired, using the telescopic sights. Jarvis and Brown took refuge in a large crevice between two enormous boulders, set up the radio, and reported the matter to the earth. A quarter of a million miles away, my sensitive detectors picked up the signals. Soon the whole world knew of Duseau's triumph.

I've often wondered why he went to so much trouble in order to try to kill Jarvis and Brown. He was familiar with the operation of the rocket. He could have taken it and departed, leaving them stranded without a possibility of rescue, and his purpose would have been accomplished. Perhaps the idea never occurred to him. Or perhaps it did not agree with his ideas of a fitting revenge. I suppose he was entirely demented. No one can account for the actions of an insane person. The fact remains that instead of taking his opportunity to escape with the rocket, leaving the others to starve, or to freeze to death in the cold of the lunar night, he set up the Marvite gun with the purpose of killing them first, and then returning to the earth with the rocket.

Jarvis and Brown soon discovered that they could not emerge from their refuge without exposing themselves to Duseau's vision. Whenever either of them even showed his head, Duseau fired. Usually his shots came close. You will remember that the Marvite gun was equipped with very accurate telescopic sights.

I wonder if a queerer situation was ever conceived by the most scatter-brained writer of imaginative fiction. A madman on a mountain of the moon, with an ultra-modern machine gun, attempting to kill two men whom he considered his enemies, who had taken refuge in a crevice between two boulders on the summit of another lunar mountain, from which crevice they dared not emerge.

Yes, it was a curious situation. It was tragic, too. What would Jarvis have said, had he known, when he performed what he considered the trivial action of discharging an insubordinate assistant, that it would lead to the dire straits in which he now found himself?

Emerging from the station at Albany one day, for the purpose of snatching a bite or two of lunch, I was accosted by a young girl of about eighteen, I should say, who seemed greatly troubled about some-

thing, and expressed a desire to speak with me privately. I invited her to lunch with me, and this, briefly, is what she told me.

She was engaged to be married to Jack Jarvis the following June. But her fiancé had recently suffered very severe financial losses, perhaps because he had less experience in Wall Street than the men who were against him. Jack Jarvis had foolishly borrowed right and left in a vain attempt to avoid the impending crash, and he had been wiped out. Now he was penniless, and about three million dollars in debt. His creditors were pressing him. His assets were nil.

The girl had come to me to ask if there were any possible way I could get in touch with Dr. Jarvis, and ask him to lend his son enough money to pay off his debts. She also mentioned the will, saying that the huge fortune in diamonds should really have been left to Jack, not to the worthless Donald, and asking me, if I should succeed in communicating with the Doctor, to suggest that he change the will.

It was with the utmost regret that I was forced to explain to the almost hysterical girl that there was nothing that I could do. The moon explorers had no receiver. There was no possible way for me to get word to them. When I had told her this, the girl asked me to permit her to be at the receiver with me. Of course I granted the request, although it was against the regular rules.

I suppose you can guess now, Kornfield, who Jacqueline is. The fact that she had been crying, did not detract from her loveliness. I caught myself envying Jack Jarvis as we walked the short distance back to the station. Not always will a rich man's sweetheart remain loyal to him after he has lost all his money and three million dollars more.

When we reached the station, Gibson met us at the door. The peculiar expression I saw upon his long, lean, intellectual countenance made me start.

"It's the beginning of the end, Clankey," he said, "Jarvis has gone crazy, too."

I RAN to the receiving room. From the instrument I heard distinctly Jarvis' voice, a quarter of a million miles away. What he was saying confirmed Gibson's statement. He was raving incoherently, cursing Duseau, cursing himself for a fool for having brought the machine gun, begging that if Duseau should return to the earth he would be punished for murder, and much more along the same line. It was terrible.

In one corner of the room the silent, efficient, never ceasing telegraphone recorded every word permanently, electro-magnetically.

To make a long story somewhat shorter, let me say that Jarvis continued to rave like a maniac for many hours. Then suddenly his brain cleared.

"We have food for only a day more," said his voice, emerging from the most sensitive radio receiver in the world, "and our oxygen apparatus will not function for more than thirty-six hours more. I am saying good-bye to the world."

"Duseau has beaten me. If the fates will have it so, so be it."

"It is my wish that my entire personal fortune, including the diamonds in the vault at 198th Street and Fifth Avenue, New York, be left to my younger son, Jack, as he has always—"

The receiver fell silent. So ended the last message ever received by the great station at Albany.

For several minutes the utmost silence reigned in the receiving room. Finally Jacqueline—perhaps I should refer to her as Miss Bowers—who was with me at the receiver at that time, broke the stillness.

"He left them to Jack," she said very slowly, "but can we prove it? How?"

"We can," I said. "Under the new inheritance laws of the State of New York, we have merely to prove that Jarvis expressed a desire to change his will so that Jack would be his heir. We have his exact words recorded on that telegraphone in the corner. In case there is the slightest doubt upon the part of the authorities that Jarvis was the man who said those words, I will have one of my associates, Dr. Robert Haines, who happens to be the greatest living expert on phonophotographical processes, take a photograph of the vibrations of Jarvis' voice as he said those words. This photo can then be compared with photos taken of the vibrations of other parts of our telegraphone record which are known to have been uttered by Dr. Jarvis, and the identity of the speaker of those words which give the second greatest fortune in the world to your sweetheart can be established beyond the possibility of a doubt. Fingerprints can be forged, but the vibrations of the voice cannot be forged, even though the voice may be disguised. No two human beings have exactly the same voice."

After I had explained this, Jacqueline left me to carry the news to her fiancé. I sat in silence a long time, wondering what had interrupted Jarvis' last message, wondering how the two explorers must feel, waiting for death to overtake them on their mountain. It must be a terrible sensation, Kornfield, to wait for death, without hope, without a chance, knowing that your enemy has triumphed. I sat in silence a long time, and then went home for some much-needed sleep, leaving Gibson at the station, in the vain hope that some further message might be received.

Two days later, Professor John P. Hauser, of Yerkes Observatory, reported that the rocket had left the moon. The newspapers and broadcast stations of every nation informed the people of the world that Duseau was returning. Every minute of every day either Gibson or I or one of our capable assistants was at the receiver, but the moon rocket was silent, as we expected.

Then some one pointed out that if Duseau should succeed in returning to the earth, he could not be punished. Neither the United States nor any other nation could lawfully punish Duseau for a murder committed on the moon. If he returned, he could go free, said the most eminent legal authorities.

Three days after Professor Hauser's announcement, the telephonic records I had made were stolen, doubtless by some crook in the employ of Donald Jarvis. I should have foreseen that he would not give up the enormous fortune without a fight. I should have put the record in the safest safe-deposit vault in Albany, but I left it in the unprotected radio-room, and it was stolen.

Of course I hired the best detectives I could get, and promised them an enormous reward if they could recover the little spool of wire that meant so much to Jack Jarvis, but I was secretly sure that Donald had totally destroyed it, so that there would be no chance of its recovery. Without it there was nothing but the unsupported word of Jacqueline and myself to prove that Jarvis had desired to change the

will. This would be quite decidedly not sufficient.

I HAVE never seen anybody as depressed as Jack Jarvis was in the nerve-racking, disappointing days that followed. The court of New York City, after one of the shortest cases in its history, awarded the fortune to Donald. Jack's creditors began stripping him of every bit of his personal property. Though he said nothing, I knew that he secretly blamed me for his misfortune. I offered him my entire fortune, a matter of about a quarter of a million dollars, but he refused it. It would only have been a drop in the bucket, anyhow.

Then the rocket came down at Chicago Field. As it entered the atmosphere, something seemed to go wrong. It seemed to hesitate, to wobble. It was evident that it was not under control. Then it fell.

It fell, three hundred thousand feet. Those who were watching saw it become red-hot as it entered the denser layers of the atmosphere. They heard the terrible hissing scream it made, as it plunged, ever faster and faster, to the waiting earth. They heard the horrific, cataclysmic swan song of the super-airship, diving with ever-increasing speed to its doom. For it fell, three hundred thousand feet. It crashed.

The terrible concussion was recorded by every seismograph in the world. It is truly remarkable that the rocket fell in the only open space in the densely populated region around Chicago, the Chicago Flying Field. Had it fallen anywhere else in the vicinity, it would have been the cause of many deaths, and incalculable damage to property.

The fire department arrived quickly, and drenched the red-hot, flaming wreckage with floods of water. Then the police began to search for Duseau's body. As they were giving up the search as hopeless, somebody looked up,

High above was a parachute, drifting with the breeze. It supported a limp, unconscious figure, clad in an exceedingly thick flying suit. It came to earth. Someone tore the leather helmet from the tired, haggard face. A thrill of the most intense amazement spread through the crowd.

The man was D. Francis Jarvis.

Gibson, sitting in his apartment in New York, manipulated a dial. His face assumed a satisfied expression as he tuned in Station WEBQD, the New York station of a world-wide chain of broadcasters that had a television news-service as a daily feature. Adjusting another dial, he gazed at the scene which appeared on the screen of his receiver.

It was Chicago Field. He heard the excited news-announcer's voice telling of Jarvis' return. He saw the unconscious form gently placed in an ambulance and rushed to the nearest hospital.

Then he called me on the 'phone. The two of us took off in my plane less than ten minutes later. We reached Chicago in a few hours, landed on the Illinois Hotel landing platform, left the plane with the mechanics, dropped two hundred stories in the express elevator, and were soon at Jarvis' bedside. He had just regained consciousness, and he told us what had happened.

In the hour of his triumph, Duseau had been

killed. Consider the tremendous power of the Marvite gun. Long ago men calculated that a bullet shot from a gun with a muzzle velocity of 6,500 feet a second would, if there were no obstacles in its path, completely encircle the moon! And that is what happened! One of the bullets Duseau shot from the summit of "Mount Olympus" traveled all the way around the moon, and hit him in the back! And that, Kornfield, is what I was thinking about when I spoke of a sub-satellite.

PERHAPS you may consider it a rather silly comparison, but I can't help thinking of that tiny projectile as a satellite, faithful to the laws of celestial mechanics, following unerringly its orbit around the moon, and returning to its starting point. I wonder how many other bullets are still circling the moon now!

Brown, exposing his head, saw Duseau fall. He and Jarvis were so excited by this occurrence that they returned to the rocket without the radio! They reached it less than thirty minutes before their oxygen mask apparatus ceased to function. They had used their reserve supply of compressed air completely during their return journey.

"And that," concluded C. Jerry Clankey, "is about all there is to the story. Because a maniac on the moon was so unfortunate as to stand in the orbit of a minute sub-satellite which he himself had launched, Jack Jarvis was able to pay off his debt. The Doctor lent him the necessary cash, and has just made a new will. So everything is going to be all right."

"Pardon me, Kornfield, but I didn't quite hear that question. What happened to Brown? Oh, yes, I told you that the lucky fool has a charmed life. He was unable to start the motors when the rocket was entering the atmosphere. Duseau had apparently done something to render them useless. When the rocket fell, Brown and Jarvis jumped. The wind separated the two men.

"Brown landed almost a hundred miles from Chicago. His chute ripped slightly as he fell, and let him down too rapidly. But he landed in an apple tree, and broke thirteen bones.

"A couple of modern surgeons patched him up, and in less than a month the incurable dare-devil was doing outside loops at six hundred miles an hour in his special monoplane, and making a fortune by recommending and endorsing various makes of spark plugs, motor fuel, cigarettes, and so on.

"By the way, I almost forgot that today is the fifteenth of June. It's too bad, Kornfield, that you're scheduled to speak to the Explorers' Club this evening about your discoveries in Tibet. If you weren't I'd take you to Albany with me to attend the wedding of Jacqueline Bowers and Jack Jarvis. I must leave at once. I almost forgot that today is the fifteenth of June."

I accompanied C. Jerry Clankey to the roof. He entered his waiting plane. The mechanic touched a button. The powerful catapult shot the streamlined flyer into the air. Jerry zoomed gracefully, and the little red biplane soon disappeared in the northern sky.

By W. F. Hammond

(Continued from page 1161)

for a long time these rays were believed to comprise all the rays into which sunlight may be resolved.

"Certain phenomena which occurred in Nature, however, seemed to require still other rays to account for them, and finally, in 1898, Dr. Roentgen discovered the ray which has been named after him. This ray, commonly referred to as the X-ray, he found far beyond the violet ray, and in what is termed the ultra-violet zone.

"Within the past year still another ray has been discovered—this, too, in the ultra-violet zone. By means of this new ray it is possible to project a picture through even a brick wall, the ray meanwhile remaining invisible until it is intercepted by a fluorescent screen or some other fluorescent substance. It was doubtless by the use of this ray that Lakh-Dal conveyed his first warning to us in this very room.

"I'm glad to hear that!" said the General, with a sigh of relief. "I thought I 'had 'em' when I saw those creeping lizards on the wall."

"Better lay off that bootleg stuff," warned Errell in mock seriousness, then resumed:

"As commonly portrayed, the color bands in the solar spectrum are arranged one above the other, as before stated. Now let us conceive them as being arranged about the circumference of a circle, thus:

"This same circle may also be used to mark not only the earth's daily revolution on its axis and its yearly sweep around the sun, but the cycle of human existence as well; for if we accept the theory that 'Vibration is Life,' the inevitable corollary is that 'Inertia is Death.'

"Mark the coincidences: At the top of this mystic circle is violet, the color with the shortest wavelength and most rapid vibration of the prismatic hues, and likewise the color most characteristic of electricity, which is itself closely allied with life. Since Spring is Nature's resurrection time, this same position is occupied by the Vernal Equinox. It is also the logical position for Dawn, which marks the beginning of the new day.

"As life progresses to its fullest, it is accompanied by a gradual slowing up in the rate of vibration and a corresponding increase in wavelength. Hence, we find the zenith of Life midway in the color scheme—green, flanked by blue and yellow. This is as it should be, too, for above us is the blue sky, around us the green of vegetation and over all a flood of yellow sunshine. The same position marks Noon, when the sun is at its zenith, and the Summer Solstice, when plant and vegetable life is most abundant.

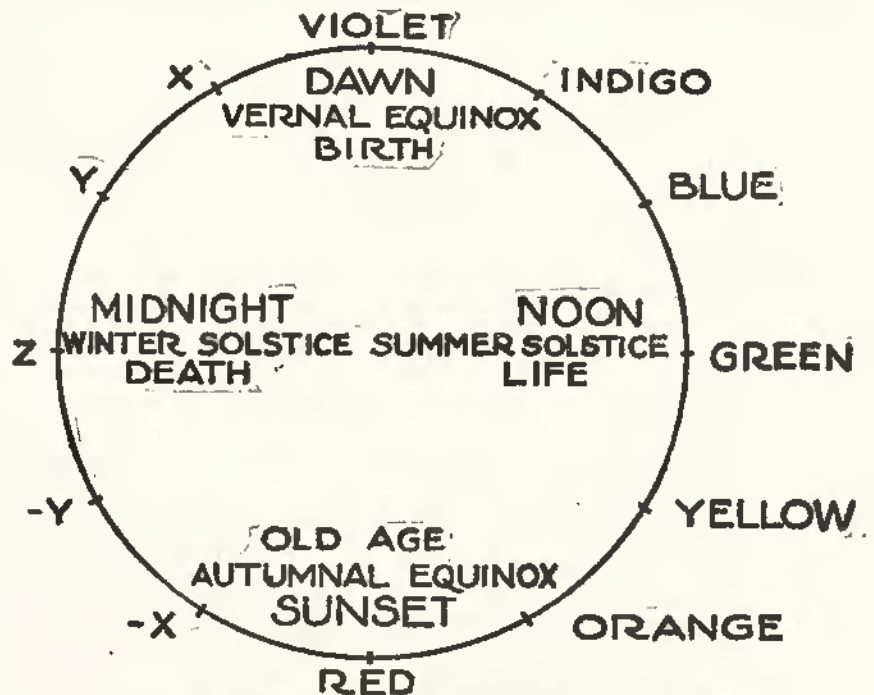
"With a continued slowing up in the rate of vibration, we come to old age, which is the sunset of life, and to the setting sun. Red, which illumines the western sky at the close of day, is also the color most lavishly used by Nature in her Fall painting, and it is therefore natural to look for the Autumnal Equinox in this position at the bottom of the circle.

"Probably you are wondering, General, what all this has to do with Lakh-Dal; but I am coming to that presently. Let us now continue on our journey around the circle. Once we pass the point marked 'Red,' we enter the region of mystery and hidden rays, of darkness and of Death. Vibration, which has been continually slowing up, ceases entirely at the point marked 'Z' and so we can expect Death at the zero point. This also marks the Winter Solstice and the hour of midnight, when the blackness is most intense.

"There is but one stage left. As we pass out of the 'Z' zone, we find ourselves entering the region of the ultra-violet, with its hint of another dawn, the approach of Spring and the faint stirrings of new life.

"All that is occult and mysterious, both in Nature and in human experience, lies within this region of the invisible rays, this unknown region, which only now we are just beginning to explore, and which holds within its dark recesses the key to all mystery, even to that of life itself!

"It is my belief that in some way Lakh-Dal stumbled upon the secret of these rays and, realizing their potency as a destructive agent, set out at once to indulge his lust for evil and his hatred of man-



Analysis of light, time and life referred to wave frequencies.

kind in general. As a first step, and acting, I suppose, on the theory that 'Whom the gods would destroy, they first make mad,' he planned to destroy our whole western civilization.

"This he meant to accomplish in three ways: First, by depriving our leaders of their reason and thereby bringing about a condition of chaos; second, by unloosing a horde of murderers, thugs and moral lepers to work their will upon a helpless and defenseless people; and finally, by wiping us out entirely by means of his plague-infected synthetic rats, released simultaneously in all parts of the country by his agents."

A horrified silence followed the professor's concluding words, broken finally by the General, upon the tip of whose tongue the question had been trembling:

"What about your own demonstration of occult power?" he asked, "the temple bells, the holy in-

cense, the priestly garb? How do you explain these?"

"My oath to Buddha and his high priest prevents me from answering that question," responded Errell gravely, "but this I will say: There was nothing supernatural about it."

And with that the subject was dropped.

THE END

The Flowering of the Strange Orchid

By H. G. Wells

(Concluded from page 1163)

pelled his fancies. When, with unnatural alacrity, he returned with the water, he found her weeping with excitement, and with Wedderburn's head upon her knee, wiping the blood from his face.

"What's the matter?" said Wedderburn, opening his eyes feebly, and closing them again at once.

"Go and tell Annie to come out here to me, and then go for Dr. Haddon at once," she said to the odd-job man so soon as he brought the water; and added, seeing he hesitated, "I will tell you all about it when you come back."

Presently Wedderburn opened his eyes again, and, seeing that he was troubled by the puzzle of his position, she explained to him, "You fainted in the hothouse."

"And the orchid?"

"I will see to that," she said.

Wedderburn had lost a good deal of blood, but beyond that he had suffered no very great injury. They gave him brandy mixed with some pink extract

of meat, and carried him upstairs to bed. His house-keeper told her incredible story in fragments to Dr. Haddon. "Come to the orchid-house and see," she said.

The cold outer air was blowing in through the open door, and the sickly perfume was almost dispelled. Most of the torn aerial rootlets lay already withered amidst a number of dark stains upon the bricks. The stem of the inflorescence was broken by the fall of the plant, and the flowers were growing limp and brown at the edges of the petals. The doctor stooped towards it, then saw that one of the aerial rootlets still stirred feebly, and hesitated.

The next morning the strange orchid still lay there, black now and putrescent. The door banged intermittently in the morning breeze, and all the array of Wedderburn's orchids was shrivelled and prostrate. But Wedderburn himself was bright and garrulous upstairs in the glory of his strange adventure.

THE END



In this department we shall discuss, every month, topics of interest to readers. The editors invite correspondence on all subjects, directly or indirectly related to the stories appearing in this magazine. In case a special personal answer is required, a nominal fee of 25c to cover time and postage is required.

THE MOST EXHAUSTIVE CRITICISM OF OUR WORK FROM AN APPRECIATIVE READER

A SENSITIVE BUT VERY APPRECIATIVE CRITIC

Editor, AMAZING STORIES:

I have been much entertained by the criticisms of your various stories, in the correspondence columns. I note several criticisms—particularly of Dr. Mentiroso—on the ground that the story is impossible, unscientific, etc. This calls to mind a scene in one of Captain Marryat's Novels (Pasha of Many Tales). Where the Pasha was listening to an extravagant Hop story; and the narrator told of being taken up in a cyclone and landed on top of a cloud, and rode the cloud to where it collided with a mountain, and landed unhurt. Whereupon the Pasha remarked: "Hessien, I verily believe you are telling me lies."

I will say further, that I take no stock in the truth or possibility of the *Machine Man From Ardathia*; but it is a story to my liking, and I was much entertained by it. You published one story about the man that entered the subterranean world in Alaska, and was captured by Gold Bug Spirits; and made prisoner at their altar; that gave me the horrors. What on earth did you ever publish such a story as that for? We read stories to be amused; not to get something to give us the creeps.

I like most everything Mr. H. G. Wells writes, but most disapprove of *The Stolen Body*—that is another story that gave me the creeps.

I like *The Time Machine* very much; and think that this story may be a prophecy, just as *Robur the Conqueror* proved to be one.

Coming back to Dr. Mentiroso: I back in 1899 I was on my way to the Philippines as a soldier; when one Saturday night about 11 P. M., we crossed the 180th Meridian of Longitude. Next morning just after breakfast the bugler sounded the Drill Call; at which there was general disapproval and murmuring. But it was soon explained to us (but not very well understood) that it was Monday morning. Said the officers: we crossed the Meridian last night about an hour before midnight; we were then where it was Sunday for about an hour; if we had crossed the Meridian on the stroke of midnight we would not have seen any Sunday at all. In the latter case we could have sailed out of Saturday into Monday; and have witnessed the novel spectacle of being in a place where it was Monday of a certain date while just to the east of us a few feet away it was Sunday and a day earlier in date. When we returned from the Philippines we crossed the Meridian on the night of the 21st of March 1901. And the next day was entered on the ships Log as 180 Meridian day—March 21st. And as we left Manila on the evening of February 26th and entered San

Francisco Harbor on the morning of April the 1st, we spent 32 days on the voyage—while the Calendar showed us as using only 31 days.

Again: Can't you publish the letters in bigger type? I have to forego the pleasure of reading most of them, on account of the strain on my eyes.

Victor Lewis.

2824 Woodbrook Avenue

Baltimore

[Your friendly criticisms are certainly appreciated, but do you not know that many people crave stories of the description which you complain gave you the horrors? Then again, do you not think you are over-sensitive in being so affected by fiction?

Now, for Dr. Mentiroso, who has been so much criticised by our correspondents. What you tell us about your trip to the Philippines and back is most interesting and covers exactly many of the points brought out in the "lying doctor's" story.

We are obliged to use small type for the Discussions Column, as we have a body of readers who write us many letters well worth publishing and we cannot do them adequate justice in this space at our command, even in small type.

EDITOR.]



Here is a micro-photograph of an ordinary razor blade — magnified 50 times. Notice that the cutting edge is not smooth, but composed of hundreds of tiny teeth. When these teeth are twisted out of line (as above) they pull and irritate the face, leaving the skin smarting and sore after shaving.



Here is the same blade (actual photo) after 11 seconds in a KRISS-KROSS Rejuvenator. Notice the difference in the edge. See how apparent holes have been filled in—with every tiny tooth in perfect alignment! Is it any wonder that a blade rejuvenated like this simply zips through the toughest crop of whiskers and leaves the face cool and smooth as velvet?

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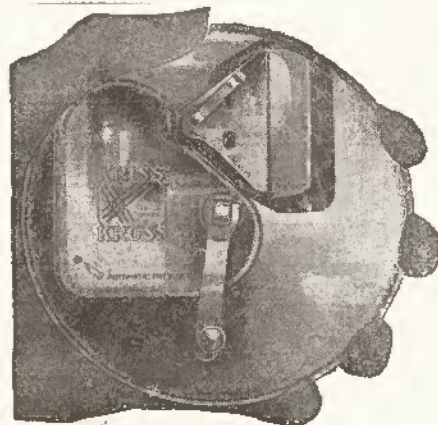
MOST men consider shaving as a "necessary evil." Frankly, we agree. Shaving takes time; it costs money and, worst of all, if you are "afflicted" with a wiry beard and tender skin. We admit all these things. And since it is impossible to abolish shaving, the next best thing is to make it just as *easy* and *quick* as possible; as *cheap* as possible, and as *comfortable* as possible. That's why we invented KRISS-KROSS!

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AGENTS

Make excellent money as our representative in your locality. Generous commissions and bonuses make \$75-100 a week the regular thing with lots of our men. Emil Ham (Calif.), made \$50 first day. Even spare-time demonstrators often make \$8-\$12 extra a day, showing KRISS-KROSS to friends, etc. W. S. Benson made \$48 in 3 evenings. Get details of generous starting offer. Check bottom line of coupon at right and mail coupon now.

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A RATHER SEVERE CRITIC WHO READS THE MAGAZINE

Editor, AMAZING STORIES:

As a reader of AMAZING STORIES since the first copy was displayed at the local news stand, I have developed a number of definite ideas of what I like and what I don't like about the magazine. No doubt you prefer to hear only nice things, but you can skip the parts of this letter you don't like. I do that with the stories I don't like.

Starting with the November issue first, "A Story of the Stone Age" is far better than anything else in the magazine. That story alone is worth more than the price of the magazine, and for that particular issue, proved to be almost my only justification for spending the quarter. "The Machine Man of Ardathia" was entertaining and logical, but "Treasures of Tantalus" was very tiresome. Anyone having at his command the wonderful inventions of Professor Fleckner would certainly not go to such a lot of trouble to get hold of treasures which would be dwarfed by the value of the patent rights to the telephonoscope alone. "The Astounding Discoveries of Dr. Mentiroso" is a story that I skipped over in something less than nothing flat. It was about the poorest offering by that particular author that I have read.

Your readers have given "The War of the Worlds" much unmerited abuse. In the November issue, one S. Kaufman of New York, was disgusted because Wells did not send airplanes to destroy the metal men from Mars. Now, that story was written before airplanes were a successful fact. If Wells had sent airplanes against the Martians some other reader would have criticized him for his fantastic imagination.

"The Lost Comet" was a good story. But the artist who drew the picture certainly performed remarkable didoes. Note that the tail of that comet points almost right at the sun. Comets ordinarily always point their tails away from the sun. Of course, this comet may have been really lost and ignorant of the proper direction toward which it ought to point its tail.

"The Chemical Magnet" contained an original idea and was very well written. "The Master Mind of Mars" was good. This was in the annual, I believe. Reprints from AMAZING STORIES in the annual are useless duplication. Everybody who is really interested in scientification reads the monthly magazine and keeps the back copies. So why repeat?

I agree with the readers who can worry along without detective stories. They are not amazing. They are not even new. A humorous story with a scientific angle is quite acceptable to yours truly, and affords a welcome relief after such a dreary experience as "Treasures of Tantalus."

Well, well! I just noticed in the readers' letters that some of them think H. G. Wells is ROTTEN! Just for the sake of completing the

picture I would like their opinion on Shakespeare, Mark Twain, O. Henry, and (to make it hard) Sienkiwicz—I guess that's the fellow who wrote "Quo Vadis." How do they rate Mark, Luke and John? Calling Wells an amateur! Perhaps there is something to this fourth dimension stuff after all. Their criticisms must be based on some thing that has no solidity in the world we know. Anyway, I hope you keep publishing stories by Wells.

"The Colour Out of Space" was interesting, but rather mystical. "The Face in the Abyss" and "The Moon Pool" are other stories that are good as far as that goes, but not really scientific. You know, simply to ring in something about radium, or electrons, or the mythical fourth dimension, is not scientifically convincing. Sounds so much like the "electric belts" or "magnetic inner soles" that they still sell to the yokels. Another boreason dodge that is worked every little while is the one about vibrations. Vibrations are used to wred ships or to dissipate matter. All that kind of stuff has been done hundreds of times.

Oh yes, and in your last issue—no, I guess it was in the annual, you had a reprint from SCIENCE AND INVENTION, about a traveler in space. This traveler rushed away from the known universe at a speed many times greater than light, yet looking back, could see the receding pinpoints of light that were stars. Now, as he was traveling so fast for the light to overtake him, how could he see them?

In criticizing stories, the readers should make this distinction; criticism which denies the bare possibility of certain things or scientific claims, is trifling and has just as little as or less justification than the stories which the critics are attacking. But when a story goes counter to known physical laws, it's time to tell you about it.

Perhaps you wonder, if I have so many faults to find, why I don't quit reading AMAZING STORIES. The answer is that every little while you run such a terrifically good story that I forget my annoyance over the trivial ones that come in between, so that I am, and expect to remain, a steady reader.

G. P. Simeon,
First St. and Central Ave., N. E.
Le Mars, Iowa.

[Over and over again, we meet with unfavorable criticisms from some reader, of stories which have been highly praised by others. This occurs so often that it leads to the conclusion that our efforts have resulted in what is at least a good average. There is another conclusion we must also accept—we cannot please everybody with our selections. We are most interested in the discussion columns, and will continue to print unfavorable criticisms as long as they are constructive. Also remember that stars are seen by light emitted from them long ago, and thus takes care of your objection to the traveler in space seeing stars.—EDITOR.]

READERS' VOTE OF PREFERENCE

Stories I Like:

- (1)
- (2)
- (3)

Stories I Do Not Like:

- (2)
- (1)

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**HOW A YOUNG SCHOOLBOY USED
OUR MAGAZINE**

Editor, AMAZING STORIES:

Although I am 9½ years old and am in 5A AMAZING STORIES has helped me much. In a composition the other day we had to write something about the stars and the moon. Most of my composition of the moon came from Ray Cummings "Around the Universe." Wishing you success and to remain a monthly magazine, I am,

Herman G. Gelfend,
33 Essex St.,
New York, N. Y.

{Here is a most welcome letter from a boy of less than ten years old.

Philosophers have long known that for absolute, unvarnished truth, we should go to the young. This juvenile reader of AMAZING STORIES in a few words voices very intelligent criticism. If young readers like a look, it is almost certain to possess merit.—EDITOR.]

MORE ABOUT "THE WAR OF THE WORLDS"

Editor, AMAZING STORIES:

I feel at the present time constrained to write to you concerning Mr. S. Francis Koblischke's letter, particularly that part of his missive which deals with the "The War of the Worlds," by H. G. Wells.

Mr. Koblischke added his criticism of the story to that of Mr. Fred W. Fisher, Jr., of Knoxville. Let me add my criticism to his and thus do what I can to strengthen what these two gentlemen have started.

My intentions are not to further criticize Mr. Wells; the aforementioned gentlemen have done that very nicely. I intend, rather, to criticize your attitude, for in doing so I feel that I will be getting at the heart of the matter.

The human race, in respect to the point I wish to bring out, is divided into three parts, each merging into the other: The Heroes—The Hero Worshipers—and the Judges. Now if anyone should ally himself with the latter class it seems to me it should be the editor. You said in answer to Mr. Koblischke's letter: "The work of the distinguished author, H. G. Wells, fails to impress some of our readers. The curious feature of Mr. Wells' work is, that it has an enormous acceptance by the reading public and so high is the degree of approval awarded him that we feel that his very name carries weight."

May I ask, Mr. Editor, are you defending Mr. Wells' name or his writing? You recognize the fact, being an editor, that a "blurb" placed before a story has a wonderful effect on the majority of minds in influencing them to read an otherwise dry story. This does not necessarily mean that the majority of us are mildly psychopathic, it means that our attention is flattered into being lured. We "look at the story through rose colored glasses" and it becomes at once readable.

Now the point is that Mr. Wells' "Outline of History" was a wonderfully executed work. He has done several other noteworthy writings also but—he is human and therefore likely to err. His name has been "blurb'd" in all four directions so much that it has become a password among pseudo intellectuals. If one reads at the head of a story, "No one can miss this wonderful yarn. It will be specially appreciated by the intellectual mind," who can easily avoid reading a little way into the story itself no matter how dry it be? If it prove itself too unpalatable we sadly shake our heads and admit that we have not the mind to grasp the profundities of such super intellect. But how many of us do that? No! we wade right on through and nod wisely and murmur "True—Too true!" and then "blurb" it to our friends to show them what deep stuff we read. I have every magazine which you have published and intend to go right on reading them—maybe try and contribute something myself sometime. I will not say anything in favor of the rest of your stories—they don't need it! Some, but very few I do not care for especially, but that is my opinion and does not mean that they are uninteresting. I simply do not care for blind hero worship. I believe in judging a man by the goods he delivers. Yours for a semi-monthly.

L. G. Townsend.
(No address given.)

[Regarding H. G. Wells, and "The War of the Worlds," we are afraid that our correspondent has the wrong impression as to our reasons for thinking that this particular story was in our humble opinion an excellent one. The real reason is not so much because of Mr. Wells' literary style, his descriptions, etc., but rather, because of the boldness of idea of the subject as a whole. This story became world famous and has been translated into practically every language for the reason that Mr. Wells' picturization of the Martian is in itself a classic.

Mr. Wells argues that brains are synonymous with intelligence, that the size of the brain keeps on increasing as the human race progresses. Science knows that the brain of the prehistoric man was much smaller than that of modern man. Wells, therefore, assumed that the Martians, who had probably lived on their Planet millions of years longer than we have on earth, had become practically all brains. It is this that makes the story good and will keep it a classic for years to come.—EDITOR.]

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POOR MR. WELLS, NOTES ON OTHER STORIES

Editor, AMAZING STORIES:

In nearly every issue of your magazine, you print a coupon for votes of preference. Like many other readers, I do not like to spoil my magazines by tearing these out; hence, this letter. On your coupon you ask the reader which stories he likes or doesn't like, and why. As a matter of fact, I like them all except those "scientific detective" stories, and those by H. G. Wells.

Mr. Wells may occupy a high place in the literary world and is doubtless a favorite among many readers, but only two of his stories have interested me in the least; (1) "The Island of Dr. Moreau" and (2) "The Time Machine." Personally, I thought the "War of the Worlds" was poor; also stories like "The Plattner Story." In my opinion, Wells' stories are not worth the valuable space they occupy in your magazine.

There are several good magazines for detective stories on the newsstands, and I don't see that that kind of story has any place in your magazine, if it is really to be a magazine for scientific fiction.

The Cover-Contest stories were great. In my opinion "The Visitation" is the best short story you have yet published. However, I think any of the honorable mention stories were better than "The Fate of the Poseidon." Stories like "The Visitation" are the kind which will really benefit the readers.

I think that "The Second Deluge" and "The Land That Time Forgot" by Serviss and Burroughs respectively are the best serials so far. Can't we have more stories by these same authors? I have been anxiously awaiting them, but they never appear.

I liked Merritt's "The People of the Pit" and "The Moon Pool" in spite of the absurd ideas about the earth's creation found in the latter.

"The Colour Out of Space" was rather gruesome, but was written around a novel idea, and I enjoyed it very much.

"The Retreat to Mars" by White surely does inspire one to deep thoughts, but Ray Cummings' "Around the Universe" presents some staggering ideas.

A. Hyatt Verrill is one of my favorite authors, but I couldn't swallow "The Astounding Discoveries of Dr. Mentiroso." I cannot understand how the Doctor's machine can take him into the past by racing against the earth's rotation. The fourth dimension is too much for my feeble brain anyway. I place Francis Flagg's "The Machine Man of Ardatia" in the same class.

"I have just finished "The Comet Doom" by Hamilton and it sure is a thriller, one of the best yet.

But of course I cannot comment upon all the stories so I compliment the magazine as a whole.

If the editor has read this letter thus far, I apologize for its length, and close with a plea for more illustrations and fewer stories by H. G. Wells.

H. R. Hargrove,
1008 Bronson Ave.,
Paducah, Ky.

P. S. I would like very much to know where I can secure "Tarrano the Conqueror" by Cummings, in a single volume. July 1925 to Aug. 1926 included.

[There are probably few writers of short stories who are so much appreciated by the public as H. G. Wells and he has not restricted himself to fiction, indicating considerable versatility in his range of thinking, although he sometimes seems to be too sure of himself. This very often seems to us to be a characteristic failing of the English. But the very points in Mr. Wells' work that you object to, are merits from a literary standpoint. The author who can describe has solved the problem of writing. The best writers of fiction and essays are those who possess the marvelous faculty of describing what they see and what they are telling about. It sometimes seems as if this was one of the ultimate goals to be reached by authors of fiction. Fiction without description falls upon the reader. At the very points where you will feel that Mr. Wells is neglecting his duty by too much detail, he is giving an atmosphere of life to his work.

We hope to have more stories by the authors you admire.

We note that in the second part of your letter you express appreciation for many of our stories. "The Colour Out of Space" has attracted considerable attention. It appeared to us that a dreary atmosphere was wonderfully well produced by the deliberate style of its writing and the detailed description which characterized its narration. "Tarrano" is not published in book form as yet.—EDITOR.]

AN APPRECIATIVE LETTER OF CRITICISM

Editor, AMAZING STORIES:

I have sent in one letter, and now I'm going to write again. I wish to retrieve a remark I made in my letter of a few weeks ago. That is, I do wish to see the AMAZING STORIES come out twice a month. Previously, I stated why it should only come out once a month, but I can read it in two or three days, and then spend the other twenty-seven days impatiently waiting, so I am all for a semi-monthly magazine.

I like the discussions very much. One person expresses the desire to see the magazine made up with better paper; I would also, as it would last better. We have kept the "American" for the past eight years. Of course, it would require more ad-

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We were life-long friends, and I felt I could ask her about it. "You played superbly!" I said. "And I know you never had a teacher. Come—what's the secret?"

"Well," she laughed. "I just got tired of being left out of things, and I decided to do something that would make me popular. I couldn't afford an expensive teacher and I didn't have the time for a lot of practice—so I decided to take the famous U. S. School of Music course in my spare time.

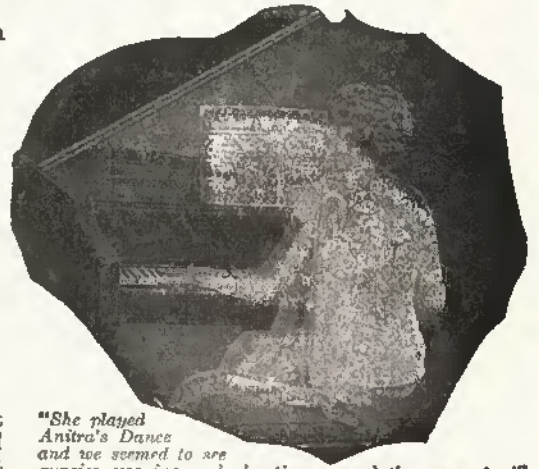
"Yes—and it's been such fun! Why, it's as easy as A-B-C. I began playing almost from the start, and right from music. Now I can play any piece—classical or jazz."

"You're wonderful!" I breathed. "Think of playing like that and learning all by yourself."

"I'm not wonderful," she replied. "Anyone could do it. A child can understand those simplified lessons. It's like playing a game!"

"You always wanted to play the violin—here's your chance to learn quickly and inexpensively. Why don't you surprise everyone, the way I did?"

I took her advice—a little doubtfully



"She played *Anitra's Dance* and we seemed to see gypsies swaying and chanting around the camp fire."

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vertisements to cover the extra cost, and that is not so nice either, so I'll leave it up to you.

I am nineteen years old, and have read most of the scientific stories to date. One in particular I will never forget, and that is "The Wonderful White Elephant," a mechanical elephant, and excellent science and very interesting. It would be a good story to publish.

I like inter-planetary stories exceedingly. "Around the Universe" is a fine story, and I would like to congratulate Ray Cummings. Speaking of authors, a word about Mr. Wells will not come amiss. I notice he comes in for a lot of criticism and a lot of praise. His stories are quite entertaining, which is all that is required. If anyone stops to analyze them, they are—terrible. His "War of the Worlds" could be made into a fine tale, but he has ruined an otherwise good subject, it is entertaining, but what —no words can express my disgust. He has pictured man as a stupid ignoramus. If such a thing ever fell on the earth an army would immediately be thrown around it. Scientists from all over the world would come to investigate. The Martians would not be given a chance to build their War Machines, let alone use them.

I have just read a small book on Einstein, and it seems to me that whoever wrote "The Four Dimensional Roller Press" did not have a very clear idea of what the fourth dimension is. "The Machine Man of Ardathia" is a better story on that subject.

I liked the "Winged Doom," "The Treasures of Tantalus" and "The Discoveries of Doctor Mentiroso." I like good science in a story, but after all, stories have to be entertaining rather than instructive, and to date I have enjoyed all of them.

"Hicks' Inventions with a Kick" have no place in AMAZING STORIES, any more than "Solander's Radio Tomb." There are too many good stories to put in "our" magazine.

I just read a story in the Saturday Evening Post which belonged in AMAZING STORIES. It is the story of three men suspended from a boat in a steel cage, exploring the Atlantic sea bed. (It is called "Maracot Deep," Oct. 15th issue.) The cable is cut by a sea-monster and they are dropped into a chasm five miles deep. There they are rescued by people living on the sea bottom. They are taken to a prehistoric castle and the water is pumped out. That is all so far, but it promises to be very interesting. It is the kind of a story I like, fiction mixed with science; there may be a pair of lovers, which is imaginative, but does not tax the credulity of the reader. The author really makes it seem true, like "The Moon Pool."

I would like very much to see another Cover Contest (that is what started me to reading AMAZING STORIES). I will compete, if you do. "Competition is the life of trade."

"The Visitation" is one of the best stories I have read. I am for a semi-monthly, and a semi-annual. Maurice C. Volkman, Elkhart, Ind.

Owing to the exceptional interest taken by our readers in our magazine, we receive letters for the discussion columns that are most interesting, and these columns, to our mind, are a very important part of the magazine. In spite of your objection to the "War of the Worlds," we believe that you do like its author. When that story was written, a mode of attack was pictured which you may take as being very far in the future, for it was written in what are now fairly old times, before any of the unfortunately effective methods of modern warfare had been developed. So you can take it as an interesting presentation of how things were some decades ago, and accept Mr. Wells' play of fantasy as being truly entertaining. We certainly congratulate you if you have acquired a clear knowledge of the Fourth Dimension from reading "A Small Book on Einstein." We are sorry you do not like Mr. Hicks. It struck us that it was a very clever blending of science and humor. We advise you not to take things too seriously, and assure you that such letters as yours are very highly appreciated by the Editor.—EDITOR.]

WHAT IS THE FOURTH DIMENSION?

Editor, AMAZING STORIES: Although I am a new reader of your magazine, your stories have me thinking. I have heard many arguments and discussions concerning the fourth dimension but I never understood its meaning until I started reading your magazine.

This subject is very interesting and I wish that you would tell me (through "Discussions") how people received the idea that there is a fourth dimension. How do they know that there is a fourth dimension if they are not sure what it is? Salvador A. Papason, 617 East 53rd St., Los Angeles, Cal.

[The fourth dimension is a mathematical conception used for working out some problems in higher mathematics—astronomy, celestial physics and the like. It has been taken up by many people who know little about it and we think that for the average man it does give a nice basis for interesting stories of a scientific nature. Readers of our stories have written a number of letters about it, and we find that they generally enjoy the stories which have been based upon this conception, used so much by Professor Einstein in his work.—EDITOR.]

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Editor, AMAZING STORIES:

Although I have never written to any other magazine, I cannot resist the temptation to express my opinion of AMAZING STORIES in writing, as well as to comment upon some of my fellow critics. This probably will not be published, in fact, I do not expect it to be, but I must get what I have to say "off my chest."

I, too, am one of your younger readers. I am fifteen years old and a Freshman in the Chemistry course at Union College. Having read AMAZING STORIES ever since the first issue appeared, I am perhaps qualified to call myself an old reader, and I do not hesitate to affirm that the stories printed in your magazine, imaginative though they are, have, nevertheless, livened my interest in science and, I hope, enabled me to obtain good grades in my scientific course. An interested student can do marvels, and AMAZING STORIES has certainly helped me to keep my interest alive during the more monotonous moment of memorization of formulae and statistics, by showing me the not-too-improbable future of Science, and the part that I, as a chemist, will be fitted to play therein.

As to old-fashioned parents who object to AMAZING STORIES, I can only deplore their prejudices. Mine are not that way, in fact my father started me on Verne when I was yet comparatively young. From Verne, I picked up Wells, and then turned my attention to the magazine world, welcoming the arrival of AMAZING STORIES. True, he has not read the magazine, but that, I am sure, is largely due to a lack of time and a dislike for the magazine form of fiction in general. In addition, I can cite the case of a boy to whom I lent my first seven copies. He kept them for nearly a year, but he buys the magazine himself now. His father confiscated the magazines as soon as they appeared in the house, but not for purposes of censure. My friend was not able to read the issues until his father had first perused them, often more than once.

Merritt is by far your best writer, but the others are not by any means far behind. Indeed, the only story that I have disliked was "Advanced Chemistry," in last March's issue. I dare say that others favor it as strongly as I feel against it. You can't satisfy everyone. Burroughs' "Mars" tales I have held are rather unscientific, largely because of his methods of transporting the characters from the Earth to "Barsoom" and back. But a story published in December, "Below the Infra-Red," has changed my ideas a bit. For, may not many things, imagined and actual, be explained by the central idea of that excellent tale? Perhaps Mr. Burroughs' vari-colored races of Martians, together with their lost cities, their mighty mountains, and their ill-used civilization may be in some other planet than ours. That would explain the heroes being outside of their bodies, so to speak, and yet materially themselves as compared to the Martians. It would explain the seemingly senseless idea of "yearning" themselves through space, for what is not possible in an entirely new world? Fiction aside, it would even explain the fact that telescopes have shown no signs of high civilization on the Red Planet. True, Mr. Burroughs would have his planes closer together and more easily interchangeable than Mr. Bauer, but that is a negligible fact. Fiction is mere imagination. One may really be right, both may be wrong, or both may be right. Who are we to combat imagination? At any rate, Burroughs' science has come up a step in my estimation, though it has yet many points that are not very clear. Ralph Milne Farley's tales of Venus, the "Radio Planet" still surpass Mars "à la Rice Burroughs." But I emphatically do not object to Burroughs as Burroughs, scientific or not. Burroughs as Gray, or Burroughs as McCutcheon may be "not so good," but Burroughs as Burroughs is incomparable, science or no science.

I might exploit my impressions and theories as to the "time-dimension" controversy, but I will not attempt to do so. Sufficient to say that I believe that there is no reason why we should not be able to travel in time, not bodily, but visually, and that there are a good many reasons why we should be able to do so. Perhaps some reader of AMAZING STORIES, inspired by Wells or Verrill, or some other of the thousand and one men whose imagination has transformed monstrous data into moving romance, and dull scientific theories, understood only by learned scientists, into ideas that may be read, digested, and thought on by thousands of men and women who compose the "masses," perhaps some scientific "fan" will solve this weighty problem and lay the long-lost wisdom of the past, if not of the future, before mankind. In fact, some such thing will, in all probability occur, for achievement needs inspiration, and I know of no better inspiration and source of questions for research that will ultimately benefit man in untold ways than scientific fiction as served to the public in easily digested doses by our favorite magazine, AMAZING STORIES.

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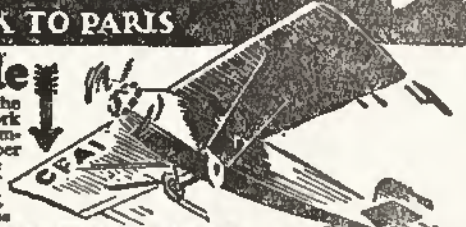
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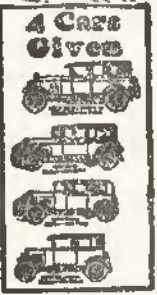
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[We get so much nice criticism from young readers, that we cannot let this interesting letter go without emphasizing the fact that the writer is but 15 years old and, certainly, he knows how to express himself. Besides he takes a very proper view of our work, realizing undoubtedly, that we have to please the many and not the select few. We certainly feel that the balance of criticism received by us, and we don't hesitate to publish unfavorable letters, is greatly in favor of our magazine.—EDITOR.]

A READER OF DISCUSSIONS

Editor, AMAZING STORIES:
With regard to your stories I must say that there is no equal to them in fiction of any kind. I always read the "Discussions," as they give one food for thought.

The story you published in the November issue entitled "The Astounding Discoveries of Doctor Mentiroso," seems to have caused endless outbursts from the many readers, but as for myself I think that the best thing for the uninformed is to say nothing about it as I should think that Mr. A. Hyatt Verrill knows far more than the average well informed person could ever wish to know about the fourth dimension. As for myself I believe that such a thing does exist, but, as is always the case when something new comes along in the realm of science, it is looked upon with ridicule by the older minds that have become more or less fossilized with years.

A good example of that was when Harvey discovered the circulation of the blood, I believe from what I have read that there was not one doctor in the entire profession over forty-five years old that would believe him.

I believe that most of the stories that you publish are not impossible as science has taught us that almost anything is possible. We know that Doctor Mentiroso went deep into the subject of the fourth dimension, but, taken with a pinch of salt, I think the story goes down very well. Another story you published in the December issue that I liked was "Below the Infra Red." I think that vibrations will play a very important part in the lives of the people a hundred years from now.

I think that through the use of vibrations many undreamed of things will be discovered in the near future. If I remember rightly some three years ago a certain American doctor made some very wonderful cures through the use of a vibrating machine that he invented. What the machine was like I don't know.

But as to looking beyond the "Infra" red I don't think that such will come in my time, but if there is anything below the "Infra" red I believe that science will find it out in the course of time. There is a story by H. G. Wells, that might interest your readers—that is "Men Like Gods."

To conclude I should like to say that all your AMAZING STORIES are good reading, but some of your readers say that the writers of them should stick to hard and fast facts; it never occurred to them that every day science shatters hard and fast facts, that were hard and fast in the yesterday.

Some of your stories are becoming real such as the "Modern Thought Machine," and another one more recent is a machine that will furnish data as to the running of other machines by simply asking it over the telephone. The machine was in SCIENCE AND INVENTION of this month. But I look for a machine that will be able to see for itself. That might sound odd, but when one stops to think that there is an invention right now that will start and stop machinery by the shadow of a hand, it seems more possible.

That might not sound like a machine with an eye, but I think that in the near future when roads will be made a different colour from the rest of the country side and that such a machine (that now can be operated by the shadow of a hand) when perfected will be able to operate upon with colours also I think that we shall be getting nearer the "Machine Age." It all might sound like a good stretch of imagination but, my motto is—**"NOTHING IS PERMANENT—CHANGE IS INEVITABLE"**

Yours for more AMAZING STORIES,
W. Pilling
Pincher Station, Alberta, Can.

[Our Discussions Columns have acquired such standing, that we do not wonder at what you say about them in the opening part of your letter. The "endless outbursts from the many readers" which have been elicited by Dr. Mentiroso, go to prove the merit of his work.

It is not too much to say that our Discussions Column gives a gauge of the merit of the story, because the more discussion they elicit, the better the stories under fire may be taken to be.

When you say about science "constantly shattering things that were taken as hard and fast facts in the yesterdays," you are putting it excellently. Your idea of a machine guided by the color of the road is by no means to be considered an extravagant idea, because so much has been done already in the development of amplification by vacuum tubes.—EDITOR.]

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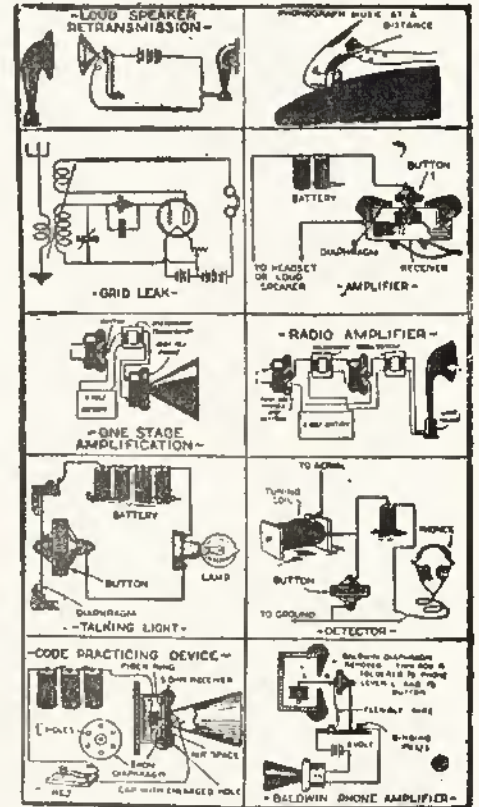


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Editor, AMAZING STORIES:

After reading your magazine and I must admit, enjoying it, since the first or second issue, I have made two attempts to voice my opinion of it, and its readers. I have seen neither in print, and I must congratulate you for your ability to discard all the trash which is sent you.

Well, here is the third attempt. Ever since Discussions Department started I have studied the letters submitted and have finally concluded that the stories are read by those who delight in fairy-tales injected with a little sweetening of so-called science, and by children. I must, of course, place myself in one of these classes; being 17, I choose the former.

H. G. Wells is not enjoyed by your readers because he does not write fairy-tales. His stories are realistic, accurate and quaint and have a certain originality about them. "The Colour Out of Space" which I do not know who wrote was, to me, the best story printed in Amazing Stories.

Miles J. Breuer, M.D., is to be congratulated also for his stories which do not rely on fantastic nightmares, erroneous theories, fourth-dimension, etc. to hold the reader's interest as does Edgar Rice Burroughs and A. Merritt who have no place in your magazine. Burroughs' story about the Germans and the submarines and A. Merritt's "Moon Pool" being about the worst nonsense printed in AMAZING STORIES, belonging more in your French Humor or something else. Don't get me wrong, I like imaginative stories, but no doubt you will admit that there is a limit to everything. Mr. Merritt certainly deserves a lot of credit if he can explain what he meant by all the nonsense in "The Moon Pool."

Jules Verne's "Robur the Conqueror" belongs more in "Boy's Life" or "Travel." With plain plot and merit of story to put the story across, I doubt if he could have filled a half-dozen pages. He fills the story with a lot of drivel which can be read in any geography.

I really enjoyed the adventures of Dr. Mentiroso and did not even think to spell "Esneson" backwards which some of your readers did right off the bat.

Mr. Paul's drawings are the one thing about AMAZING STORIES which defy criticism.

Except for Mr. Merritt's brain-storm-gone-wrong and Mr. Burroughs' drivel, yours is the best magazine on the market.

Best wishes.

M. Wm. Guerin,
Hamilton, Md.

[You must not call anything you write "trash." You express yourself particularly well. We have regarded your criticisms as being good natured, but they are so severe on some of our authors that we feel that the least you can do is to go through our Discussions Column and see how many people admire these very stories, which you object to.

Also, in what you say about Jules Verne, you refer to "a lot of drivel" which can be found in any geography. We do not think that geographies as a rule, deal in, or supply their readers with this commodity.

And, curiously, you pick out two of the most favorite authors for condemnation—authors commended over and over again by the readers of AMAZING STORIES.—EDITOR.]

"THE WAR OF THE WORLDS" APPROVED OF. DR. MENTIROSO NOT LIKED. SOME INTERESTING CRITICISMS

Editor, AMAZING STORIES:

The waste-basket having evidently intercepted my last letter, I am again attempting to put my thoughts and opinions on paper.

Rising in defense of H. G. Wells, I make the statement that although his stories are not perfect they should at least get as much praise as they do criticism. (And he undoubtedly does, for his classics have won him literary fame, the world over.)

"The War of the Worlds," the subject of so much discussion by readers of AMAZING STORIES, I found on the whole to be a good representative of Scientifiction.

After reading it I felt that I understood it a great deal better than the "Discoveries of Doctor Mentiroso." (I leave off "Astounding" for anybody that read that story knows it was "Astounding," even bewildering.)

In "The War of the Worlds" the Martians did not come in "space-ships," but "cylinders." That is not outside the range of possibility, but as the mode of their interstellar transportation was by a cylinder, there are some problems which arise.

During the late war of '14 to '18 there were many long-range guns in use, by both the Allied forces, and those of the Imperial German Government. For instance, there was "Big Bertha," a product of the Krupp Works. This gun dropped missiles from a distance of presumably, 75 miles.

That was several years ago. Now perhaps, a gun of much greater range could be constructed. That is, in terrestrial figures, a goodly number of miles, for the projection of a missile of great weight. But the occurrence which Wells relates is of much greater magnitude? The Martians "set off" a cylinder which traverses a distance of 35,000,000 miles! That statement taxes the credulity of the majority of people. But is it, after all impossible? I may be a fool for saying so, but I don't think it impossible.

It would be necessary for the Martians to harness an enormous power to accomplish this feat. That is without question.

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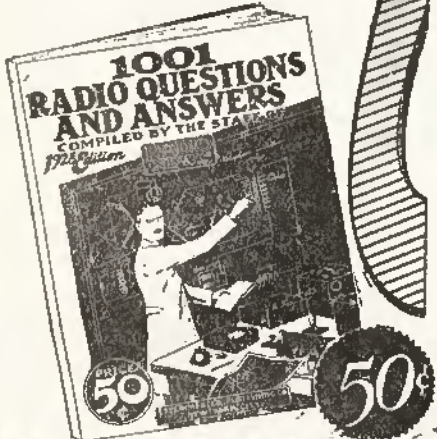
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The story did not interest me enough to finish it. Mr. Verrill is a splendid author, but that particular story did not help his reputation with me.

Don't change the covers of **AMAZING STORIES**, for they are a big help in locating them on the newsstands.

I give Mr. Paul the credit of knowing his rods, and levers, in the picture on the cover of the January issue. It is characteristic of his other work, which is more than satisfactory.

"Robur the Conqueror" by Jules Verne was a tribute to the selective staff of **AMAZING STORIES**. For really holding the interest of the reader that narrative was O. K. We can certainly afford more of Jules Verne!

I don't care for the scientific detective stories, which appear in **AMAZING STORIES** so frequently.

That type of story can be found behind the covers of a "dime novel," and has no place in **AMAZING STORIES**.

The "Hicks Series" is very entertaining and there should be either one of those, or some other equally good humorous story, in every other issue, of your magazine.

Interplanetary tales are my favorite, so don't cut down the number of them in **AMAZING STORIES**.

The best stories in the January issue of 1928 are "Robur the Conqueror" (Part II), "The Comet Doom" and "Rice's Ray."

David Ireland,
Louisville, Ky.

[We are glad, as a sort of relief, to find one more writer coming to the defense of Mr. Wells. This correspondent approves of the "War of the Worlds."

Scientific detective stories which don't meet with your approval are enjoyed by many readers. We certainly do not think that the scientific detective stories that we publish are at all outside the range of our work. Personally, we like the "Hicks" stories. We think they are extremely funny and exhibit what we may call "science run mad."—
EDITOR.]

TREASURES OF TANTALUS

Editor, **AMAZING STORIES**:

I am surprised that more readers didn't mention Mr. Smith's excellent "Treasures of Tantalus." In this story the fiction and scientific elements are beautifully balanced. It is a semi-detective story of a high order. The part where the professor sees a drama enacted on a distant star, thousands of years ago, is good science, but the way in which Mr. Smith balances this up with the rest of the story, is wonderful. We have several stories within custody, all combining to show the effect of money and power on the human mind. His story is a good study in science, fiction, intrigue, and psychology. Yet there is no crowding of details. The story did me good. I got some new ideas of the Universe from it, some new ideas of possible inventions, and I felt more forcibly than ever the words of Omar Khayyam:

The Worldly Hope men set their hearts upon
Tutus ashes—or it prospers; and anon,
Like snow upon the desert's dusty face,
Lighting a little hour or two—is gone.

Your magazine is the only popular one I read, and I wouldn't miss one issue if I could help it. Good luck.

Mr. Verrill's "Dr. Mentiroso" started something up. It strikes me that the story is a remarkably clear sugar-coated exposition of Einstein's theory. Let the readers think and grumble—it will do them good.

Alvin Moore,
1105 Miller St.,
Utica, N. Y.

[We can repeat about Dr. Mentiroso, or enlarge a little on what we have said before, that problems on the difference of time; while they are perfectly simple, do possess the peculiarity of confusing the mind. They have the economical feature involved in the navigation of ships across the ocean. The determination of the longitude of their position was one of the world's unsolved problems for centuries and the first solutions before days of radio were based on the difference of time, as shown by the chronometer invented for that, use for navigators. You will find elsewhere a letter bringing out this point as it impressed a traveler going to and from the Philippine Islands—in one case, stepping from Saturday to Monday and on the return having two days of the same name following each other—constituting, as it were, a forty-eight hour day. The determination of the longitude of their position for centuries was one of the world's unsolved problems and the first solutions before days of radio were based on the difference of time, as shown by the chronometer invented for that use by navigators. You will find elsewhere a letter bringing out this point as it impressed a traveler going to and from the Philippine Islands—in one case, stepping from Saturday to Monday and on the return having two days of the same name following each other—constituting, as it were, a forty-eight hour day.

One of our correspondents objects to detective stories, but here we have a writer who highly approves of the "Treasures of Tantalus." The story was not only a capital detective story, but brought out the limits of prediction by scientific reasoning. The psychologist made some very successful deductions from facts, but he certainly fell down in the solution of the problem which was before him.—
EDITOR.]

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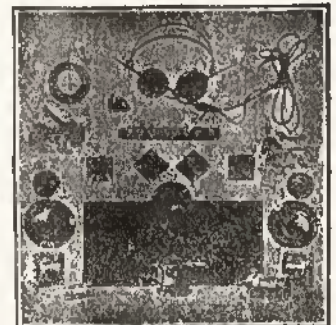


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SOCIAL EVOLUTION, WAKING AND SLEEPING

Interpenetration of the Ether

Editor, AMAZING STORIES:

Regarding the magazine, I have just one criticism to make. Nearly all Scientifiction writers apply the Law of Selfishness, the struggle for existence, and the survival of the fittest to the highest evolutionary types, when—as a matter of fact—it should only govern the lower kingdoms of Nature.

The Social qualities; unselfishness; co-operation, self-sacrifice and service are characteristic of the most highly evolved types, and that is mostly lost sight of by your writers.

In depicting future conditions on our planet, or older evolutions on other planets, scientifiction writers might well use some of the highest evolutionary ideals taught and exemplified by such flowers of our Humanity as Vyasa, Tahuti, Zoroaster, Orpheus, Buddha, Jesus, Sri Krishna, Confucius, Lao Tze, etc.

And I should like to see your writers attempt some scientific explanation of the difference between waking and sleeping consciousness. Why are food and rest not sufficient for the bodily functions? Why is the UNCONSCIOUSNESS of sleep necessary?

Also I should like to see more imaginative use made of the interpenetrating quality of matter in different states of density. We know that the ether interpenetrates all matter as we know it. Why should there not be states of matter just as well suitable for expression of consciousness as our own, but so much finer (let us call them X) than the ether that we might use this formula:

X : Ether : : Ether : Rock crystals.

X is in proportion to Ether as Ether is to Rock crystals)

Let us have more stories like Wells' *The Stolen Body*.

T. A. Nettland,
Oakland, Cal.

[We publish your letter, not as an easy one to answer, or comment on, but as one of great interest in itself. You ask most curious questions, which are anything but easy to answer and in many cases answers, as given, would probably be incorrect.

We wish we could believe that the social qualities you specify characterize the average types of humanity; we feel that they do not characterize even the highest.—EDITOR.]

THE PAST, PRESENT AND FUTURE. THE DURATION OF THE PRESENT

Editor, AMAZING STORIES:

I have been reading AMAZING STORIES from the very first issue and I want to say that I like it very much; of course, I, as all other humans, believe that I could choose better stories than you have in the past. (Here's hoping for the future.) But in the general run I am very much satisfied.

I especially like such stories as those that deal with space-traveling, because I believe that some time in the near future that is what we will be doing, and then there are the ones that give me plenty to think about, such as "The Chemical Magnet."

The Lying Phenomena Doctor just about made me dizzy, and so our commentators column has been made just that much more interesting.

These stories of the "past" always have held my attention, especially when you stop to think that our entire life is in the past, and not in the present or future. What I mean is this—the fastest thing of which we know is light, 186,000 miles per second—our sunlight is 8 1/4 minutes old when we get it, our radio delivers words and music a fraction of a second old. Other sounds do not reach us nor have we understood them until they are a fraction of a second old, as in the case of a steamboat on a lake, we see the steam coming from the whistle, and many times the steam has stopped before the first sound of that whistle has reached us. With our moving pictures, we see things that have happened, sometimes years ago, and so with the traveling into the past. It is quite obvious that were we to do that we could not be but spectators, and could not have a place in the drama enacted before us. You suggest, in a paragraph in your magazine that possibly some one from the future has returned and caused a person from the past to invent some article, (possibly by mental suggestion) but even that is quite out of my range of understanding, as much as that the emotional girl's cry to the heroine at the movies, does good, when the lion is about to pounce upon her.

The things of the past are past and cannot be changed.

Now with the future, if some one from our future were to return to us now, and exhibit himself, I should be very much disappointed with my Maker. Because that would show me that I was, according to destiny, pre-ordained to do just a certain thing and nothing else. If I knew that I were to become a great man—or a failure—regardless of what I tried to do (or did) I would lose all ambition and merely sit back and wait for what is going to happen.

But as it is I do not believe in a "Rut" that I must follow, so, my ambition is to do "Big" things and almost everything that I do is toward that end.

AMAZING STORIES gives very interesting material and if one wishes to think, quite educational. And I say Hooray for Paul. I am sure that I never would be able to conceive anything near what he has from some of the descriptions that he has to



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go by. He has a most difficult job and I think that none of his knockers could do any where near as well, even if they did have talent enough to draw a picture in the first place.

Mr. Editor, we can get Mr. Wells' and Mr. Verne's books at any book shop, but we cannot get the others that you publish except through you, so if you please, less of Wells and Verne, and more of Mr. Verrill and Mr. Flagg and the others of your authors.

Always an AMAZING STORIES reader.

Johnnie Walker,
 300 Pennsylvania Ave.
 San Francisco, Cal.

[Several interesting points are brought out by this writer, among others, a very curious one as to the duration of the present time. This duration is, of course, nil. The present time is the boundary of the past and the present and without any dimensions.

Our readers' conviction about Mr. Paul is that for the peculiar class of illustrations exacted by our stories, he is pre-eminently the man. He has received very warm appreciation from thousands and we are glad to see you join the list of his admirers. We could say more about this letter, but our correspondent puts the whole matter so well that the letter speaks for itself.—EDITOR.]

PRaise AND APPRECIATION WHICH WE HARDLY DESERVE

Editor, AMAZING STORIES:
 If I am not intruding, I should like to be permitted to say a few words of appreciation of AMAZING STORIES.

As I have never had the privilege of schools, colleges and other "seats" of learning, what little knowledge I may have, is entirely due to the magazine field.

After the days work is done and all nature settles down to rest, I take up my magazine, and am off into the wilds of the arctic regions; explore the jungles of South America; visit ancient temples of far away Tibet and yea even learn the mysteries of the great universe, so beautifully set forth by Henry Vaughn:

"I saw Eternity the other night
 Like a great ring of pure and endless light,
 All calm as it was bright
 And round beneath it, Time in hours, days and years,
 Driven by the spheres
 Like a vast shadow mov'd; in which the world
 And all her train were hurld."

I study physical, chemical and astronomical science. I feel so full of scientific knowledge, I even attempt to hobnob with the weighty thoughts of Henry Adams—and that's going some!

I do not say these things in any egotistical manner whatsoever. I am simply stating a fact.

The point, Mr. Editor, is: For the one high brow professor who takes seven pages to kick about the impossible imaginations of the scientific writer, and wakes up to find out that he doesn't even know his history, there are thousands of us ignorant fellows, who glory in the versatile imagination of your clever writers. They all are good. Every story contains something of value and is very highly entertaining. Let the professor read his technical library for his precise line of reasoning, I for one shout:

Long live the AMAZING STORIES
 George L. Reed,
 106 Mill Street,
 Reno, Nev.

[It is fair to say that a letter of appreciation is enjoyed by the editor who is doing his best to please a varied clientele of readers, some of whom desire one thing and others wish for another.

Our correspondent's letter, so well put, goes to show how much can be done by one who has never had the advantages of a college training, and we certainly take great pleasure in giving it a place in our Discussions Column.—EDITOR.]

A CONFIRMED READER OF PERIODICALS

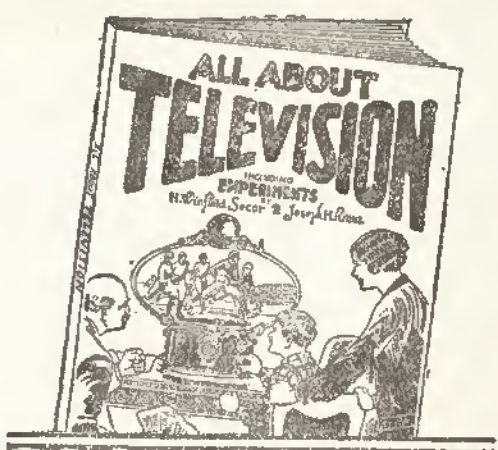
Editor, AMAZING STORIES:
 I merely wish to edge in and advise that I am one of your readers. AMAZING STORIES caught my eye on the newsstand, and always on the still-hunt for good reading, and with a hope for the best, I bought it. I am satisfied, with perhaps a few minor exceptions. H. G. Wells does not match up to my ideas of a story writer, but, then, he has his style, and I can either read him or pass him up.

Believe it or not, I subscribe to fifteen magazines, four daily papers and three on Sunday, and I can frankly say as to magazines, AMAZING STORIES can and does hold my attention.

The type of stories in your magazine would certainly call for more illustrations. When one reads such writings with the imagination working overtime, it would be much better to have illustrations of the subjects. A semi-monthly would appeal to me. Here's hoping your supply of material will not run out.

Ralph L. Myers,
 65 Broad Street,
 Bridgeton, N. J.

[A criticism is valuable in proportion to standards of comparison. And certainly this reader of fifteen magazines and of a number of daily papers, has a formidable list with which to compare our humble efforts. We are very proud to see how we come out in the comparison. So favorable a letter makes us feel like searching our files for what is technically called a brick-bat, so as to print it directly following.—EDITOR.]



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Ladies! \$36.00 weekly spare-time "pick up" money! Just show your friends 934 beautiful Priscilla Fabrics and Guaranteed Hosiery. Write A. Fitzcharles, Drygoods, Trenton, N. J.

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PERHAPS A BASIS FOR A NEW SCIENCE CLUB

Editor, AMAZING STORIES:

Your magazine has been a regular visitor at my home since the first copy and will say it is O. K. in most ways, that is, as I see it. Of course, every story won't suit every one, but most of them suit me. Interplanetary stories are my favorites. "Around the Universe," by Ray Cummings was fair—among several mistakes in his science, I have picked out one in particular to bring to your attention. As the space fliers are traveling through space at a speed of 740 million miles per second, after having passed *Alpha Centauri*, the twin stars, a speed that carried them in two minutes as far as light could travel in a year—so far so good. Next, the story says that they could see stars, etc., after they had passed them. How could the light wave "catch up" with them if they were going so much faster than it was, but plain "horse sense" would show that objects back of the flyer would be invisible. Am I right?

Now to get down to the real object of this letter, the Science Club. I once organized such a club, back in 1914, we had an experimental laboratory and did some really wonderful things—for boys in high school. One thing we did that I remember well—we made a broadcasting station, or rather two of them and two receivers. We actually transmitted conversation and music over these crude transmitters without the use of vacuum tubes. The average person knew nothing of such things in those days. I could name a good list of original apparatus that we experimented with and constructed, but that would be exposing the secrets in our archives. One only I will mention, but with no details, an electric gun that was a real success, turned over to the government when war broke out. The club is still active, but not like what it once was. Several of the members are in different parts of the U. S., so we are somewhat short of members, and the meetings are not regular anymore. I sold the garage I once owned in Adrian and am now in the small country town of Seneca. I have a machine shop here, mostly experimental work for myself and the club, garage in connection. I build the D-X-ola radio, the simplest yet, and the longest range, only two moving parts, variable condenser, and potentiometer, brings in any station on this continent with loud speaker volume. On the low wave model I have picked up European stations almost any time, also with loud speaker volume, (only four tubes.)

But to get back to the club—I can't tell you much about it without permission, which I might be able to get at the next meeting. It is known as the A. O. O. S. (American Order of Science.) It is a secret order, has a constitution, set of by-laws, a binding oath, secret code for writing formulae, pass words and signs. A member desiring a patent may get the same through the club attorney at much reduced rates. Any member having an idea that he wishes developed brings it before the Official Board and if it has merit the club will develop it for him at a very small charge. A good share of the developing is done in my shop but not all of it however, as some of the other members are equipped to take care of such work.

My idea is to enlarge the club, local laboratories in other parts of the U. S. I shall introduce the idea at the next meeting and if it carries we will be in a position to furnish constitution, oath and bylaws and other information to any responsible person wishing to organize a "laboratory." These various local "chapters" could have a number (ours—the parent laboratory—is of course No. 1.) Delegates could be sent to national or state meetings, a national experimental laboratory could be maintained easily from monthly dues from the members. This laboratory could do big things, and have a staff composed of the most capable scientists in the country. They would have the finance and the equipment to do anything they desired.

The amateurs of radio of the short wave band would nearly all be eligible to membership and would be in a position to link all local laboratories with the national in a few moments' time. The order could maintain a national legal department for the purpose of protecting the patent rights of the members, a member becoming involved in a suit over such rights would have the funds of the order back of him as well as the best legal advice to be had anywhere. I think I have written enough (perhaps you can hardly read it anyway—I can't when it gets cold.) Let me know what you think of it, and if you have the space you might print this as I would like to get in touch with others who have the same ideas. Yours for the furtherance of Science,

George A. Wines,
P. O. Box 73, Seneca, Mich.

[This letter is so full that we hardly need comment on it. There is however, one thing we would like very much to say, and it is that we think the exclusive and secret nature of your society in a sense is objectionable. Personally, we advocate an open mind, and an open association, as we believe the secrecy tends to impair advance. One of the great early scientists was addicted to keeping his work secret, and this has even been commented on to the extent of pronouncing him a sort of science criminal. As far as possible, we think that what we know should be disclosed wherever it will benefit humanity.—EDITOR.]

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A LIST OF SUGGESTIONS FOR US TO SELECT FROM

Editor, AMAZING STORIES:
I have just finished the January issue of AMAZING STORIES and here is my vote on stories, et cetera.

The best story is the "Comet Doom," by Edmond Hamilton. I have read many of his stories in *World Tales* and if AMAZING STORIES gets stories like those I have read by him, it's getting something. I hope that Edmond Hamilton continues to write for AMAZING STORIES.

"Rice's Ray" by Harry Martin is the next best. I welcomed it because you haven't had stories of space and planets lately, especially Venus. I hope that you will ask Harry Martin to write a story about adventures of the three friends on Mars. Or maybe he would write a story on each planet in the Universe. I don't think that you have enough stories about space, planets and stars, especially serials.

I don't usually like scientific mysteries but I couldn't help liking "The Psychological Solution." Look whom it's by.

If "Baron Muenchhausen's Scientific Adventures" are anything like "Hicks' Adventures with a Kick," I know they will be good.

What happened to A. Merritt, Garrett P. Serviss, Murray Leinster, Edgar Rice Burroughs, Ray Cummings, Garret Smith, et cetera? I'm missing them. I hope that you have serials by these authors soon. Do I have to keep on hoping?

When are you going to start your three-part serials again? Maybe you can put more serials in by having two parts but if you run three-part serials and have a new one begin the same month that the old one ended, you can have the same amount.

When are you going to have sequels to "The Tide Projectile Transportation Co." by Will H. Gray and "The Face in the Abyss" by A. Merritt?

If you put AMAZING STORIES ANNUAL out in March you can call it an Anniversary number too. I hope that you have a novel, novelette, and short stories like last time but all new stories. Can you get the sequel to "The Face in the Abyss," by that time?

Why doesn't the Experimenters Publishing Co. put some of its best liked stories from AMAZING STORIES and SCIENCE AND INVENTION in book form? Do you think it can do it?

Why don't you keep the paper that was in the May 1927 issue of AMAZING STORIES? It's the best paper you've had yet. Or better yet, use the kind of paper that is in *Popular Science*.

I hope that you start having more full page pictures soon.

The above is yours for AMAZING STORIES
Jack Darrow
3244 Belleplaine Ave.,
Chicago, Ill.

[Our correspondent is certainly fertile in suggestions, but if he will reflect, he will realize that the carrying out of many of his suggestions would be exactly what our readers do not want.

The asking for a sequel to a story is certainly one of the best appreciations it can obtain, and that has been done in numerous cases, just as you have done here. So, even as we have been editing such letters as yours, it makes us feel that we have not done badly.—EDITOR.]

A STORY IN THE AMAZING STORIES ANNUAL

Editor, AMAZING STORIES:
I want to tell you of the strange effect the story of the "Face in the Abyss" had on me. This is also answering your request asking what we think about it.

The story at the first reading was not very interesting to me; but the final roundup was so strange in comparison to the other stories that at each succeeding reading it seemed to me the characters in the story actually lived and that I was a member of the part, a silent witness, watching all these happenings.

The girl Suarri, and her affection for Graydon are very cleverly introduced and woven into the story, and the winged serpents visible only in the one certain light is so intricately interlaced and described that I had a feeling as if I wanted to be there in person myself.

And when Graydon and his companions were shown "The Face" and Graydon was the only one able to withstand the "Call" to come on over, even though it was with help of the Snake Mother, his subsequent exile to the border of this strange and "old to move on" and his return and attack, sickness—return to civilization and final return to Ya-Atlanchi, are incidents that to me seem to be a chapter torn from some history of long ago and appear to be very much closer to my ego than just a soulless story in a magazine.

I hope I have conveyed my meaning to you in the right light, and I am eagerly awaiting the sequel to this first installment.

H. Potter,
216 So. Central, Los Angeles, Calif.

[Our correspondent certainly is a very good critic, and it is quite interesting to see how, on reading over a story a second or third time, it is improved, and improvement on acquaintance is the best possible tribute you could give.—EDITOR.]

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This column will appear monthly in AMAZING STORIES

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