October

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AMAZING STORIES

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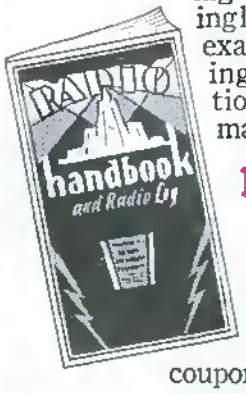

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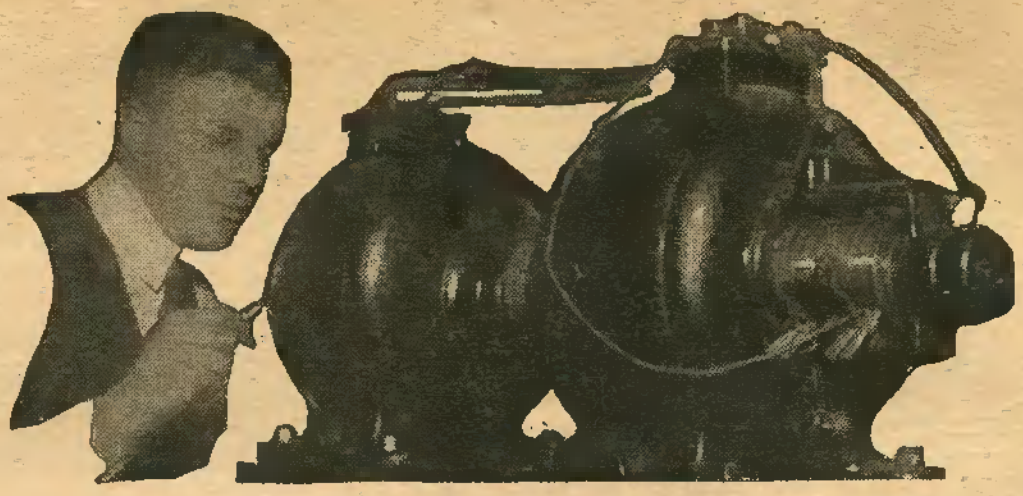

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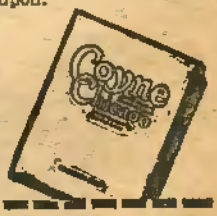

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JULES VERNE'S TOMBSTONE AT AMIENS PORTRAYING HIS IMMORTALITY

AMAZING STORIES

October, 1929
Vol. 4, No. 7

In Our Next Issue:

MICROCOSMIC BUCCANEERS, by Harl Vincent. This well known author avails himself of the conception of planetary atoms—or worlds within worlds—to build a story of unusual scientific interest. Not only is the theory of the atomic universe considered in a most plausible manner, but even the fourth dimension seems to become a practical idea.

THE UNDERSEA TUBE, by L. Taylor Hansen. As far back as the '60's Mr. Beach, who was then editor of the *Scientific American,* conceived the idea of a subway tube, cylindrical in cross-section, in which cars were to be driven by air pressure applied directly in the tube behind them. That such an idea might eventually become a practical solution of the problem of sub-ocean travel, is not at all beyond the pale of possibility. Mr. Hansen, who is now known to our readers, gives us a fascinating story of scientific interest and speculation.

COLD LIGHT, by William Lemkin, Ph.D. There is hardly anything nowadays that is not done electrically; electricity has become an undisputed power in our lives. But suppose some chemist should work out the formula by which light could be obtained without electricity—a light in fact, far superior to electric light? Perhaps because Dr. Lemkin is interested in the subject himself, his story contains a good deal of excellent chemistry that is essentially founded on good scientific experiment.

THE MOON WOMAN, by Minna Irving. This is a unique story of suspended animation and possible future developments on our planet, with a surprise ending.

THE SECRET KINGDOM, by Allen S. and Otis Adelbert Kline. (A Serial in three parts.) Part II. In this instalment we learn more of the customs of the hidden race of Incas and of some of their scientific progress. It easily maintains the pace set by the first instalment.

And other stories.

In Our October Issue:

Our Cover

this month depicts a scene from the story entitled, "The Steam God," by Walter Kateley, in which the lost aviator is shown the land whales which inhabit the hidden valley of steam—an inexplicable phenomenon in the land of snow and ice.

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VOLUME 4

AMAZING STORIES

THE MAGAZINE OF SCIENTIFICTION

OCTOBER, 1929
No. 7

ARTHUR H. LYNCH, *Editorial Director*

T. O'CONOR SLOANE, Ph.D., *Associate Editor*

MIRIAM BOURNE, *Associate Editor*

C. A. BRANDT, *Literary Editor*

Editorial and General Offices: 381 Fourth Avenue, New York, N. Y.

Extravagant Fiction Today - - - - - - - - - Cold Fact Tomorrow

Travel in City Streets

By T. O'Conor Sloane, Ph.D.

THE present era has been characterized by several movements in the direction of travel over the face of the earth. We may even go back to the last century, to the days of bad roads when McAdam started the making of improved roads and was opposed among others by William Cobbett on the short-sighted idea that good roads were for the use of the rich. Here was a note of opposition to advance in transportation. Now we come to railroads. These were vigorously opposed. It is said that one of the early pioneers was asked what would happen if a cow got on the track, and his eminently lucid reply was that it would be bad for the cow. Still improved roads came in; railroads came in; and the two advanced more and more from year to year, until they attained their present enormous development.

These two cases are cited to show the early resistance to any change for the better in personal transportation. Then came the bicycle—the poor man's horse—which enabled anybody in reasonably good training to cover ground for a long-distance run better than the best horse could do. This was greatly opposed, and the early bicyclist was subjected to ridicule, and sometimes objurgation. So here was more opposition to what was an enormous advance. A rapid walk of four miles or perhaps five miles an hour yielded to the bicyclist's progress of ten or more miles per hour for all-day travel.

Meanwhile, the internal combustion engine was slowly developing and at last was brought to a sufficient approach to perfection to be used on a vehicle, and the automobile came into the field. This excited the community considerably and most vigorous opposition was expressed to it. Of course the great objection was to its high speed, and in the early days thirty miles an hour was a good rate for an automobile to attain, and laws were passed limiting the speed. In England, where steam-propelled vehicles had long been used on roads and are still used there, the law was enforced which required a man to go ahead of them carrying a red flag, which limited the speed of course to three or four miles an hour at the most. But the English Parliament had the good sense to realize what the automobile was, and abolished the law in very short order.

After many experiments we have got to the era of concrete roads. These are very expensive and are made specifically for automobiles. They have given an impulse to speed and today the same objection to high speed that has held since the first automobile still obtains. There are many places where a speed of sixty or seventy miles an hour would do no harm to anybody, but this to our astute legislators seems to be a sort of crime in itself. But there is a gradual change apparent—so much so that on some roads a high speed is required by the police and low speed is not allowed. But in the cities, where there are so many cross-streets, traffic has to be interrupted, with the result that the automobile is deprived of its normal speed and sometimes it takes absurdly long to traverse a few blocks on a street or avenue.

Among the last improvements in automobiles are the improved brake system and the power of quick acceleration of speed. These two features of the modern car would justify much higher speed in cities, and Chicago has found this out. On Michigan Boulevard cars run at a very high rate of speed. The brakes are so powerful that they can stop in a very short distance when the stop signal to open the cross-streets appears. The instant the signal changes to "move on," the rapid acceleration characterizing the modern car enables them to drive ahead and attain high speed in an extremely short distance.

This system is based upon and is only practicable because of the improvements in the modern car. If the time made in cities, where there are full traffic signals and where only low speed is allowed, is observed, it will be found that it is astonishingly slow. The traveler is in a vehicle capable of fifty or more miles an hour, and sometimes the speed will be little better than that of a fast walker. The developments of the last thirty years are nullified—it is as if we had gone back to the horse-drawn vehicle.

But without going so far back, few realize that the car of the present time is a far different affair than its predecessors. If it is going at a high speed, the perfect four-wheel brakes will bring it to a stop in an astonishingly short time. This they can do without injury to the tires, because the wheels continue to run, and progress is stopped by friction in the brakes and not by friction of tire on concrete alone. A sudden stop in old times often meant the stopping a wheel from turning—the car slid along on its rubber tire and a single stop of that character did more harm to the tire than many miles of running would produce.

The problem of the pedestrian in the modern city is a difficult one to solve. He has the first right to cross a street, and as his is not a case of might makes right, he is rather overlooked by some authorities. A bridge or tunnel would save him from being run down by the automobiles.

But more than this is needed. Tunnels or bridges for the vehicular traffic at crowded intersections are needed, and like other things, will come. In old days a city was four stories high. Now it is forty stories high in places. This increases the traffic and the increase operates to delay progress through the streets both for pedestrians and vehicles of all kinds. High speed with modern brakes and modern rate of acceleration might be made to give temporary relief, but high speed traffic lanes on either elevated or submerged roadways are a thought for the future and a necessity for the present.

¶ *Gigantic sea monsters from the unfathomed depths of the ocean came to the surface*

By A. Hyatt Verrill

DEATH from the SKIES

Author of: "The Astounding Discoveries of Dr. Mentiroso," "Into the Green Prism," etc.

A Complete Interplanetary Novelette

Illustrated by Bob Dean

FALLING meteorites are nothing new. Even heavy showers of these falling things from the skies occur at certain stages of cosmic periodicity and can even be predicted approximately. But in the story the continuous falling of meteorites in concentrated sections of the world for definite periods and the attendant destruction of life and property puzzle scientist and layman alike. Even if the world were passing through a zone of aerolites of unprecedented density, how explain the attendant amazing phenomena? Mr. Verrill is an archeologist and ethnologist of note. In this story he digresses somewhat from his usual subjects, but with such gratifying results that we rather feel we ought to encourage him to do so again. We are sure you will agree that "Death from the Skies" is an interplanetary story of the first water.

PROLOGUE

A SHORT time ago I was one of the guests at a dinner given by one of my London publishers in honor of my seventieth birthday. It was an excellent dinner served in the excellent English way, and over the cigars and Old Tawny, with the cheerful open fire casting a ruddy light upon the deeply-cushioned chairs and high-ceilinged room in the Carlton Club, we became reminiscent. The conversation turned to anecdotes of famous men we had known.

"Let's see," remarked Gilmore of the Illustrated London News. "If I am not mistaken, you were well acquainted with Sir Paul Henderson, were you not?"

I nodded. "Yes, I was a very close friend—in fact, probably his closest friend. Why do you ask?"

"Because," he replied, "the fifteenth of next month is the anniversary of his death. We British revere him as the greatest of Americans. It occurred to me that, as the only man living who *did* know him personally, you might be willing to contribute an article to the 'News'—something with some personal anecdotes, you know."

"I'd be glad to," I assured him, "but I doubt if I can write very much that is not already well known."

He smiled. "It's amazing," he said thoughtfully, "how soon a great man's personality, the details of the most important events, are forgotten. The man's deeds may live after him, the aftermath of the events may remain, but the details, the human side, the actualities, soon pass into oblivion. I'll wager ten bob to half a crown that not five out of the eleven men here have any clear, definite knowledge of Sir Paul's life and those critical years of 1932 to 1934."

"Nonsense!" I exclaimed. "Why, that was barely forty years ago. I remember every detail as clearly as though it were last month. I'll take that bet, Gilmore, if you'll make it five quid."

"Righto!" he laughed. "It's a sure bet."

He won. But I should have known it.

Forty years back doesn't seem long to one who has passed the seventieth milestone, but it seems ancient history to a man of fifty, and I doubt if any of the five had reached even that age. For that matter, Gilmore safely could have offered odds and included eight out of the eleven present. Only he, Fawcett and myself had more than a very sketchy and cursory knowledge of those terrible two years, or of the man who, as Gilmore had said, should rightfully be considered the greatest of all Americans.

In fact, my experience that evening aroused my interest, and I began to make some enquiries and investigations among some others whom I knew. The results were truly surprising. I found that very few persons knew any of the details or inside facts of the greatest crisis through which the civilized world has ever passed.

So, having supplied Gilmore with the article he solicited, I have put myself to the task—a very pleasant and easy one—of relating the true and complete story of Henderson and the Death From the Skies.

CHAPTER I

The Beginning

I WAS in Chile when the first meteor fell. I remember it most vividly. I was seated in front of my field tent in the Atacama desert, where I was engaged in making excavations in a prehistoric burial mound. It was a few moments after midday, the sun blazed down from a cloudless sky, the vast desert scintillated, glared. Suddenly I was almost blinded by an intense green flash—a burst of light that I can compare only to that of a magnesium flash multiplied millions of times, a light so intense that the sunshine of an instant before seemed twilight by comparison. The desert turned a sickly ghastly green, the blue sky appeared pale yellow, I caught a momentary glimpse of the sun, like a dull purple ball in the heavens, and then came a shattering, deafening explosion. The concussion shook the earth, the chair upon which I sat rocked and pitched as if on the deck of a ship in a heavy sea; a puff, a rush of incredibly hot air, swept like a miniature tornado across the desert, my tent swayed, strained and was ripped. Then silence, calm, the brilliant sunshine once more. Startled as I was, with my peons rushing madly from their quarters, screaming and praying, declaring the world was coming to an end, I realized instantly what had happened. Somewhere, not far distant, a gigantic meteor had struck. Falling aerolites were common enough in the desert of Atacama—though no one has ever been able to explain why they fall more frequently there than elsewhere; they lie scattered by hundreds upon the sand, and hardly a month had passed during my stay there but a descending meteor struck the earth. Indeed, they were so abundant, their peculiarities were so well known, that the Atacama meteorites had practically no scientific value. All I had ever seen were small—the largest weighing only a few pounds. But this last meteor must have been enormous.

I could hardly guess how close to my camp it had fallen, but from the brilliancy of its light, from the rush of air following its passage, from the concussion of its explosion, I judged it must be very near. I was, of course, curious to have a look at the thing.

Having at last calmed my men, I interrogated them, asking if any had seen it strike, if any had noted the direction in which it fell. Most of them had been far too terrified to take note of anything, but two of the more intelligent declared they had been facing the southeast, and had seen "the whole desert blaze into fire," as they put it, an instant before the report thundered in their ears. I determined to ride over and examine it in the cool of the late afternoon and, if it proved to be as large as I imagined, to radio to my friend, Professor Bixby, who was then in Santiago. He was, as everyone knows, one of the world's most eminent mineralogists and had specialized in meteorites.

But I had no need to send the message. Half an hour after the phenomenon had occurred, Professor Bixby was sending me a message. Brilliant light from a meteor had been seen in Santiago, had been reported from Antofagasta, Tucuman, Iquique, Oruro and other points. Comparison of observations indicated that it had struck the earth somewhere in the Atacama Desert. Could I give definite information?

I could and did, adding that I had intended to have a look at it that same day. But, as so often happens, plans go astray. That afternoon we uncovered a cluster of remarkable graves. I was fully occupied until dark, examining and carefully removing the contents of the tombs and the mummies, and the next day found me still busy with the find which, to me, was far more interesting and important than all the meteorites that had ever fallen. And, on the second day, another visitor dropped unexpectedly from the skies. This time it was a big military bombing plane, and from it stepped Professor Bixby and three assistants. He had lost no time in reaching the scene; he had come prepared to make an exhaustive investigation and study of the largest aerolite that had struck the earth in many years—centuries probably. He had already located it—from the plane—but explained that owing to the broken character of the surrounding desert—the meteorite had fallen about forty miles from my camp—a landing in its vicinity was impossible. Hence he had come to me as the nearest inhabitant of the desert. Of course I welcomed him, offered him the limited hospitality and resources of my camp as long as he wished to remain, and assured him he was welcome to the use of spare horses and pack-mules, for transporting himself and his equipment to the meteorite, where he planned to remain for some time.

The plane, having disgorged its cargo, taxied across the desert sands, rose slowly and regretfully, like a vulture disturbed at a meal, circled and roared off towards Santiago. The next day Professor Bixby and his men and three of my peons took their departure, headed for the southeast.

I gave little thought to the Professor in the days that followed, but when a fortnight had passed and I had heard nothing from him, I began to feel troubled. He had carried water and provisions for ten days and had arranged to send back a peon for additional supplies before his stock was exhausted. But two weeks had gone and no peon had shown up. Very likely, I thought—laughing at my own fears—the supplies had lasted longer than he had expected; he had probably found that he would be through with his work in a few days, and he had decided he would not require more supplies for the short time remaining before he returned to join me. Yet I could not help worrying. Bixby, I knew, was no amateur at desert work. He had made expeditions into the Gobi, the Sahara, the Arabian and our own western deserts. He was an old hand at field work, and

yet—well, when eighteen days had gone by, I decided something *must* have gone wrong, and I forthwith set out to find him. Not until we had ridden for miles did I realize what little chance there was. I had neglected to secure accurate details, and the exact bearings of the meteorite. The desert was vast; it was seamed with gullies, broken by ridges, and nowhere was it possible to see more than a short distance in any direction. And during the two weeks and more that had passed, the drifting sand had completely obliterated any trail that might have led us to Professor Bixby's camp. Baffled, I returned to my camp and at once sent a radio message to Santiago, reporting conditions and asking that a plane be sent in search of the Professor and his party.

The response was prompt. Soon after daybreak, the big bomber swept down as before. Anxious and troubled, I climbed in; a moment later we were off and rushing into the sunrise. It was the same pilot who had accompanied Professor Bixby before, and he knew very nearly where the meteorite lay.

He had no difficulty in locating it, but there was no sign of life, no moving figures in the vicinity. What had happened? Dropping down, he circled over the spot as low as he dared. I stared, could scarcely believe my eyes. My worst fears were realized. Stretched upon the sand, scarcely distinguishable from the rocks and surroundings, as we circled over them, were the motionless bodies of men, horses and mules! It was horrible, ghastly. As if in a dream, a nightmare, I counted them; three, five, six, seven men dead—corpses under the blazing sun! I was glad we could not land. I shuddered to think of what we would find—of the horrors that would greet us now that the vultures had finished, for the loathsome black birds, like specks of coal upon the brown sand, were motionless, apparently gorged to repletion. Strange, I thought, that they did not move, did not flap their broad wings, showed no fright at our roaring motors and passing shadow! And then I gasped. Seizing the powerful glasses beside me, I focused them on the ghastly scene below. I was right. The vultures, too, were dead! There was not a living thing upon the desert beneath us! What did it mean? What had destroyed those ominous black birds? I was filled with a vague dread, a horror of the place, and I was more than ever thankful that it was impossible for us to land.

There seemed to be nothing that we could do except return to camp, travel across the desert and bury the bodies. But all other thoughts were temporarily driven from my mind by the news that awaited me at my camp. From various quarters of the world word had been flashed about the falling of huge meteors. Several had dropped in Brazil, others had struck upon the Argentine Pampas, one or two had been seen in our own Southwest. Terrified Bedouins had brought reports of blazing stars falling in the wastes of the Sahara; from far-off Greenland a wireless message had flashed news of a blinding flash, a terrific concussion in the bleak Arctic, and several vessels had radioed stories of witnessing the passage of huge meteors that seemed to drop into the sea.

Intently I perused the bundle of papers that had arrived with my mail from the mining camp at Chuquicamata, during my absence. I studied the dates of the falling stars. They had not come all together. Several days—a week in fact—had elapsed between the time the meteorite fell so unpleasantly close to my camp and that which struck the earth somewhere in Arizona. The others had come, sometimes two or three on one day, at other times at intervals of several days. Evidently the earth was passing through an area of meteorites, but unlike such showers in the past, all these appeared to be of unusual size, and their appearance had not been forecast by astronomers. The papers were filled with fanciful conjectures as to what might happen if one of the huge masses should fall in a large city or in a crowd. Imagine the loss of life, wrote some scare-head reporter, if such a mass of white-hot metal, projected with greater force than if hurled from any cannon, should strike a huge ocean liner. Imagine the death and destruction it would cause should it sweep down upon Times Square, Piccadilly Circus, the Place de l'Opera or any other crowded section of a great capital. But no casualty *had* resulted. It was merely a remarkable, an unprecedented phenomenon and, scarcely glancing at the matter-of-fact statements regarding scientific expeditions that were preparing to investigate and study the celestial visitors—for it appeared all had fortunately struck in remote uninhabited districts—I tossed aside the papers and got busy with my neglected work, mentally deciding to set out with my men to inter the bodies of Professor Bixby and his companions the next day. First, however, I wrote a report of the tragedy, addressed it to the American Minister at Santiago, and handing it to the waiting pilot, bade him farewell.

Scarcely had he vanished to the south when I received a radio message. It was from Griffin of the "West Coast Herald," at Antofagasta, asking information of Bixby, and imparting more news. "Understand Bixby investigating meteor Atacama Desert," it ran. "Can you radio summary results? Report from Kenya, Cape to Cairo express struck by meteor completely destroyed. Incoming vessels report thousands fish and whales dead, supposed due to meteors. No word received any other scientists."

The matter was getting serious. A meteorite *had* by chance struck where it had taken a toll of human lives. I radioed back: "Bixby and companions dead. Probably thirst. Recovering bodies tomorrow. Seen only from plane."

Yet, as I sat pondering on the matter, I could not understand how it was possible that the Professor and his men had all died of thirst. Why hadn't he sent to me for water and supplies? He must have realized that he was getting short. And even if, by some accident, the last of the water had been lost, he could have reached my camp. A day's riding would have done it, and he had horses and mules. The more I thought of it the more puzzled I became. Death by thirst doesn't come suddenly, doesn't strike down seven men at one time. And the horses and mules? They would have found their way to water or to my camp. The first vague, unreasonable dread that had possessed me in the circling plane returned to me. The dead men, the dead animals, the dead vultures! It was as if they had been struck down, suddenly destroyed by some malignant, invisible thing. What could it have been? Could it have had any connection with the meteor? Of course not, I decided. How could an aerolite affect men, at least after it had struck the earth and had cooled? Impossible! Tomorrow—I was interrupted by another message. This time it was from Santiago, from the Ameri-

can Embassy: "Report received. Regret learn fate of Bixby. Advise when bodies recovered."

Nothing startling in that at any rate. But as I continued with my excavations, I began to have a most unaccountable distaste for visiting the vicinity of the meteorite and recovering the bodies. There was no reason for my feelings, no sense in them. I was not squeamish, not sentimental, not afraid, not superstitious regarding human cadavers. I, an ethnologist, had violated far too many graves, had disinterred far too many dead, had handled far too many bodies in all stages of preservation to have any squeamish ideas left regarding them. To me a corpse was no more than so much animal matter devoid of life—usually a specimen.

But that does not mean that I had no sentiment for Professor Bixby's remains, that I was callous. Although, as far as I was concerned, my own body—once life had left it—might remain to wither and dry upon a desert, or might sink to the depths of the sea, yet I realized and appreciated the fact that other persons did not feel the same; that Professor Bixby's friends and relatives would no doubt feel easier if his remains were, to use the accepted term, given Christian burial, and that it was my duty, as the only white man near, to attend to the matter. Still, for some inexplicable reason, I tried to find an excuse for not doing so. It was a long, hard journey. I had a great deal to do. The bodies were safe there, why should I be in a hurry to attend to them? I would put the disagreeable duty off for a day or two. That night the second meteorite fell. I was awakened from a sound sleep by the fearful green glare; the ground seemed to spring up beneath my cot with the concussion of the explosion; I was thrown to the earth, and half-stunned, I heard the terrified shouts, yells and prayers of my men. Where the thing struck I never knew, but that it was either nearer than the first, or was far larger, was obvious. I admit I was frightened. There was no more sleep for anyone that night, and at daybreak my peons delivered their ultimatum. The place was cursed, they declared. I had brought down the vengeance of the gods by digging up the dead; they were leaving the unholy spot right away. I cannot say I blamed them, even though it meant the end of my work, the practical failure of my expedition. And I could not remain there alone even if I had wanted to do so. There was nothing for me to do, but to pack up and go. The men would not even wait to attend to the burial of Professor Bixby and his dead comrades, and by mid-afternoon our pack-train was winding its way across the desert towards Itchicama, the nearest railway station to the north.

CHAPTER II

One Chance in Millions

I FIRST learned of the developments that were taking place when, arriving at Antofagasta, I strolled into the Anglo-American Club and glanced over the files of newspapers. Everyone bore screaming headlines regarding the barrage of meteors that was now exciting the entire world. Naturally, having been literally driven from my cherished work by a meteorite, I was intensely interested, but if I was to obtain any connected idea of what was taking and had taken place, it was essential that I begin at the beginning, or at least with what followed the news I had already seen. Presently I found it in the West Coast Herald of the 20th. "PROMINENT SCIENTIST SACRIFICES LIFE TO FIRST METEOR," I read. I glanced rapidly down the page. First there was my radio message to Griffin. I read on:

"The above message from Dr. Merritt, engaged in archeological work in the Atacama desert, is the first definite news received of Professor Bixby and his assistants who left Santiago nearly three weeks ago with the purpose of investigating the first of the giant meteors that fell. It will be remembered that Dr. Merritt first reported this meteor, when he sent a radio message to Professor Bixby. Although the message quoted above implies that the scientist and his companions succumbed to thirst, it appears highly improbable to us. The party was within a day's ride of Dr. Merritt's camp, where abundant supplies were available, and it seems incredible that an entire party of seven men should have died for want of water under the circumstances. It seems far more reasonable to suppose that the unfortunate men were killed by bandits, who, having seen the meteor fall, hurried to it with the expectation of finding treasure, and finding Professor Bixby's party on the scene, murdered the men for the purpose of robbery. It is a common belief among the natives that meteorites frequently contain gold and diamonds, a belief due probably to the fact that, in former years, large sums were paid for meteorites by scientists and museums. Nothing can be definitely determined, however, until the bodies are recovered, for Dr. Merritt's discovery of the fate of the unfortunate men was made from an airplane, which, owing to the terrain, was unable to effect a landing in the vicinity.

"Reports of other meteorites having fallen in various parts of the world are still being received. Up to the present time, however, the only direct loss of life or property reported is that of the Cape to Cairo express near Kenya, a report as yet unconfirmed.

"The unprecedented fall of many meteorites of unusual size has created a widespread interest, especially among scientists. No reports have yet been received from the several expeditions that have set out to investigate these strange celestial visitors."

I picked up the *Commercio* of the 21st. "METEOR CAUSES LOSS OF 300 LIVES NEAR KENYA," I read, in heavy black type across the top of the front page. Then, in smaller type: "Reports of Destruction of Life by Meteor on Cape to Cairo Express Confirmed. Astounding Story Comes From Africa."

And astounding it was. According to the official reports, the train had not been destroyed by a meteorite as first reported. A rescue and relief train sent out from Kenya had found the express derailed and partly wrecked where it had taken a sharp curve at terrific speed. There was no trace of a meteorite having struck it nor of an aerolite in the vicinity. But *every soul on the train, including the engineer and fireman, had been killed.* Strangest of all was the fact that few of the dead showed signs of having been injured when the train left the rails, and these, the surgeons declared, had been dead when the injuries were received. The only plausible theory was that the meteor had struck near the train and that the shock, or the blast of heated air, or possibly gases from the molten mass, had asphyxiated the occupants of the train which had continued to speed on until it left the rails. The story con-

cluded with a report from Lima that pilots of the Peruvian Airways Company arriving from Iquitos, had, while flying over the vast Amazonian forest, noticed extensive areas of dead and leveled trees, and that good-sized Indian villages in the vicinity had appeared deserted. It was assumed that these circular areas of destroyed jungle marked the descent of several huge meteorites that had been reported from various points in Peru, Brazil and Ecuador.

Evidently no new meteors had been seen for the next few days, for the papers reported none. Instead, they devoted their columns to speculations and the theories and the opinions of eminent scientists and astronomers on the subject. For once there appeared to be little dissent among scientific men. All agreed that the immense size of the meteorites was unprecedented, but declared that otherwise the shower had not been unusual or remarkable. They pointed out that meteorites fell almost nightly, that many reached the earth each year, and that many meteoric showers of much longer duration and of many more aerolites had repeatedly been witnessed and recorded in the past. Had the recent meteorites been of usual size the shower would have caused no comment. Scientifically it was extremely interesting and very fortunate, for there would now be an adequate supply of meteoric material to enable a complete and exhaustive analysis and examination to be made. New elements and minerals might be discovered; the results might throw a new light upon the composition of the planets, stars and comets. Indeed, the total mass of meteoric material might be sufficient to be of commercial value. Whether they were stony or metallic could not be stated as none of the expeditions had yet reported their findings. And they unanimously agreed that the danger to human life or to property—even if the fall continued—was almost negligible. They pointed out that all the cities and settlements on the globe, if placed together, would cover only a very minute portion of the earth's surface; that scattered as they were, there was not one chance in millions of a meteorite falling in a town, and they triumphantly pointed to the fact that, as far as known, no city had ever yet been destroyed by a falling meteorite during the world's history. The chances of human beings being struck was even smaller. There were only two records of such casualties known. That hundreds of persons had been killed on the African express was indisputable. The only logical hypothesis to account for it was that the meteor had passed close to the train, that its tremendous heat had generated noxious gases that had destroyed the crew and passengers. But, the scientists declared, such a disaster might never happen again; it was mere chance—one chance in millions.

The effect of the unprecedented descent of the meteors upon the public as a whole was, however, quite different. Many people of a religious nature saw in the phenomena the approaching end of the world. Fanatical orators stood on street corners calling on the people to repent and prepare for death. They recalled the Biblical story of Sodom and Gomorrah, they exhorted, prayed and quoted known and unknown prophecies. Thousands of people disposed of all their possessions, confessed their sins and calmly resigned themselves to the inevitable. Churches were crowded to overflowing; in many rural communities work was at a standstill. Thousands, with the mysterious fate of the occupants of the Kenya Express fresh in their minds, refused to travel in trains. Soothsayers, mind-readers, spiritualists and other charlatans did a rushing business. In several localities, too, serious revolts and riots had occurred. The natives of Mexico had seen in the fiery visitors the symbol of their returning pagan gods, and had risen throughout the republic and had fallen upon all persons of white blood, massacring, burning and laying waste. In India the natives had declared that the meteors were the result of the white man's radio, and had destroyed every station in the country with considerable loss of life.

Even intelligent, thinking people had let their imaginations get the better of their brains. They had promulgated and published the most far-fetched and ridiculous theories to explain a perfectly natural, if unusual, event. The editor of one widely-read and influential weekly devoted several pages of his publication to an editorial in which he sought to convince the world that the meteors were not fragments of celestial bodies attracted to the earth by its gravity, but actually were projectiles hurled at us from some other planet—presumably Mars. He quoted portions of Wells' "War of the Worlds." He pointed out that Mars was at the nearest point to the earth for many years, and offered data to prove it; that every meteor that had fallen had struck the earth at a spot exactly where it might be expected to strike if it had been projected from Mars, and he confidently prophesied that the bombardment would be continued until the inhabitants of earth had been destroyed, or until the planet had passed out of range of its neighbor.

This fantastic article brought down a storm of protesting and a deluge of assenting complimentary replies. Indeed, the intellectual public had, almost overnight, become divided into two parties: those who adhered to the Martian theory and those who did not. Politics, prohibition—all other issues—had been forgotten in the controversy over the meteors. There were cartoons, jokes, even comic pages devoted to the subject. Skits on the vaudeville stage touched upon it, and *Life* contained a humorous article scoffing at the poor marksmanship of the "Martian gunners" and calling attention to the fact that out of more than one hundred "shots," they had made no direct "bull's-eye." And as the bombardment or shower had apparently ceased, and as no great damage had been done, interest and discussion had begun to wane. Murders, holdups, and scandal had again taken their accustomed prominent places in the press, and the whole affair promised to be relegated to the limbo of the past and forgotten in a few weeks. Still, however, the matter was kept more or less alive. The latest papers published brief paragraphs and editorials quoting interviews with prominent scientists, and endeavoring to arouse interest by calling attention to the fact that no word had been received from any of the parties that had gone in search of the fallen meteorites. I even came in for sharp criticism for not having recovered the bodies of Professor Bixby and his comrades; but on the following day the *Mercurio* retracted and explained my reasons for having made no real effort to do so.

THUS matters stood when I sailed from Chile for New York, and while the passengers and officers conversed more or less upon the recent phenomena, the more so when they discovered that I had been the first to report the initial meteorite, still there was but slight interest in the matter. We had passed Arica and were steaming towards Mollendo. It was a lovely moonlight

evening and under a galaxy of colored lights on deck the passengers were dancing to the music of the ship's orchestra. I was leaning idly upon the rail, talking with the first officer, when, glancing up, I noticed what appeared to be a fire balloon. Calling the officer's attention to it, we watched it a moment. Very rapidly it increased in size; it seemed to rush in a wide arc with terrific speed. The entire heavens were illuminated with a glare that paled the moon, our eyes were dazzled with a blinding light, and before we could turn, before we could call attention to the thing, there was a terrific report, a deafening concussion. Screams and shrieks came from the ladies, the men shouted, the musicians dropped their instruments as everyone rushed to the ship's side and with scared pale faces stared into the night. The next instant a blast of hot, evil-smelling wind swept across the ship, ripping the flag decorations from the stanchions, tipping over deck-chairs like a sudden hurricane. It was over in an instant. Then, "Hold on for your lives!" bellowed an officer. Like a white wall in the moonlight a huge, foam-crested wave was rushing towards us. The ship rose on end, rolled, gyrated. With a roar like thunder the wave struck. Hissing, seething water poured in cataracts upon the lower decks. Upflung spray drenched us to the skin. The ship reeled, staggered, and with a shake, righted herself. A second and a third wave hurled themselves against her. But each was smaller than the preceding, and presently the vessel was again riding easily, smoothly, upon an almost calm sea.

"Close shave that!" exclaimed the officer as he rushed forward to ascertain what damage had been done. "I'll say it was!" cried a passenger. "What was it? Did you see it?"

"Another meteor," I replied, "must have struck the sea near us. It——" A terrified scream from a lady interrupted me. "Look! Look!" she shrieked. "Another!"

We rushed to the rails. Across the sky another flashing, blazing, fiery mass was rushing. For an instant we held our breaths, speechless, terrified. With a roar that was like a distant railway train the meteorite swept overhead; the sea, the ship was bathed in a green light as bright as midday. The thing receded, the light faded, and we breathed a sigh of relief. A moment later a brilliant light, like a flash of distant lightning, illuminated the southern horizon and, muffled by distance, we heard a faint detonation.

"Struck somewhere," commented a passenger. "Wonder where."

"Looks as if the blamed things had started again," said another. "Well, thank God, they missed us!"

The rest of the evening was spent in talking of the event. Again discussions waxed warm, and voices rose high in the smoking-room as the men argued, theorized, contradicted and speculated. But as no more meteorites fell, we rose one by one and retired.

The next morning, as I stepped from the alleyway on my way to the dining saloon, I found an excited group before the wireless bulletin. "My God!" I heard some one exclaim.

"Awful!" cried another.

"Heard the news, Doc?" shouted a young engineer, as he caught sight of me. "That meteor last night hit Valparaiso!"

I pushed my way through the throng and gasped as I read the terrible, almost incredible news that had been radioed from Santiago. A meteor had fallen in the heart of Chile's great seaport. Practically all the city was in ruins. Buildings, built upon the steep hillsides, had toppled over and buried the lower portion of the city. Vessels at anchor in the harbor had been sunk or wrecked. All communication had been cut off. The city was on fire, a seething furnace, impossible to approach. At imminent risk, planes had flown near it, had circled it, and had reported the devastation. The loss of life, it was feared, was enormous. So far no survivors had been reported, no fugitives had reached the outlying towns or villages.

At last one of the meteors had hit a bull's-eye. The one chance in millions had occurred. Stunned, awed by the terrible catastrophe, brought so near because we had actually seen the meteor fall; realizing how close we had come to annihilation ourselves, we said little and ate little. Speaking in low tones, wondering what later messages would reveal, striving to convince ourselves that the ultimate investigations would reduce the losses reported, we gathered in knots and groups. But when the next radio message was received, the news was even more terrible than the first. The city was still blazing, no one had been able to enter it or approach it, but as far as known not a single inhabitant remained alive! More than this, human life had been snuffed out on every vessel in the harbor, hundreds of the inhabitants of suburbs within several miles of Valparaiso had been killed. Viña del Mar, almost a part of the city, had suffered. Crazed people were running about; dead bodies, showing no signs of injuries, were everywhere, and people were still dying, sinking unconscious from shock or fright.

Every effort was being made to rush aid, doctors and supplies to the stricken district, but the electric power of the railway had been cut off, several bridges were down, and airplanes were the only means of reaching the locality.

It was terrible, ghastly, a worse disaster than the eruption of Mont Pelée in Martinique. No one could estimate the loss of life. It might be fifty thousand or one hundred thousand; perhaps more. But the destruction of Valparaiso was almost forgotten before we dined that night. That catastrophe paled into insignificance when a message was received from the Arlington radio station. It was a brief, terse message that Kansas City had been struck by still another meteorite. Once more that chance among millions had occurred. Again an aerolite, falling at random, had made a direct hit.

CHAPTER III

Meteorites Continue to Fall

LATER news was more reassuring, however. The meteorite had done comparatively little damage to the city proper. It had struck on the outskirts, had destroyed several mills, lumber yards and hundreds of cattle, and, as in the case of Valparaiso, its heat had started a conflagration. But the loss of life seemed to have been out of all proportion to the damage to property. Hundreds of people had been killed without any visible cause. They had been struck down, it was assumed, by the terrific concussion of the impact, by the blast of super-heated air, or—as many eminent physicians declared—by poisonous gases generated by the molten, incandescent mass of metal.

But the worst effect, perhaps even more regrettable than the actual loss to life and property, had been the destruction of the morale of the public. Now that two cities

had been hit, that hundreds or thousands of lives had been taken by the visitants, deadly fear had gripped the people. In every city and town throughout the civilized world, the inhabitants were living in momentary dread of being the next victims. It was even worse than in London during the World War and the German air-raids. Then the people were subjected to attacks by fellow men, by man-made explosives. They knew more or less when the attacks were coming; they had means of combating their aerial enemies, even if the means were inefficient; it was something they understood. But now no one knew where the next devastating meteor might strike; there was no means of avoiding them; they gave no warning and, coming from the heavens, being of more or less mysterious origin, they aroused the superstitious as well as the physical fears of the people. Added to all this was the growing belief that they were being hurled at the earth intentionally by the inhabitants of some other sphere. The fantastic, ridiculous theory appealed to the frenzied, nervous masses, and despite the statements of scientists and the efforts of the authorities, the yellow journals played this theory to its spectacular limit.

Then another mystery was added to the matter which had again become the absorbing topic of the world. Planes had been sent in search of the various scientific expeditions, and several had disappeared. Others had returned bringing word that they had been unable to land, but had seen the bodies of men lying about their camps, exactly as I had seen Bixby's party. And when planes had been sent to search for the missing planes, which—presumably—had crashed, they had returned with white-faced, wide-eyed men who told strange tales of seeing the missing machines standing unhurt near corpses, and with no living men on board. The question in everyone's mind was this—what had caused these deaths? Why had everyone died who had approached a meteorite? Scores of scientists replied over the radio, through the medium of the press, by word of mouth. Gases, they declared. Unquestionably gases were given off by the molten masses. Such immense amounts of metal would require days, weeks, to cool off. The scientists had been too impatient to investigate the things and had not taken into consideration the danger of heavy poisonous gases that might surround them. No doubt, they added, the deaths of so many apparently uninjured persons, near where meteorites had struck the towns, and the deaths of those on the Kenya train, had been from these same gases. Hereafter precautions must be taken. Everyone was warned not to approach fallen meteorites, and it was even suggested that the governments should issue gas masks to the public in anticipation of more of them falling in inhabited districts.

This was the news that came to us as we steamed northward, after the destruction of Valparaiso and the disaster at Kansas City. Nearly every day a meteor was reported from some distant part of the world or by some ship. And then, the day we reached Balboa came the alarming news of a fatal epidemic that had broken out in Missouri, in Chile, and in various other widely separated localities, in fact wherever a meteor had fallen in an inhabited district.

That it had some inexplicable and as yet undetermined connection with the meteorites was the natural assumption, and the most prominent medical authorities openly expressed their conviction of this relation. They demanded rigid quarantines, called for volunteers to combat the rapidly-spreading disease, and warned everyone to immediately move from districts where meteorites might fall. But the public—fickle as always and with that strange unaccountable antagonism for all things scientific—refused to listen. They refused to believe the aerolites had any connection with the new and malignant disease. The papers poked fun at the doctors, they ridiculed them, declared it was merely their excuse, an attempt to cover up their own ignorance, and offered rewards for anyone who could advance a tenable theory as to how a mass of meteoric iron could spread any malady. The whole thing, they announced in bold headlines, was refuted by the truths of medical science. Diseases were the result of germs, of microbes. Germs could not exist when exposed even to moderate temperatures, such as that of boiling water, yet if the physicians were to be credited, masses of metal, heated to incandescence, had been germ-carriers. It was preposterous, an insult to the intelligence.

Avidly we bought copies of the *Star and Herald*, the *Panama American* and the various New York papers obtainable at Balboa, Ancon and Panama.

No longer was the public divided into factions adhering to the Martian or non-Martian theories of the meteors' origin. Now it was the meteoric or non-meteoric origin of the epidemic, and while scientists, authorities, officials, the army and the public bickered and quarreled and argued, hundreds of people were dying each day, the doctors and nurses were being decimated, and the world was in an uproar. The controversy had even spread to the Canal Zone. The Medical Corps was demanding a quarantine, the Engineering Corps, to which the Governor belonged, was dead against it, the civilian population was divided. An excited argument was taking place on deck as we passed through Gatun Lake. A pompous, red-faced, paunchy Colonel of Infantry was arguing with a dark, saturnine army Surgeon.

Both were on the way to the States, and, someone having informed them that I was the man who had reported seeing Professor Bixby and his comrades dead upon the desert, they turned to me.

"What did *you* think?" demanded the Colonel. "What was *your* opinion of meteorites carrying some strange disease?"

"I don't pretend to think," I assured him. "I know Professor Bixby and his men, as well as his animals, are dead. I know that they were near the meteorite.

"At the time I thought it strange that they should have died of thirst. But I don't pretend to know what killed them—whether it was gas, bandits, or disease. But I'm intensely interested. The matter may solve the problem of what caused the disappearance of prehistoric American races—the Mayas, pre-Incas and others. Such a fall—or the fall of a few such meteorites with similar accompanying phenomena might——"

The Colonel haw-hawed. "Dammit!" he exclaimed, "according to this sawbones here your blasted Mayas might have come down hangin' onto the damn things. If doodle-bugs can come down on a meteor, why not men? Answer that if you can, Major Waite?"

"First let me ask *you* a question," replied the Major. "If——"

But his question was never asked. One of the passengers came hurrying up.

"Stuttgart's gone!" he cried excitedly. "Just had a message. Not a stone left standing, every mother's son wiped out!"

At Cristobal we had confirmation of this latest and most terrible disaster. An enormous mass of incandescent matter had fallen in the heart of the ancient city. The concussion had been so terrific that glasses and windows had been shattered in Berlin, in Brussels, in Paris, and in Milan. The light, as it swept to earth, had been dazzling from Naples to London. From points in Asia, Scotland, Egypt, had come reports of seeing the light and hearing the explosion. It was undoubtedly the largest meteorite that had yet fallen, and the entire world was awed, silenced by the appalling catastrophe. Where was this destruction to end, what city would be the next to fall? Terror reigned. What of that millionth chance? the public and the Press demanded of the scientists. The people clamored for protection, they called upon the governments to do something to avert the threatening calamity to the world, and in the next breath declared it was useless to attempt anything as the world was doomed. Thousands left the cities and camped in the open, seeking the comparative security of plains, woods and mountains. Law and order were rapidly vanishing. Fear, superstition and religious mania had supplanted everything else. And as we steamed across the Caribbean and up the coast each day's news brought word of more and more terrible destruction. Genoa, Berlin, Salt Lake City, Shanghai, Adelaide, each was devastated in turn. In the light of these fearful catastrophes—the worst in the history of the world—no one gave any heed to the innumerable meteors that struck in uninhabited districts and in the sea. Hence, to the public, unaware of these harmless falls, it appeared as if the meteorites were aimed with supernatural accuracy and diabolical cunning at the centers of civilization. And the immediate loss of life due to the things was much less than that which followed from the deadly epidemic that invariably succeeded the fall of one. There was, however, one ray of hope—one bit of good and welcome news in the midst of this blackness of despair. It had been proved beyond a doubt that the strange malady was not contagious. It did not spread beyond a limited area of a few square miles about the place where a meteor struck.

Doctors, nurses and others, who had gone to the assistance of stricken districts had, it is true, fallen victims to the fatal sickness, but the medical authorities pointed out that, if the malady was the result of some localized effect of the meteorites, this was to be expected. And they proved beyond question that if people within the affected areas were quickly removed to other localities—even a few miles from the scene—they usually recovered and many showed no ill effects. A few died, but, as a rule, lassitude, exhaustion, sometimes delirium and at times a comatose state for a few days were followed by complete recovery. Even the public became convinced at last that the affliction was the result of some germ or gas from the meteorites, that in case one fell their safety lay in hurrying from the scene instead of remaining to save their effects or the injured. Organizations were formed to see that this was done, and every city was in the condition of a town threatened with bombardment by an enemy.

Almost immediately all interests, all news, all efforts

A huge, foam-crested wave was rushing toward us

were centered on this phase of the terrible affair. No one knew when a meteorite might fall, no one could forecast where it might strike; there was no way of averting them, it was a matter of chance, but the epidemic, the deaths that followed could be checked, could be fought. Near every great city and even near the more important towns, bodies of soldiers, as well as volunteers, were stationed, equipped with ambulances, motor transport and every modern device for life-saving and rapid transportation, ready to hurry all survivors from the scene in case a meteorite should fall. And every spot, where one had struck anywhere in or near an inhabited district was surrounded by armed troops or police to prevent anyone from approaching the danger zone. Had it been possible to secure portions of the aerolites, scientists might have been able to discover the source of the deadly effects, and devise some means of counteracting them. But so far every attempt to secure a fragment had been futile. Several daring men had tried to approach the fallen masses, using the latest forms of gas-masks, clad in germ-proof clothes, but in every case they had been struck down and almost instantly killed before they could reach their goal. Various devices and suggestions had been made to render the horrible death-dealing masses of metal innocuous. They had been drenched with the most powerful antiseptics and germicides, but without result. Planes, flying above them, had dropped immense numbers of bombs whose explosions had hurled hundreds of tons of earth upon the meteors, burying them completely, and still without in the least affecting that invisible death area that extended for a mile or more in every direction.

And daily, nightly, the meteorites continued to fall, sometimes singly, sometimes several at a time. Several were seen from our ship, some far distant, some uncomfortably near. The sea was fairly covered with dead fish, whales and gigantic sea-monsters from the unfathomed depths of the ocean. There were stupendous giant squids or cuttlefish, enormous octopi, and weird, horrible fishes with immense jaws. The supposed myth of the sea-serpents had long since been proved the unvarnished truth. Their dead bodies had been seen floating by scores of ships, and there was not one but many species. Some were like huge overgrown eels, others were veritable serpents related to the venomous sea-snakes of the Pacific and Indian oceans, others were left-overs from prehistoric times—plesiosaurus- and icthyosaurus-like creatures, while a few were more like gigantic turtles with small leathery shells and immensely long necks. At any other time they would have excited the wonder and interest of the world, but now, in the excitement, the panic and the mad helplessness of the people, no one gave them a passing thought. But the dead denizens of the oceans' depths were not to be lightly ignored. They formed windrows upon the shores, and presently pestilence resulted from the decomposition of the thousands of tons of rotting fish. Armies of men were detailed to destroy them, countless millions of gallons of disinfectants were sprayed upon them. They were gathered by trainloads and burned in huge pyres. A few ships also had been struck or destroyed by meteorites falling close to them. No one could say how many or what vessels. There was no time to send an S. O. S. if one swept down and annihilated a vessel with all on board. If the meteorite hit the water within a mile of the doomed ship, every soul on board perished from the gases or germs or whatever it was that surrounded the aerolites like an aura of death, and only when a vessel failed to arrive at its destined port and was posted as missing, did the world assume that it had fallen a victim to the meteoric projectiles.

By the time we reached New York, half a dozen more of the world's greatest cities lay in ruins. Paris, Dublin, Leningrad, Yokohama, Benares, Cairo and Capetown. The morning after I arrived in New York, the papers announced the destruction of Buenos Aires. The following day it was Bogota. The next Rio. Then, two days without a new disaster, and then Santiago, Lima and Quito. Suddenly some enterprising reporter made a discovery. The meteorites seemed to concentrate their fearful destructiveness on definite areas in turn. Let a city in Europe be destroyed and for several successive days other European cities would be wiped out. Then a city would be annihilated in South America and others would follow in rapid succession. So far the United States had been particularly fortunate. Only Salt Lake City, a portion of Kansas City and some smaller towns had been destroyed. But at any time, any day, it might be our turn. And in view of this new discovery the destruction of one city would—it was believed—presage the destruction of a dozen or more. No wonder the people were cowed with deadly fear, no wonder they could not work, could not think, could not concentrate on anything else. And, so strangely does darkness affect human beings, that, throughout the nights, people remained up and awake, anxiously watching the dark heavens for the brilliant light that warned of a descending meteorite, despite the fact that by far the greater number had fallen in broad daylight.

And then, on the 18th of September, the expected blow fell. Throughout the length and breadth of our country the sunlight was dimmed by the blinding, dazzling flashes of terrible light. People went mad with the thundering reverberations of falling aerolites, the terrifying concussions as they struck the earth. On every side flames and dense clouds of smoke arose, the earth was torn up, forests were leveled by dozens of the gigantic meteorites, and when at last the bombardment ceased, more than one hundred thousand lives had sped, and San Francisco, Richmond, Detroit, Springfield, Buffalo, New Haven, Concord, Saratoga, Dayton, Trenton, Atlanta, Biloxi, Tucson, Dallas, Denver and Seattle were in ruins. So terrific, so overwhelming, so indescribable was the loss of life and property, that only a brief paragraph in the papers reported the fact that the Panama Canal had been completely destroyed, that Gatun Lake had been transformed to a vast, muddy, pestilential plain, that thousands of men, women and children had been killed upon the Isthmus.

Everyone—even the most conservative—now believed the end of the world had come. All hope was abandoned; in the face of such a catastrophe, human beings were helpless. All who had means sought to escape from the accursed land. Every available ship in every remaining port was filled to overflowing with refugees, fleeing they knew not where, seeking wildly, hopelessly to reach some spot where the blazing destroyers would not strike. But they were no better off than those who, resigning themselves to fate or unable to flee, remained at home. Dozens of the ships vanished with all their human freight. A few were sighted, derelict, floating aimlessly with their decks littered with dead. Only a

few ever reached port. Even the bravest, the stoutest-hearted began to abandon all hope. Even the most optimistic were overwhelmed. Could it be that the end was really near?

CHAPTER IV

An Astounding Discovery

IT was at this crisis, at this time when the world seemed a chaos, when civilization seemed doomed to be wiped from the face of the earth, when everyone was aghast, numbed and helpless in the face of such a stupendous, overwhelming catastrophe, that Paul Henderson appeared upon the scene. One day he was an inconspicuous citizen, a man scarcely known outside his own circle of family, friends and business associates. The next he was the most famed, most widely known, most discussed man in the entire world. In every country every newspaper blazoned his name, hundreds of millions of people were familiar with his face and features. From an obscure author who wrote imaginative fiction based on fact, "sugar-coated pills of science," one reviewer called his stories, and an amateur scientist, he rose overnight to world-wide prominence, to be hailed as the savior of the earth.

An article in the New York *Times* had accomplished the miracle. Quietly, unobtrusively he had been working for weeks along unique and original lines. He had formulated a theory, had experimented, tested, investigated, until he had convinced himself that his theory was correct, and then and not until then he had called on the editor of the paper, had expounded his theory, had related the story of his activities, and had given a summary of the results. A special edition of the paper had published the astounding news and, so important did the editor consider it, of such public benefit that, instead of making a "killing" with the scoop, he had transmitted it to every paper, every news syndicate, every press organization throughout the world, and had made immediate arrangements to have it broadcast from every radio station that still remained in operation.

Henderson, at risk of his own life, had secured samples of the meteorites. That he had succeeded in doing so, by using safeguards designed by himself and adapted to his theory, had proved the truth of his theory. The deadly character of the meteorites, he said, was not due to gas nor to germs. It was the result of a hitherto unknown ray, or a vibratory wave, a discharge of electrons from the meteors. This in itself was an entirely new and revolutionary theory. Confident that he was right, he had devised a costume and a mask that were impervious to all known rays, and had ventured cautiously within the danger zone of a large meteor that had fallen in the Adirondacks.

He had felt no ill effects, and, a few days later, had approached even nearer the thing. This time he had felt ill, he had experienced a roaring in his ears, partial blindness, and other alarming symptoms. He had, however, quickly recovered, and realizing that his costume was not proof against the discharge from the meteor, he had devoted several weeks to improving it. Then he had once more approached the mass. This time he had felt no effects, he had actually reached the meteorite, and with the greatest difficulty, had chiseled off a small portion. For several days thereafter he had been prostrated, but no sooner had he recovered than he had buried himself in his laboratory studying, testing, experimenting with the only known specimen of the aerolites that had worked such havoc and destruction with the world.

His results confirmed his theory. The bit of meteorite emitted a new ray, a terrific discharge of waves. Placing it near a live rabbit he had seen the creature die, had dissected it, had spent days and nights making a microscopic examination of its vital organs and tissues. He had determined conclusively that the brain was affected, that the discharge from the piece of meteorite completely altered the molecular structure of the brain, that it upset or disintegrated the arrangement of the molecules, perhaps of the atoms and their electrons.

"But," to quote the article in the *Times*, "Mr. Henderson was not yet satisfied. He had risked his life to secure the sample by means of which he had established the validity of his theory; he had convinced himself of the cause of death, the action of the fatal ray; but could he be sure that all the meteors possessed the same characters and emitted the same rays? Once more this daring young man took his life in his hands and entered the dread area of death surrounding another meteor. If his hypothesis was correct, if all of them were alike, he was safe, for he had perfected his ray-proof costume until tests with the fragment he had secured had proved it one-hundred per cent resistant. But if he was wrong, if the ray or the vibratory waves from this second meteor varied in the slightest from the first, he would have sacrificed his life for the cause of humanity. The world may be thankful that he was right. He secured more specimens, continued his tests and experiments, and now is positive that his theory is the correct one; that, equipped with his devices, human beings will be immune to the deadly rays. Moreover, he has discovered that animals, even when apparently dead from the effects of the ray, may be revived and show no indications of ill-effects. This, Mr. Henderson accomplishes by means of a powerful electric current so designed as to create a vibratory wave of incredibly high periodicity, which appears to have the property of reorganizing the disarranged brain-cells. We believe, and we are confident that the public will believe, that Mr. Henderson has made the most important discovery of modern times. And like every epochal discovery, it is extremely simple. It is in fact astounding that among all our so-called scientists, our medical men, our technical experts, nobody had thought of a deadly ray or emanation of ions as the basis of the fatal area about the meteorites, and the more so as the death-dealing discharge from radioactive minerals is so well-known. So many unfortunate deaths have, in the past, occurred from so-called radium poisoning—the destructive action on tissues and bones of radium discharges, that the public is thoroughly familiar with the deadly character of radioactive minerals. We are indeed surprised—now that Mr. Henderson has announced his truly remarkable discovery—that some scientist did not suggest that the celestial destroyers might contain radium in sufficient quantities to cause death to human beings. That no such theory was advanced was doubtless due to the fact that this new ray, discovered by Mr. Henderson, acts only upon the brain and leaves no trace that is discernible to the naked eye. Although Mr. Henderson's discovery does not relieve the world of the constant fear of descending meteorites, though it does not aid us in combating these irresistible agents of destruction, though it does not throw any light

upon their origin or cause. Yet it will be the means of saving hundreds of thousands of lives. As is generally known, the loss of life through the immediate and direct contact of the meteorites is comparatively small as compared to the loss of life resulting from the hitherto mysterious emanations from them after they have fallen. Not only will Mr. Henderson's discoveries enable us to entirely counteract and overcome this deplorable sacrifice of lives, but it will enable us to save those who are struck down by the rays. Mr. Henderson is the greatest benefactor of the human race in countless centuries; he has most providentially come forward, when every effort, every attempt to mitigate these world-wide disasters have failed; he has been the direct means of saving millions of human lives, and gratitude, thanks and honor to Mr. Henderson should fill every human heart throughout the entire world. We call upon our officials and our governments immediately to provide every citizen with the ray-proof equipment designed by Mr. Henderson. We demand it; the public, humanity, demands it. Every hour, every moment of delay means loss of life, the loss of perhaps thousands of lives. Nothing, no human power can control the descending meteors. Tonight, tomorrow, one may destroy Washington, New York, London. To delay is not only dangerous, it is criminal. Every official, every man who opposes such a measure, who does not exert all his efforts to protect the human race from imminent destruction, is a potential if not an actual murderer. Let the public rise and insist. Let every mill, every factory, every laboratory, every resource of every country be devoted entirely to the manufacture of ray-proof equipment and the resuscitating devices of Mr. Henderson; *the* man of the hour, *the* man of the century."

FOR once, wonder of wonders, the governments acted. For once in the world's history there was no arguing, no conferring, no slow unwinding of red tape. Politics, diplomacy, budgets, authority everything that would hinder immediate action was scrapped. For once the officials and the executives realized that whatever was done must be done at once. Every resource was, as the *Times* had demanded, as the public now demanded, devoted to turning out the Henderson outfits. But progress was necessarily slow. The materials were scarce, the utmost care had to be used, new machines had to be devised, and though the outfits were produced at the rate of thousands a day there were millions of people to be equipped. And a tremendous problem arose as to their distribution. It had been internationally agreed by all nations that the outfits should not be sold, that they should be given free to the inhabitants, that there should be no restrictions, no duties on them or any of the materials used in making them. The whole world was working day and night to save humanity, the whole world was for once united in a common cause. But to distribute the outfits to some individuals and not to all would be considered as discrimination. Those without them would be exposed to death while those equipped would be immune. Riots would result, revolutions, war. The only solution was to wait until enough outfits were ready to equip every inhabitant of a city at once, and to take the cities in the order of their size and importance. Naturally this aroused controversy, ill feeling, and mad protests. An unimportant town was as liable to be struck as a great city. The people pointed out that New York, Boston, London, Rome, Madrid and other capitals still remained untouched, while scores of lesser cities lay in smouldering ruins. Why, they demanded, should they be exposed to death, while others were comparatively safe? But the cooler-headed, more rational-minded prevailed. The great cities, they pointed out, were more important. If their inhabitants were destroyed there would be no hope for the others, as there would be a curtailment, if not a cessation, of the manufacture of the outfits. Meanwhile, the Henderson resuscitating apparatus had gone rapidly ahead. These machines were easily made, they could be produced by the same machines and the same workmen as any other electrical appliances, and within a month of the announcement of Mr. Henderson's discovery every city and town in America and Europe was provided with one or more of the devices, the number varying according to the population of the city. This did much to calm the people. If worst came to the worst those who survived could revive the others, and as each city and town was provided with a corps of specially trained men, equipped with ray-proof outfits, whose duty it was to operate the resuscitating apparatus in case of need, the public regained some confidence. Meanwhile, Mr. Henderson had been deluged with honors, with decorations and with degrees and titles. The initials he was entitled to place after his name would have covered half a page if written out. He was a Sir, a Chevalier, a Professor, a Doctor, a Knight, a Marquis, a Duke, an Hidalgo and a score of other exalted personages all in one. Gifts varying from motor cars to mansions, from clothing to castles had been pressed upon him. An honorary position with an attendant salary almost equal to the President's had been voted him by his own Government, and foreign potentates and powers had done even more. But he scarcely realized all this. The meteorites were still falling. City after city and town after town were being destroyed throughout the world, and while the loss of life, thanks to Henderson's discoveries, had been minimized, still thousands were being killed, billions of dollars worth of property were being destroyed, and the discoverer of Henderson's Rays worked day and night on a new theory, on a new hypothesis.

He had found how to protect human beings from the deadly rays of the meteorites, could he not find a means of protecting the world from the meteorites themselves?

It seemed, on the face of it, an impossible task, a dream, something far beyond human possibility. But he was not the type of man to whom anything appeared impossible. No one was more appreciative of the marvels of science, no one was a greater believer in its future developments and wonders. For years he had been accustomed to dream of that future, to imagine accomplishments beyond the dreams of ordinary men, to visualize seemingly miraculous and impossible events, and then to explain them, to produce them along scientific lines in his stories. Here, ready-made, an actuality, he had a theme, a plot, a situation more dramatic, more intense, more terrible and far more mysterious and insoluble than anything he had ever imagined in his wildest fancies. Could he not, he asked himself, treat it like one of those fancies? Could he not work out, little by little, the details, logically correlate the facts, as he would the ideas in a story, and reason from effect to cause? And, once he placed his finger—or his mind rather—upon the cause, would it not be possible to find a remedy? He believed it would.

He had followed the same method in his successful explanation of the fatal effect of the meteorites. If it worked in one case, why shouldn't it in another? He shut himself up, concentrated his mind, cudgelled his brain. He covered hundreds of sheets of paper with notes, data, possibilities, the wildest of fancies and suppositions. And slowly, gradually, out of the mass of thoughts, conjectures, reasoning, facts, data and theories, certain undeniable truths emerged.

Coincidences—the ever-handy and useful accessories of fiction writers, had, he knew, their limits. Coincidences did not repeat themselves over and over again. They were the exception rather than the rule. Could it be that a coincidence could account for so many cities being struck when there was so much more unoccupied territory where they might have fallen? He mentally decided no. Admitting this, could the laws of chance or coincidence explain the indisputable fact, that there were well marked cycles of meteor-falls, that each of these bombardments, so to say, was largely centered upon a definite and rather restricted area of the earth's surface? Again he shook his head. Granted that it was not chance, not coincidence, then what was it? If the earth were passing through an enormous meteoric area, if it were passing through the tail of a comet, if it were passing through a dark nebula, as the scientists claimed, it might account for the periodic showers, but it could not account for the other facts that he had decided were not explicable by laws of chance. Meteorites, striking the earth during such a passage, would of necessity strike here, there and everywhere. The earth was whirling about on its axis, it was rushing along on its orbit. Falling meteorites, if left to chance, would pepper its surface indiscriminately. There was not one chance in millions—he recalled the confident words of the astronomers—that they would strike buildings or towns, there were still more remote chances that they would strike several towns the same day or night, and there were still more slender chances of their striking several towns in one portion of the earth's surface. And yet—he referred to his carefully tabulated data—of all the thousands of meteorites that had been reported, fully twenty per cent had made hits on towns, cities or thickly inhabited districts. Still more remarkable was the fact that many had struck ships at sea. What, he wondered, were the mathematical chances of a falling meteorite striking a moving vessel? For a few moments he worked rapidly, covering a sheet of paper with figures. At the result he dropped his pencil and whistled. He had taken the area of Long Island Sound, had added up the combined areas of the decks of all the vessels that, normally, should be upon the Sound at one time, and the result astounded him. Even in such a small congested body of water the area of water compared with the deck area of shipping was almost infinite. What must it be on the vast expanse of the mighty oceans? The human brain could scarcely conceive it. It would be one chance in billions that a vessel would be hit!

"No!" he exclaimed jumping from his chair, lighting his pipe and pacing the room excitedly. "It is *not* chance. It cannot be. And if the meteorites are not guided by chance, then of a certainty, they must be guided by something, by some power, some purpose, some intelligence! I am sure of it. But who will believe it? And whence do they come? Who, what, is the power that is hurling these terrific, awful projectiles at the earth?"

CHAPTER VI

Professor Henderson's Conclusions

ALTHOUGH Mr. Henderson (he disliked intensely being referred to as Chevalier Sir Don Paul Henderson, Marquis de Givanni, Duque de Zaragon, etc., etc.) possessed a far from superficial knowledge of most sciences, there was one of which he knew very little. This was astronomy, and it was astronomy upon which he must depend largely in his present needs. But if he was not a practical astronomer himself, still he had at his disposal all the astronomical notes, observations and data that had been written or published upon the meteorite, from the time of the first one that had fallen in Chile. And he felt quite confident that, by tabulating, correlating and studying these, he could bring some order out of the astronomical chaos, and could arrive at some definite conclusion.

It was at this time that I first became acquainted with him. We met at the home of a mutual friend, and were soon conversing earnestly. Perhaps it was the fact that I had reported the first of the meteors, or it may have been my interest in the phenomena, or the fact that I was something of a theorist and a scientific iconoclast myself, that attracted him. But at all events he evidently took an immediate liking to me, a feeling which I reciprocated, and from that moment we were fast friends. I spent a great deal of time with him, and, so I flatter myself, my suggestions and ideas helped him considerably in his work. But I do not wish to take any of the credit that rightfully and wholly belongs to him. He was, also, greatly interested in and considerably impressed with my theory that the mysterious and abrupt termination of prehistoric American cultures might have been caused by a similar meteoric visitation in past ages. "But," he objected when I first mentioned and explained this to him, "if the civilizations had been wiped out by meteorites, why have no traces of such meteors ever been found? They would be as enduring as the stone sculptures." "That," I replied, "has always been one of the strongest arguments against the theory, but your own discovery has done away with it. Ordinary meteorites are, we know, practically indestructible and will remain practically unaltered for immeasurable periods of time. But *these* aerolites are *not* of the ordinary type. You have proved that they are continuously emitting showers of radiant energy, perhaps of ions, and this discharge must of necessity result either in the decomposition or in the diminution of the original mass. This is an unalterable law of nature, and while the loss to radium, for example, is so slight as scarcely to be detectable, the loss in the case of these meteoric masses may be extremely rapid. In that case, is it not probable that any meteors—similar or identical with these—which may have fallen in past ages, would have completely disintegrated and disappeared in a few thousand years?"

"Well, I hadn't thought of that!" he exclaimed. "It will be interesting to find out. I'll weigh the pieces I have and we'll soon see."

The result of the tests was to prove conclusively that the shrinkage of the material was, comparatively speaking, very rapid. The fragments in Henderson's laboratory had already lost nearly one ten-thousandth of their original weight.

"I guess you're right," he declared. "At that rate the decrease would be approximately one thousandth a year,

and a one-thousand-ton meteor would disappear completely in ten centuries. Now I wonder—but of course there is no way to prove it—I was wondering if there haven't been regularly recurring cycles of these falls. You see, if there have been such, it would explain a lot of mysterious things in the past—all those old prophecies and legends—Sodom and Gomorrah, the earth being destroyed by fire, the end of civilizations, the inexplicable exodus and migration of entire races, even perhaps the glacial period. And it might explain where these things originate, where they come from. It's a darned pity—" he sighed regretfully, "that there weren't scientists and astronomers in those days, so we could look up the records."

I laughed. "You're not very complimentary to the astronomers, I said. "I notice you draw a distinction between them and scientists."

Henderson grinned. "No, I didn't mean it that way," he said, "I have the greatest respect for astronomers as astronomers. I only wish I knew more about astronomy myself. But do you know, Merritt, the more I go through these notes and figures, the more I am amazed to discover how little real study the astronomers have devoted to meteors. Of course they saw them and watched them, but there doesn't appear to have been any concerted, systematized and comparative observations made. Here, for example—" he picked up a sheet of notes—"are all the known reports and observations made on the night of August 31st. It is known positively that seven meteorites fell on that night, and yet no one, working solely from astronomical observations, could determine how many fell. One observer—in California—mentions seeing 'several' large meteorites, some of which unquestionably struck the earth's surface. He goes a bit farther and records the positions of two when first observed, the rate of their progress, their parabolas and their comparative size. Then the chap down in Arequipa, Peru, mentions seeing 'five meteors.' He must have completely missed two, and he 'believes' three of them struck the earth.

"He also reported the time he observed them and gives the position of one, but he doesn't state whether the time and position were when he first saw them or after they had been rushing through space for some time. The old fellow in Texas is the champion, however. He reports seeing *nine* meteors and he got so excited over it that he completely forgot to note their location or the time. Now what can you make of that?"

I shook my head. Then a brilliant idea came to me. "I take it," I said, "that your effort is to prove whether these meteorites are natural falls—the chance visitors from some dark cosmic space of meteoric character through which we are passing—or are being projected at us from some other planet with malice aforethought. In order to do this you are trying to get some sort of tabulated, comparative data from astronomical observations; but you find that—despite the fact that the meteorites were the most important things in the universe—the star-gazers were far more interested in working out their own fads and foibles than in checking up on the meteorites."

"Righto!" he assented.

"In that case," I continued, "isn't it possible that you might get results by finding out exactly what these self-centered astronomers were so intently watching on the nights when the meteors fell? If, for example, you found that half a dozen men all had their telescopes focused on the moon, and that all or the majority of these six men reported—even casually—that seven meteors had fallen on the night of August 31st, and if you found that six other astronomers had been watching other planets or constellations and that a majority of these men had failed to record the full number, wouldn't it prove that the things come from some point in the direction of the moon? And if you found that, night after night, the same held true, wouldn't it tend to prove that all had a common origin? On the other hand, if on different days they came from different points, wouldn't it tend to prove the reverse? And you could check up on your conclusions by finding exactly where the seven hit, whether, taking into consideration the earth's angle, its rotation, and the reported position of the meteors, they struck where they might have been expected, if they had come from the assumed direction."

He sprang to his feet and clapped me on the back enthusiastically. "Who says two heads are not better than one!" he cried. "That's a bully idea. Now we *can* get somewhere!"

"And there's another matter that has occurred to me," I reminded him. "A lot of the meteorites have fallen in the daytime. You can find out if any of these were mentioned by astronomers, just where they had their telescopes focused, and thus prove fairly conclusively from what direction the daytime meteors fell. And if that checks up with the altered position of the earth in its rotation, and if the things struck where they might have been expected in relation to the altered position of the earth's surface, you can be positive that you are on the right track."

"Merritt!" he exclaimed, "I never would have believed an archeologist had so much——"

"Common sense——" I suggested with a laugh.

"No-o, not that," he grinned. "But such a grasp of matters entirely outside his own particular—well, science."

"An archeologist," I informed him, "finds logical reasoning and roundabout methods the shortest road to reaching desired goals. We, you must remember, seldom have any real facts or data to work on. Instead of unraveling puzzles by deciphering inscriptions, we must, in nine cases out of ten, decipher the inscriptions by first unraveling the puzzles. And you must also remember that archeology is hardly a science. It is a combination of many sciences—to be a good archeologist one must be a geographer, a geologist, a botanist, a naturalist, an engineer, an anatomist, a philologist, a zoologist, an ethnologist, a paleontologist, and several other ologists. And, preeminently, one must be a theorist and must possess a vivid imagination. You, my friend, would make a most excellent and eminent archeologist."

"And if I, or someone, don't get at the bottom of this mystery and find how to get the better of these meteors, there won't be any need of anyone but archeologists in a short time," he declared. "Do you know," he continued, "that at the present rate, if this destruction continues, every town and city on earth will have been utterly destroyed within the next fifty years?"

I gasped. "No, I didn't," I admitted. "But," I said, "is it possible that these meteors can continue to fall at the present rate for the next fifty, even for the next two years?"

"I don't see why not," he replied. "If they are natural, and we are passing through a vast aggregation of them—through a disrupted star as Professor Dutcher claims—

they might continue for fifty or one hundred or more years; they may fill hundreds of thousands of miles of space. And if they are being hurled at us from some other planet, if we are being bombarded by the damnable things with the intention of destroying us, they'll continue to come until our enemies on the planet have exhausted their ammunition or have succeeded in their devilish design."

"Do you honestly believe that is the solution?" I asked.

He nodded. "Yes," he declared. "And why not?" he continued. "All thinking people are convinced that the planets are inhabited by rational beings of some sort. In all probability—considering the age and the environments and the conditions of those planets—their inhabitants are immeasurably ahead of us poor humans in every way. It seems like the wildest sort of fiction to think of the denizens of one planet bombarding a neighbor, hundreds of thousands—even millions of miles distant. But it would have seemed fully as much like impossible fiction had I or anyone else, previous to 1914, suggested that human beings could hurl explosive shells at an enemy fifty miles distant. It would have seemed just as preposterous to have suggested, twenty years ago, that not only human speech but moving life-like images of human beings could be transmitted through the air across the Atlantic. What is impossible, fiction, preposterous, today is everyday fact tomorrow. Why, Merritt, if two years, or even a year ago, I had written a story describing how the earth was wiped out, how every vestige of civilization was destroyed by meteors, would anyone have believed it possible?"

"No," I admitted, "they would not. It doesn't seem possible to me yet. In fact, I think it is that feeling of unreality—that feeling that it can't last—that has made the people as a whole act in the way they do and have done. If it hadn't been for you, Henderson, half the population of the earth would have been annihilated before now. And even now you're the only man in the world who is really working along lines that may result in any real benefit or may bring a cessation of this horror."

Henderson flushed. "Oh, that was just fate," he insisted. "You see I'd written a story once—a long time ago in fact—in which I used the discharges from a radioactive mineral to destroy people. Naturally, when people began to die mysteriously in the vicinity of the meteors, I thought of my story. But, do you know, I don't believe, in this case, that it *is* a discharge of ions or rays as you may call them, that is the cause of the deaths."

"What!" I cried. "Why, I thought that was precisely what you *did* believe—what you had proved. Why, your entire life-saving and protective apparatus was based on that belief!"

"Not exactly," he replied. "I did at first think so, I admit. But if you read the first article on my findings, you'll see that I said that I believed and had proved that death resulted from some unknown ray, discharge or waves. And I've pretty well proved, to my own satisfaction, that it's waves—some sort of electro-magnetic waves. And what's more"—he became very earnest—"I'm convinced that the waves do *not* originate in the meteorites!"

"Then for heaven's sake where do they originate?" I demanded. "You say they emanate from the things, but don't originate there. You're talking in contradictions, Henderson."

"No, I'm not," he declared. "When you listen in on a receiving set and hear sounds brought to you by radio waves, do those waves originate in the set?"

"Of course not," I replied, "they originate in the transmitting apparatus."

"Exactly!" exclaimed Henderson, "and that, I am sure, is where the deadly waves from these meteorites originate—in the transmitting apparatus on another planet!"

"My God!" I ejaculated, "you mean that you think these horrible things are not only hurled at us as projectiles, but are capable of receiving and then transmitting waves that destroy human life?"

"That's precisely what I do believe," he replied.

"But why?" I asked. "Why shouldn't the inhabitants of whatever planet it is (if it is any) turn their rays on us directly? Why go to all that roundabout method?"

"For the same reason that we humans do not transmit our sound waves and power waves directly, without going through the roundabout method of transforming sound waves to electro-magnetic waves, transmitting the latter, and then, in a receiving apparatus, transforming them back to sound waves again. In other words my theory is that the death waves cannot be transmitted through space—at least for any great distance—but that they *can* be superimposed upon, or transformed into, some other type of waves, and that these transmitted through space, are received, transformed to death rays and are discharged—perhaps tremendously amplified—by the meteorites."

"But," I objected, loth to admit such a revolutionary and terrible hypothesis could be true, "To accomplish anything of that sort would require a complicated, delicate piece of mechanism, while these meteors are masses of solid metal—molten, incandescent, almost fluid, when they pass through our atmosphere and strike the earth. How can any mass of metal do any of the things you suggest?"

"That's a question no one can answer," admitted Henderson. "Any more," he added, "than anyone can explain why a lot of natural things—minerals, metals and salts—possess the properties they do. Why, I might ask, are some minerals and metals magnetic and some non-magnetic? Why is it possible to weld or alloy two particular metals and not others? Why do certain minerals always crystallize in the same complex forms while others vary enormously? Why are nine hundred and ninety-nine thousand out of one million snails' shells right-hand coiled? Why are no two leaves, no two blades of grass, no two hairs on all the human heads in the world precisely alike? Why should Rochelle salt crystals possess such almost uncanny properties of amplifying sound? Why should—but what's the use? I might just as well ask why is a mouse? and be done with it. No one knows the why. We simply know certain things are and make use of them and that's all. And the devils who are trying to wipe out the civilization of our old planet are making use of powers and properties of substances of which we know nothing, and they're succeeding too blamed well. It's up to us, Merritt, to get busy and stop 'em. You can't make me believe there isn't a way, and you can't convince me yet that human brains are not as good as, if not better than, the brains of any monstrosities that may be patting themselves on the back up in Mars or Venus or somewhere else."

"I'm afraid I won't be of much use," I said, "but I'll be only too glad to help all I can. Why can't we organ-

ize a corps—an army, a multitude of men, to work together on this problem? If two heads are better than one, two hundred or two thousand or two million should be just so many more times better."

"No use," he declared with finality. "I've tried it, the papers have tried it. What's the result? Discussions, controversies, ill-feelings among the scientists. They *won't* work together. Each has his pet hobby, each is jealous of the others or ridicules him. And they all go off on tangents. Get so damned interested in their own particular line of research that they forget everything else. I tell you, Merritt, that the average professional scientist is the most impractical, pig-headed, narrow-minded, self-centered, unimaginative man on earth. And when it comes to an emergency, he gets as rattled, as confused and as nervous as an old woman. And he's so darned absent-minded. Take old Professor McCurdy. When New Haven was hit, and he was lucky enough to escape, being just outside the danger zone, what did he do? Did he try to get away, to get others away, to help the injured? Not a bit of it! He just stood there, wringing his hands, bemoaning the loss of his books and notes, until some one dragged him off. I admire scientists' brains, I admit their attainments, I agree that they have been instrumental in giving the world its most remarkable and useful things. But that was in spite of them, not because of them. How many inventions, of any real value have ever been made by scientists? How many have seen the commercial value or the practical importance of their discoveries? And the Lord alone knows how many discoveries they have made, that might be of value to humanity, but which have been forever lost and buried because the discoverers couldn't see beyond their own noses. Maybe you think I'm knocking science, but I'm not. Science is the biggest thing in the world; it's the key to everything, but it's inefficiently run, and no machine or anything else can do its best if it's not operated efficiently. Gosh, Merritt, I ought to know! My father was a scientist and a darned good one. I was brought up on scientists and science. But he died a poor man, though a lot of ignorant, thick-headed men, who couldn't have told the difference between a diatom and a mastodon if they were to die for it, made millions out of patenting inventions based on his discoveries. But the worst of all is that scientists won't believe anything they haven't proved. And yet the whole history of science proves that about as fast as some scientist proved a thing, another proved something that disproved the other chap's proof. You'd think scientists—knowing the almost unlimited possibilities of science—would be the greatest of visionaries. But they're not. They refuse to believe that this, that or the other can be or may happen, because they haven't proved it can or may. Why, I remember when I was at Yale, we were taught in our class on geology that petroleum could only exist in carboniferous rocks! I remember the ridicule that was aroused when wireless telegraphy was suggested. But you know all those things yourself. And what did the scientists say about these meteorites? That there wasn't a chance in millions of a city being hit. That the 'shower' would be of short duration. And, up-to-date,"—he referred to his notes, "up-to-date 718 meteors have been recorded, and ninety-two important cities and one hundred and thirty-three towns and villages have been hit—nearly one-third of the meteors have struck towns. And that doesn't include ships that have been destroyed by them. And instead of being of 'brief duration' the damnable things have been coming down regularly for the past eleven weeks! Yet, if I should announce that the things come from some planet, if I should make public my theory of the death-waves, every Tom, Dick and Harry of a scientist would scoff at me, call me a charlatan, a scarehead and an ignoramus or worse. And——"

"I admit a lot you say is true," I interrupted, "but how about the practical men, the imaginative men like yourself; the hundreds, thousands of men who must exist, who have a knowledge of scientific matters, who are broad-minded and willing to work on a theory, no matter how extravagant, and who could work in conjunction with you?"

"They're all too busy with other matters," declared Henderson. "There's a tremendous amount of reconstruction, of reorganization of everything else going on as you know. And this is a one man job—or at least a two-man job. A crowd would only befog things, I'm afraid. Everyone would have slightly different theories and ideas; they'd work on individual lines, and we'd get into a confused mess. You see, Merritt, the way I look at a theory—especially if it's a wild and seemingly impossible one—is that it's a kind of inspiration. It gets into a fellow's head, a sort of premonition or hunch or something, and he's got to work it out himself. Of course, a friend like you is a big help. You don't offer some other theory that may influence mine. You accept mine, but, as it's not a child of your brain, you can see a lot of holes in it—weak spots—and can offer suggestions and ideas about working it out. You've given me a lot of tips already. Now I'm going to get busy on checking up on what all those astronomers were doing, when they were too busy to notice meteors that, for all they knew, might knock them and their telescopes into powder the next minute. Do you know—" he chuckled—"they remind me of the artist who was sketching in the Rockies. A big grizzly came rampaging along, and almost knocked over his easel. A few moments later, a hunter appeared. 'Seen a bear?' he asked. 'I'm not interested in natural history,' replied the other, 'I'm an artist. A beast of some sort most seriously interfered with my work, however. Possibly it was a bear.'"

"'How long ago?' demanded the hunter. 'Where did he go?'

"'My dear fellow,' exclaimed the artist irritably, 'How do you imagine I can concentrate my brain on the shadow tones of that canyon and be cognizant of the exact hour and minute of an event which was a confounded nuisance? And I hope he's gone to the devil and that you'll follow him.'"

CHAPTER VI

Hurled from Mars

I LEFT Henderson deep in his researches and calculations. He was, I thought to myself, a most remarkable man, an undoubted genius, a man whose brain was not only a veritable storehouse of the widest, most diversified general knowledge, but capable of drawing upon that vast accumulated store when needed, and yet, in addition, quite capable of ignoring all the facts it contained and soaring, unimpeded, into the greatest heights of fancy and imagination. I chuckled to myself as I recalled his tirade against scientists. If ever there was a true scientist he was one himself. But I realized there was only too much truth in what he had said. And

I could not blame him, could not blame anyone for being rather disgusted with the behavior of scientists—or I might better say scientific specialists, in the terrible crisis through which the world had been passing for the last eleven weeks. They had fallen down completely. Not a single statement or promise they had made had been borne out. They had by their own disagreements and contradictions, tacitly admitted they were at an entire loss, and yet they had refused to listen to or to consider any suggestions or theories of others. Even when Henderson had come forward with his theory supported by obvious and incontrovertible proofs, they had been loth to admit that he was right. He had been praised, honored, rewarded by the public, by governments, almost at once; but the scientific bodies had been the very last to recognize what he had done. Even now, I knew, there were many scientists who refused to admit that he was right. He was a modest man, he did not know the meaning of conceit; but, like all modest and rather shy and retiring men, he was very sensitive, very easily hurt, and while he showed no disposition to boast of what he had done, still he fully realized it and naturally resented the attitude of many professional men towards him. And I fully appreciated the fact that, were he to broadcast his present apparently wild and impossible theory, he would be laughed at and ridiculed. That, I felt sure, was why he would not listen to my suggestion of enlisting the cooperation of others in trying to work out his theory. He was afraid, if it proved untenable, of the 'I told you sos' that would result. It certainly did seem like a preposterous idea, and yet, somehow, I had a feeling that Henderson was right. It was not as I have already said, the first time that it had been suggested that the meteorites were being projected at the earth from another planet, and there were countless thousands of persons who still believed in that theory. But as the weeks had gone on, interest in that side of the matter had waned. Indeed, the attitude of the public, the reactions of the masses, had undergone a complete alteration. At first there had been wild panic, crazed terror, nerve-racking suspense. The whole world had been disordered, upset, disorganized. But, so adaptable is man to his environment that, in a surprisingly short space of time, people had become more or less accustomed to the unprecedented conditions. Just as, in the days of the World War, people became inured to gun fire, to air raids, to hearing of thousands of men mowed down in a single attack, although during times of peace the world would stand aghast at a railway accident with the loss of a score of lives, so now the people regarded the daily destruction of a town, and the almost constant flashing, detonating discharges from the sky, as everyday events.

A few weeks earlier, the news of a meteorite striking a town was announced by glaring headlines in special editions of the papers, crowds gathered and in frightened excited tones discussed the disaster, and people lived in constant dread. But now, unless the town was a most important city, a column or less would be devoted to it; it scarcely aroused comment on the streets, and people lived, went about their business and slept as soundly as though the world were quite normal.

But Henderson's revelations as to the rate of destruction had astounded me. How many people, how many officials, I wondered, were aware of this? It might be better for everyone that the public was now calm, complacent and blissfully devoid of worry over where the next aerolite would fall.

And towns and cities were constantly being rebuilt with a sublime confidence that—like lightning—meteorites would not strike twice in the same spot. But if Henderson was right—and I felt confident he was—the destruction was exceeding the construction and, if they continued to fall, it would be only a question of time before—as he had said—the world would be in ruins. It was an appalling thought, the more so perhaps because the devastation was proceeding so gradually that it was not obvious. It was like some terrible, incurable disease; like slow paralysis, and, like paralysis, there would come a day when, with a start and a shock, the world would come to a sudden realization that it was doomed. Perhaps it was largely realization of this inexorably slow but sure fate, that convinced me that Henderson was right, that there was a malicious, definite, carefully planned purpose in the meteorite bombardment. It did not seem possible that mere chance could have resulted in this. And then there was the amazing percentage of hits, something that I had never realized until Henderson had given me the figures. Nearly thirty-three and one-third per cent of the meteors had struck towns! I remembered that humorous article in *Life*. Poor marksmanship! Good Lord, the meteors were making a better record of hits than any gun-crew in the United States navy! That alone ought to convince the most skeptical. Chance meteors could not by any possibility do that. No, beyond a doubt, I decided, the things were being hurled at us from some other planet, and hurled or fired with the most amazing accuracy. What master-minds must be behind the guns, so to say, to be able to fire thousand-ton masses of metal through hundreds of thousands of miles of space and strike such infinitesimal targets as cities covering a few square miles of the earth's surface! And what hope had human beings of escaping from such superhuman beings? What chance had we to compete with them, to outwit them, even to defy them? And that mysterious, diabolical death wave! Yes, somewhere in the heavens, upon some one of those brilliant, beautiful planets, gleaming like jewels in the velvet sky above my head, sentient, living, intelligent and horribly inhuman beings must even now be watching us, plotting to destroy us, sending those death-dealing, invisible waves through space. But, thanks to Henderson, we had conquered those. Yes, rendered them harmless. I stopped in my walk, looked up at the brilliant stars and shook my fist at them savagely. "Yes, by Heaven!" I cried, "we've beaten you at that game, and we'll beat you at the other!"

Just below Mars a tiny point of light appeared in the sky. Like a distant airplane it moved slowly across the heavens. Swiftly it increased in size. The heavens seemed to pale. In a brilliant, dazzling flash it vanished beyond the distant horizon.

I laughed hoarsely. "All right, you damnable beasts!" I exclaimed. "Send them down! Do your worst! But our turn will come."

The only answer was a dull, far-distant detonation, the muffled explosion of the falling missile, as we believed it to be.

By the next morning more than twenty meteorites had fallen upon the harrassed world—more than during any previous twenty-four hours. And nine had struck cities and towns. The average of hits was still being sustained. Fortunately, however, no really important nor very large cities had been destroyed, but northwestern Pennsylvania

had been laid waste. As I read the news, I wondered when New York would fall, when Boston would be levelled, when London would be wiped out. My thoughts were interrupted by the telephone ringing. Henderson's voice greeted me. "Good news!" he exclaimed jubilantly, "Come on over. I think I've got it."

Needless to say I lost little time in reaching his home, a remodelled farm in Westchester.

"I suppose you've read the papers," he exclaimed, as he greeted me. "Twenty-three of 'em in the last twenty-four hours, and nine bull's eyes! But it's an ill wind, etc., you know. I'll bet you couldn't guess where I spent the night. After you left I did a lot of figuring along the lines you suggested—I'm glad you were here and thought of it—and then I went over to see old Fothergill. He's an astronomer you know, not a scientist"—with a laugh—"just an amateur. Astronomy's his pet hobby; rich as the devil and spends fortunes on his fad. He's the fellow who writes on 'Housetop Astronomy' you know, and runs that column in the *News*—'Stars of the Month'—signs himself 'Aries.' He's a sensible chap, and I told him my idea and that I wanted to use his telescope—with his help of course, and we spent the whole night watching for meteors. We spotted seventeen, and watched eleven—couldn't follow all at once, you see—and, Merritt, every one of the eleven came from the same spot and followed exactly the same course! And the place where they first came into sight, and the course they followed tallied exactly with all my calculations!"

"Fine!" I ejaculated. "Did you come to any conclusions as to where they originated? Was there any planet at the place where they appeared?"

Henderson grinned. "No, of course not," he replied. "We didn't expect there would be. We——"

"Great Scott, man, I thought you *did* expect they came from some planet." I cried.

"Sure," he declared, "but the things don't come straight any more than a bullet; that doesn't travel in a straight line. They come from the devil of a distance and have to be aimed away ahead of our old world in order to hit it. And of course they're not visible until they're pretty close to us—within our atmosphere. Even a thousand-ton meteor is a mighty small thing to see a few miles away. So you see, old man, when we catch sight of 'em, they're on the last lap of their journey and the final curve of their trajectory, and the place they come from would be way off to one side—might be out of sight on the other side of the world in fact."

"Then how on earth are you going to find out where they come from or if they come from anywhere?" I demanded.

"I'm afraid *I* couldn't," admitted Henderson. "But that's where old Fothergill came in. He's steeped to the neck in astronomy, and is a wizard at higher mathematics. Calculating parabolas is his greatest stunt, and he's a regular wizard at it. Why, if Fothergill should see a snake wiggle ten feet, I'll bet he could calculate every wiggle it had made in traveling for half a mile back. He sent me his calculations just before I telephoned you, and according to him the curves of every one of those eleven meteors, if traced back through space, lead slap bang to Mars!"

"By Jove!" I exclaimed. "Then you think—it's certain they are hurled at us from Mars!"

"I'm sure of it," he declared. "But to make assurance doubly sure, I've given Fothergill all my figures and data on the past falls. He's going to go over them, check them up, and try to work out the curves and see if they agree with last night's. Then we'll be dead certain."

When, soon after noon, Fothergill's results arrived, there was no doubt of it. Even with the casual observations of the astronomers, who had recorded meteors, and the meager statistics regarding them to go by, the millionaire amateur astronomer had proved conclusively that in every case, the meteorites had come from practically the same location in the heavens, and that, in every case, that point coincided almost precisely with the position of Mars. But Fothergill had gone even farther. He assured Henderson—in whose theory he had now become intensely interested—that, with the knowledge they had thus obtained, it would be quite possible to forecast the locality where meteorites might be expected to strike on any given date.

"That," I declared, "is the most important thing yet, Henderson. If you and Fothergill can warn the public beforehand it will save thousands of lives, even if it does not prevent property losses."

"But none will believe it," he replied. "Even if the public has faith in such prophecies, the scientists and officials will pooh-pooh them."

"The only way to be sure of that is to try it and see," I said. "I admit that in the beginning no one would have listened to such theories, but after making your other discoveries and proving them to everybody's satisfaction, I think they'll have faith in you now. Besides, you've got Fothergill to back you up. Even if he's an amateur, as you call it, his knowledge of astronomy and mathematics is acknowledged by the most eminent scientists. They can't scoff at him or his hard and fast facts."

The next day Henderson gave the result of his observations and deductions to the world through the medium of the *Times* and other papers, but, as he had feared, and as I had not foreseen, with little result. To be sure, a large portion of the public eagerly accepted his theories and proofs; but a larger portion scoffed at them. Once again the Press and public entered into a controversy for and against the Henderson theory. Those in his favor demanded that steps should be taken to protect life by following Henderson's suggestions; those on the other side insisted that it was all utter nonsense, that even while they admitted that he had benefited mankind beyond estimation by his former discovery, he had overreached himself by suggesting such a wild and untenable theory as the present one. Some even hinted that the affair had affected his brain, while one prominent daily took a humorous attitude and suggested that, now Henderson could foretell where a meteorite would strike, he should go a step farther and inform the public how they could be prevented from striking.

"The one would be as sensible as the other," the writer concluded. "If it were not so serious it would be farcical," declared another paper. "Even in these days there are limits to human credulity. We do not desire to belittle Lord Henderson's—or is it Professor Henderson's—intelligence and attainments, nor do we overlook or underestimate what he has given to the world already; but this time we feel sure his imagination has got the better of his common sense. All astronomers and scientists, to whom we have submitted the matter, agree that it would be utterly impossible for inhabitants (admitting there are inhabitants) of Mars or any other

planet to project meteoric or other masses of metal through space so that they would strike the earth. It would be, they state, like attempting to hit a six-inch shell with a rifle at a distance of several thousand yards from the projectile. Even assuming that, if countless hundreds of thousands of objects were discharged from Mars in the hopes that a few might by chance strike the earth, it would be still more impossible to direct any of these so accurately as to intentionally strike a city. It would be beyond the capabilities of any intelligence to compute the frictional resistance of our atmosphere, the wind currents and the thousand and one other local factors that would affect the passage of a meteor falling through our atmospheric envelope. Regarding the mathematical data that have been submitted in proof of the theory, we have been assured by several of the most eminent mathematicians that almost any theory may be mathematically proved if the mathematician assumes a certain factor and works backward from that factor. The whole thing is interesting, entertaining and would form a most excellent plot for a work of fiction. It outdoes Jules Verne and Wells, but as fact we cannot accept it. If Doctor, or is it Chevalier, Henderson, and his associate, Mr. Richard Fothergill, feel so confident of their 'discovery,' we would suggest that they go a step farther and prove their claims by giving a forecast of the coming meteors—a prophecy as to the cities that are doomed —by the Martians—to be destroyed during the next few days."

To my surprise such scurrilous articles, and the downright insulting comments, the criticisms and accusations—not to mention the disbelief and ridicule—that Henderson's announcement aroused, did not appear to cause him pain. On the contrary, they aroused his anger, his resentment, and his scorn, and old Fothergill fairly raged. He had been completely won over to Henderson's ideas; he had proved to his own satisfaction that Henderson was right, and he had enthusiastically devoted all his knowledge, his time and his intelligence to the matter.

"Fools! Idiots! Consummate asses!" he cried, his gray hair and beard fairly bristling. "Anything they cannot understand is impossible. Impossible, faugh! The only impossible thing in the universe is to find common sense in the average human being! Intelligence, fiddlesticks! They haven't any. They're still running about, as purposeless as ants in a dunghill. I'm not sure —no, I'm not by any means sure that they deserve being saved from their own stupidity. I'm not by any means certain that the world would not be better off without them. I'm not positive that I'm not in thorough sympathy with the Martians. If they can observe us—as they probably can—I can scarcely blame them for endeavoring to annihilate us."

"I won't put it quite as strong as that," said Henderson. "I'm as thoroughly disgusted as you are, but I expected it. But it's not so much the fault of the people and their intellect as it is human self-conceit. Human beings have lorded it over nature—upon earth—for so long that they have acquired the fixed impression that they are literally 'Lords of Creation.' They are puffed up—even if unconsciously—with their own importance; they feel that the whole universe is centered here on earth, that they are the most intelligent, most important beings in the universe. They have taken to themselves the monopoly of being immortal, of having souls. They have even had the effrontery to picture God as a glorified man. Sublime in their egoism they cannot conceive of any being equal or superior to them; they cannot imagine any intelligent beings that are not patterned on the same general lines as human beings. In fact, few can really conceive of sentient intelligent beings that are not men and women, and that are not inhabitants of this planet. In the minds of nine hundred and ninety-nine persons out of every thousand, only one being in the entire universe is greater than mankind, and that is God Himself. They are quite ready to believe that God Almighty has seen fit to hurl these meteorites at the earth, but they are not willing to admit that any other mortals are more intelligent, more powerful than themselves. That's the whole trouble, Fothergill. But we've got to convince them. If you saw a man trying to jump into the river, you'd grab him if you could and try to prevent him from taking his own life, even if he was a worthless good-for-nothing bum. And I look at the human race as a lot of addle-headed, hide-bound fools, most of whom are to all intents and purposes trying their best to commit suicide."

"And how, may I ask, are you going to stop them?" demanded Fothergill.

"How would you stop the bum from jumping into the river as soon as your back was turned?" laughed Henderson. "By convincing him of the truth of your arguments that he was wrong and you were right, of course. Well, that's just how I'm going to reduce the number of self-sacrifices among the masses."

"I'm afraid you'll have a hard time doing it," I observed. "And even with your knowledge—even though you, Fothergill, myself, and thousands of others are convinced that these damnable things *are* being shot at us from Mars, I cannot see that, as yet, you have evolved any scheme for stopping them."

"No, I admit I haven't—yet," he replied. "But if I could convince the disbelievers that we can foretell the danger areas on certain dates, we could save a lot of lives as you yourself said."

"Then for Heaven's sake why haven't you done it?" I asked. "If you had published a warning and it had been borne out, the public would be forced to believe."

"For two reasons," replied Henderson. "In the first place, Fothergill and I wanted to be absolutely dead certain we could forecast accurately. And in the second place we were a little afraid of creating a panic. There are a lot of nervous people who would go crazy if they had faith in our forecasts and believed their homes were doomed to be smashed within the next day or two."

"But no longer," he continued rather savagely. "We've convinced ourselves we *can* prophesy pretty accurately —we both agreed that last night's fall would concentrate on northeastern Canada and it did—Quebec, Halifax and part of Montreal went; and it's better to frighten a few hundred people to death or to drive them insane than to have thousands killed. We've worked out the probabilities of tomorrow's bombardment, and I'm going to publish it today."

I gasped. "Then you really can—you, you think——. For God's sake, Henderson, tell me—what's going to happen tomorrow—what city is going to be hit?"

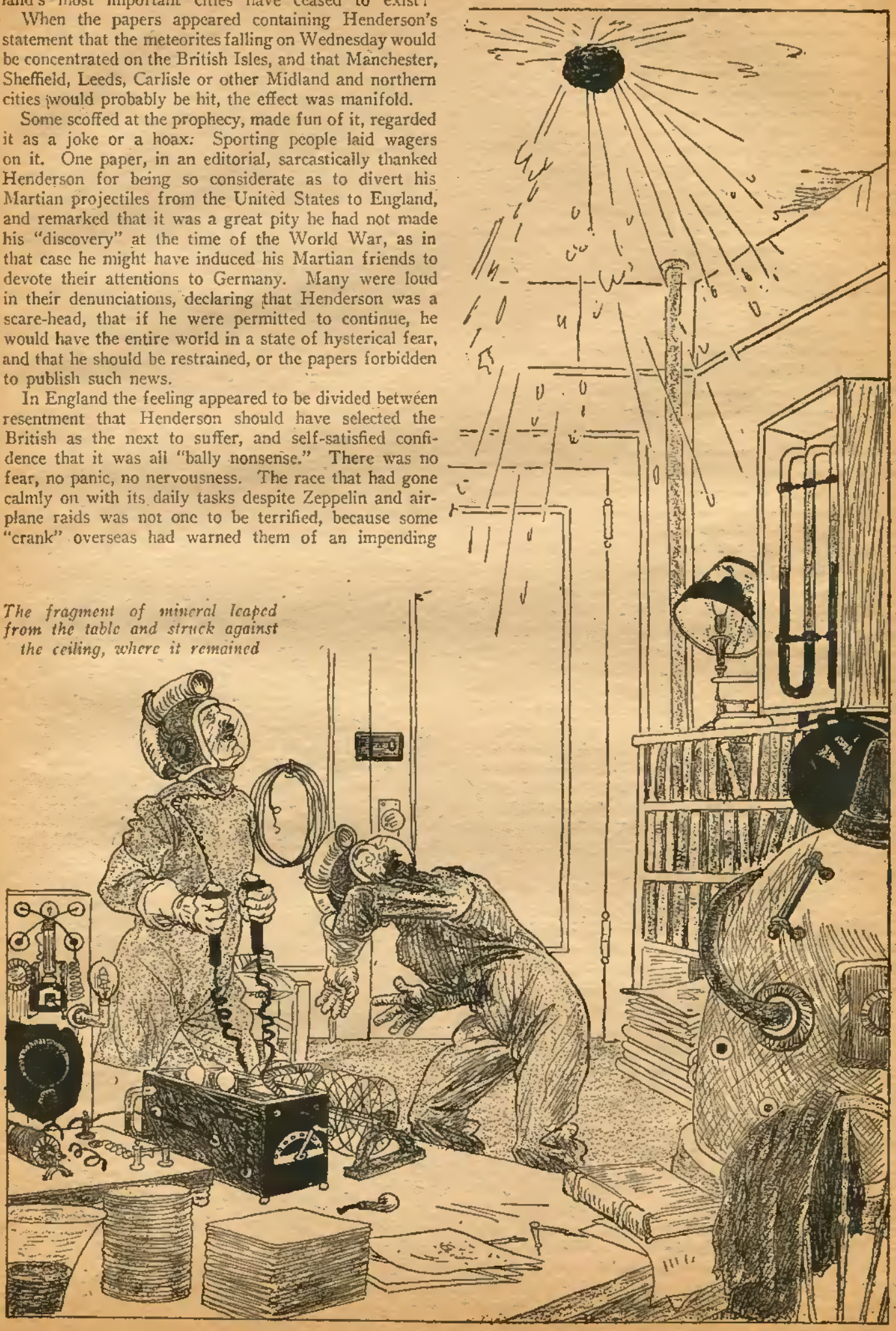
He smiled. "You see how excited *you* get over it," he replied. "And you're not a nervous man. You can imagine what the effect will be upon others—particularly women. But I'm convinced we've got to use the homeopathic principle. If our calculations are not at fault, you'll see by the Thursday papers that several of Eng-

land's most important cities have ceased to exist!"

When the papers appeared containing Henderson's statement that the meteorites falling on Wednesday would be concentrated on the British Isles, and that Manchester, Sheffield, Leeds, Carlisle or other Midland and northern cities would probably be hit, the effect was manifold.

Some scoffed at the prophecy, made fun of it, regarded it as a joke or a hoax. Sporting people laid wagers on it. One paper, in an editorial, sarcastically thanked Henderson for being so considerate as to divert his Martian projectiles from the United States to England, and remarked that it was a great pity he had not made his "discovery" at the time of the World War, as in that case he might have induced his Martian friends to devote their attentions to Germany. Many were loud in their denunciations, declaring that Henderson was a scare-head, that if he were permitted to continue, he would have the entire world in a state of hysterical fear, and that he should be restrained, or the papers forbidden to publish such news.

In England the feeling appeared to be divided between resentment that Henderson should have selected the British as the next to suffer, and self-satisfied confidence that it was all "bally nonsense." There was no fear, no panic, no nervousness. The race that had gone calmly on with its daily tasks despite Zeppelin and airplane raids was not one to be terrified, because some "crank" overseas had warned them of an impending



The fragment of mineral leaped from the table and struck against the ceiling, where it remained

shower of meteorites. Nevertheless, a goodly portion of the inhabitants of the cities named decided that there might be something in it, and in motor cars, trams, chars-à-bancs, trains, buses and afoot, sought the open spaces and small villages. And the insurance companies blessed the name of Henderson. The British may be conservative, they may not be easily scared, but they are a thrifty, cautious people—more especially in the north—and they are probably the most insured and assured people on earth. So, whether or not they had faith in Henderson's forecast, the inhabitants of the district he had mentioned lost no time in taking out new and larger policies on property and life.

I do not, of course, know how the public at large felt, as the time drew near for the fulfillment of Henderson's prophecy. But I *do* know that *I* was keyed up, excited, nervous. I was torn between doubts and fears. As far as I was personally concerned, it made really little, if any, difference to me whether or not England's manufacturing centers and midland cities were or were not destroyed. Of course it would be a lamentable and unfortunate thing if they were, but I, and the world, had become so accustomed to cities being wiped out, that such disasters had, to a large extent, lost their horror, and, although it may have been most selfish and inhumane, not to say unchristian, our feeling, when we heard of a city being struck elsewhere, was largely one of thankfulness that it had not been our own. But it is one thing to know that, nine times out of ten, the morning news would tell us of a disaster somewhere, and quite another thing to have the disaster promised, and to be awaiting it. I wondered how the inhabitants of the supposedly doomed cities were taking it. I wondered what the effect would be if they escaped; what would be the result if Henderson's forecast was fulfilled. And I wondered how many lives he would have saved if it was fulfilled. Yet, so confident was I that Henderson and Fothergill were right, so firmly did I now believe in Henderson's theory of the Martian origin of the meteors, that I was as sure that the Thursday morning papers would tell of the disaster as I was that the sun would rise on that same morning. And yet, when I glanced at the front page and saw the news staring me in the face, I could scarcely believe my eyes.

Henderson had been right. His prophecy had been fulfilled! Sheffield, Kendall, a part of Leeds, and Sunderland had been reduced to smoking ruins; several smaller towns had been utterly destroyed, and near five thousand lives had been lost. But, thanks to Henderson's warning—and the British press unanimously gave him full credit for this—many more thousands had been saved from death.

Henderson's triumph was complete. Once more he had convinced the world he had been right. Criticism, ridicule, sarcasm, disbelief were transformed to praise, plaudits, honors, almost adoration. He was hailed as the greatest genius of the world, the hero of the hour, the man to whom the world looks for its salvation.

CHAPTER VII

The World Is Saved

BEING the most prominent and popular man in the world has its drawbacks. Henderson was deluged with telegrams, radio messages and cablegrams. He was swamped with letters. He was besieged by reporters, callers and cranks. His home was surrounded by crowds gazing, staring, curious, seeming to find immense satisfaction in merely seeing where he lived. And of course Fothergill came in for his share of attention. His name had been linked with Henderson's, and Henderson insisted that what had been accomplished was due more to Fothergill than to himself. But the public, remembering what he had done before, were all for Henderson.

By far the greater portion of the cables and radiograms came from England. Some were from the editors of the London dailies and weeklies offering fabulous sums for articles on his newest theories and discoveries, or for forecasts to be published daily. Others were from officials expressing the Britishers' appreciation of Henderson's services in preventing greater loss of life, and he even received a message from Buckingham Palace assuring him in formal terms of the gratitude of the British Empire as represented by His Majesty the King. But by far the greater part of the flood of communications were pleas for Henderson to evolve some means of putting an end to the destruction by the Martian projectiles.

Many of these offered Henderson unlimited powers and unlimited resources for carrying on the necessary experiments and investigations. The President called a special session of Congress to put through a bill for the purpose of providing funds for the purpose; but before our government had its rather ponderous machinery in operation, the British had acted, and had placed all of England's resources at Henderson's disposal. And, before the day was done, practically every government had assured Henderson of unstinted cooperation if he would devote himself to trying to devise a means of saving the world from its impending fate. Also, every government had besought Henderson and Fothergill to continue sending out their forecasts in order that the doomed districts might be evacuated, and the lives of their inhabitants thus saved.

But Fothergill was not yet appeased by any means. The way in which the public had received his and Henderson's announcement a few days previously still rankled in his mind. "We don't want their money," he declared. "Let them keep it. They'll need it all before they're through, before they rebuild their cities. And they'll have to keep on rebuilding—as fast as they build, they'll be knocked over like toy blocks. If human beings are going to exist, they'll have to burrow into the earth. Stop the things! Good Lord! do the fools think any power on earth can stop them?

"That's human nature for you; one minute denying the possibility of the real, the next asking for the impossible. But I'm willing to do all we can. I'm ready and willing—only too glad—to collaborate with Henderson and work out forecasts for weeks ahead. But not a cent of public or private money will be used. I'm in this, I've always wanted to expend some of my money for the benefit of the world, and now I have the chance. Whatever is done will be done with my money. You can tell the world that, Henderson."

I smiled. "But, my dear Mr. Fothergill," I expostulated, "your money—even your millions, are limited. Suppose—just suppose—that you or Henderson should evolve a theory as to how to prevent the attacks, or if not to prevent them, how to mitigate them. It would cost an enormous amount to provide the world with devices or apparatus or whatever it might be to carry your discovery into effect. No single fortune could pay for it.

Why, think what it must have cost to provide the public with Henderson's protective suits and resuscitating devices. What then? Wouldn't you be willing to accept outside funds?"

"Humph, that's a different matter," he declared, a twinkle in his eyes. "Yes, once we make a discovery—and prove it—I'm willing that the public or individuals should finance it to completion."

"Bother the financial end of it," burst in Henderson. "We're getting nowhere. The first thing to be done is to work out the courses of the damned things for a long time ahead, and then see if we can't think up some way of getting the best of the Martians."

Fothergill sniffed. "The first portion of your remarks I concur with fully," he said. "But even your master-mind, Paul, your marvelous imagination, and your almost uncanny abilities will never, I am sure, be able to cope successfully with the super-intellects that are directing these projectiles from Mars. So I suggest that we eliminate any such ideas from our minds for the present, and leave our brains free to work out the involved calculations that are of paramount importance."

As the result of the calculations, the papers throughout the world on the following day published a forecast for the succeeding week. And as the world read, it stood aghast. Never before had the public fully realized what the bombardment from the heavens really meant. But now, as they read the prophecies, as they saw city after city doomed to swift destruction, as they read the cold print telling them that their own homes would almost certainly come tumbling to ruins on a certain day, the horror, the awfulness of the relentless destruction was brought home to them.

People opened their papers with fear and trembling, dreading to see the name of their own city in the list, hoping against hope that it would not appear, and yet realizing that, in its very appearance, they were being saved from probable death. And, aside from saving countless lives, the forecasts saved millions, billions of dollars' worth of property. The governments took charge and whenever a city's probable destruction was forecast, every effort was made to remove everything of great or irreplacable value from the city. All records, archives, art treasures and public property were kept in constant readiness to be moved at a moment's notice, and every citizen was warned to be in readiness to move, bag and baggage, the instant his city was included in the prophecy. At first, of course, little was salvaged in this way. The forecasts covered only a few days, or a week at most, in advance. But as Henderson and Fothergill labored incessantly, and grudgingly, employed a large corps of trained scientists and mathematicians as assistants, they were able to extend their forecasts, and within a few weeks the papers were publishing the names of cities and the districts to be devastated two or three months in advance. Hence there was ample time to move all the most important valuables to areas beyond the spheres of destruction. When Boston was reduced to ruins, the remains were those of empty, deserted shells. When west London was shattered, the Tate Gallery, the Houses of Parliament, the Chelsea Hospital, Westminster Abbey, Buckingham Palace, and every other public building in the area had been vacated for weeks before. Of course the loss of edifices, the destruction of historical buildings and monuments, the losses to business and industry were irreparable and beyond estimate. But the loss of life, documents, records, valuables, was almost negligible. Moreover, there was time to erect temporary housings for the people, vaults for the funds; libraries and other buildings. And as it was soon evident that the new cities and towns that sprang up were very rarely included in the forecasts, people began to breathe more freely. To Henderson this rather amazing and seemingly chance feature of the affair was most interesting. He declared that it was most important, and after several weeks of silence, came out with a new announcement. The Martians, he declared, could not, as had been thought, watch the earth. At any rate they could not distinguish the details such as cities and towns. By some unknown means they had maps or plans of the earth, they had known the approximate location of every large city, every important town, even the most important and regular steamship lanes. They had hurled their projectiles with almost supernatural accuracy at these—much, as he put it, as a modern artillery-man aims his huge gun at an invisible target by means of a plotted map. But that they could not actually see the cities was, he insisted, proved by the fact that only two out of the hundreds of new cities had been struck, and these two had been so near other older cities that it was probable they had been hit by accident and not by design. Herein, he stated, lay the safety—at least for the present—of civilization. Build new cities at safe distances from the former centers, and until the Martians had, by some occult means, discovered their locations, they would be practically safe. No doubt, he continued, the earth's planetary enemies took it for granted that their projectiles were fulfilling all expectations. They probably assumed that human beings could not escape the death-waves, that their intelligence was not sufficiently developed to enable them to escape entire destruction, and hence the Martians would not dream that the population of the earth had been comparatively unaffected, and that new centers of industry, life and civilization were being erected to replace those destroyed.

His announcement met with the heartiest response and universal approval. The whole world had completely altered in its attitude towards Henderson. Had he announced that the meteorites were living, thinking beings from another planet, the public, I verily believe, would have agreed with him. Still the meteorites or projectiles as I must learn to call them, continued to fall. They neither increased nor decreased in numbers, but fell in more or less intermittent showers—sometimes two or three, sometimes fifteen or twenty every twenty-four hours—and the percentage of their hits remained very nearly constant. That, so Henderson argued, was still further proof that the Martians could not observe the effects of their shots. If they could they would have improved in their accuracy. They would have corrected their trajectories, and through the months that had passed, the percentage of hits would have greatly increased.

And then came his greatest, most epochal discovery. The meteorites—projectiles I should say—still lay wherever they had fallen. The earlier ones had, of course, dwindled in size through their loss by the constantly emanating death-waves. But every one was a constant source of danger. To venture within the area of their waves without being equipped with the wave-proof outfits meant death, and it was neither practical nor possible for human beings to constantly wear these cumbersome suits. Moreover, since Henderson's and Fothergill's forecasts had become universally accepted and

proved, there had been no occasion to wear the garments. And while the public had learned to give the things a wide berth, and barriers had been erected carrying warnings about every projectile, still they were a danger and a great nuisance. There were so many of them, and in some districts they were so near together, that the arable lands and available city sites were greatly restricted. And as time went on there would be more and more of them accumulating. Hence Henderson devoted a vast amount of time to experimenting with ideas and devices designed to render the projectiles harmless. If, he reasoned, his resuscitating apparatus rearranged the disorganized atoms of the human brain and thus offset the action of the death-waves, would not some form of wave nullify the undulatory emanations before they were given off by the projectiles? In other words, was it not possible to utilize some form of wave to alter the atomic or electronic arrangement of the projectiles themselves, and by so doing render them incapable of receiving and transmitting the unknown, mysterious waves that, he still believed, were coming through space from Mars?

He was convinced that this was possible, and with his samples of the projectiles, he set patiently, doggedly to work along these lines of reasoning.

So when my phone rang one afternoon, and I heard Henderson's excited and jubilant voice at the other end of the wire, I knew he had made an important discovery of some sort.

"Come over as soon as you can!" he cried. "It's wonderful! Absolutely astounding! I want you to be the first to see it."

"What's astounding?" I asked. "Have you found what you were looking for?"

"No," he yelled, "but something a lot better. Come on!"

I found him even more excited and enthusiastic than I had judged from his voice. He was fairly aglow with enthusiasm.

"Now put on this wave-proof suit," he cried. "I'm going to show you something that'll make your eyes pop out."

As he spoke he was donning another of his suits, and wondering what on earth it was all about, I obeyed his instructions. Then he led me to his laboratory.

"See that?" he cried, pointing to a lump of black mineral that I recognized as a fragment of one of the meteorites—projectiles rather.

I nodded.

"Well just watch it," he cried.

As he spoke, he began arranging a complicated-looking device of wires, magnets and small vacuum tubes upon the bench.

"Now!" he exclaimed. "Keep your eyes on it—ready; one, two, three!" As he uttered the word "three" he pressed a switch, and as if shot from a gun, the fragment of mineral leaped from the table and struck with a resounding thud against the ceiling where it remained. I stared, mouth gaping, at the thing. What the devil had shot it into the air! Why did it stay there as if fastened to the ceiling?

Henderson laughed. "I thought I'd surprise you," he declared. "Now watch. I press this switch and—"

I heard a click as he moved the switch and instantly the bit of metal tumbled back to the table."

"Well I'll be—" I began

"No you won't," he chuckled, interrupting me. "But I don't blame you for being flabbergasted. I was myself."

"But, what does it mean? How's it done?" I demanded.

"It means the salvation of the world," said Henderson calmly and very seriously, "and it's done by means of a very simple high-frequency current of electricity in combination with a vibratory wave of a certain length. You see," he went one, "I've been experimenting, as you know, with devices to nullify the death-waves from these things. I tried every darned thing—every form of current and wave and ray I could think of, and with no success. This morning I had a high-frequency current apparatus here, and a little specially designed transmitting set. I was sitting here thinking, wondering, staring at that lump of Martian devilishness, and unconsciously letting my fingers monkey with the instruments. Suddenly and without any warning, the darned thing flew past my head and whanged against the ceiling and stuck there. I couldn't believe my eyes, couldn't imagine what had happened. Then I began to reason. Either it was some outside influence—some ray or wave of something from Mars, or else it was something in here that had caused the thing to act as it had. The other specimens hadn't moved, so I decided it must be due to something in here. The only things I had touched or moved were the generator and transmitter, so I reasoned it must have some connection with them. I examined them and—well, believe it or not—I found I had swung two switches and had turned on the current from the generator and had set the transmitter going at the same time. It seemed impossible, but I couldn't account for it in any other way. So I kept my eye on the lump and moved the switches back. Plump! down came the thing to the table again. I swung the switches back and, Bang! up she goes to the ceiling. Then I rang you. It won't work with either of the switches alone. Both have to be swung together. Now I know how the darned thing works and the rest is simple. Merritt!" he cried, "If I'm not crazy, the world's as good as saved."

"If you can explain how you think it's saved, I can judge better," I told him. "I may be awfully dense, but I fail to see how this trick of popping the bit of mineral up and down—remarkable as it is—can save the world."

"Yes, I must admit it. You *are* dense," laughed Henderson. "Now let me explain. Why does this lump of metal jump up in the air when I use the high-frequency current and the short radio wave? Because, my dear boy, there's something about the stuff that causes it to be violently repelled by that particular combination of a wave and a high-frequency current.

"There are two hypothetical explanations for that. There may be some intrinsic property of the stuff that causes it to be repelled. But I doubt that. On the other hand, we know—at least I feel sure—that the death-waves are actuated by some other form of waves coming from Mars. In other words there is a direct radio connection or communication established between Mars and these projectiles here on earth.

"We know—everyone familiar with electricity and radio knows—that certain waves may be nullified or obliterated or even completely altered by the impingement of other waves. Very well; assuming that there *are* waves connecting Mars with every one of these masses—with every fragment, and assuming that the combined wave and current I have here strikes that Martian wave,

what happens? Why, up flies the bit of Martian metal until it plunks into the ceiling and has to stop. But does it fall back? Not a bit of it. There it sticks despite all the laws of gravity, until I shut off my magic and back it comes.

"In other words, and to relieve the strain on your mentality, old man, I've nullified or altered or annihilated the wave that connects Mars and this precious little lump of cussedness, and so there's nothing for the dear thing to do, but run home and tell mother up in Mars. But as there's a ceiling in the way, it can't go home and just sticks as far up as it can go."

"You mean," I exclaimed, trying my best to understand just what he did mean and overlooking his flippancy, "You mean that the only thing that holds the meteorites—or whatever they are—on earth, is the wave or ray or whatever it is that connects them with Mars, and that when it is shut off they fly back to the place they came from?"

"I can't say that is *exactly* my theory," he replied. "I'm not quite prepared as yet to scrap the idea of gravity, or that solid metal will not remain on earth without outside help. No, what I believe is, that the waves connecting these things with Mars are the same waves, or a portion of the same waves, that were used to send them here and to direct them. And I believe—in fact I am sure—that my little dinkus here produces a combination that reverses the Martian waves and causes them to attract just as powerfully as they repelled. If that—"

"Lord!" I shouted in my excitement. "Then you think that with proper devices you can cause these—these projectiles, to leave the earth and hurl themselves back to Mars?"

"Precisely." he declared. "Now you see, Merritt, what I meant when I said the world was as good as saved."

I got up and paced the floor, my mind in a turmoil, striving to think the thing out, to find flaws in what seemed an incredible and yet such a reasonable theory. It was too big to be grasped at once. The idea of an electric current and a radio wave being able to lift those enormous masses and project them through space was beyond belief. I turned to Henderson, who was amusing himself by shooting the bit of mineral into the air and letting it drop back.

"But, Paul," I demanded, "how do you know it will work on a big mass of the stuff? Don't a lot of experiments work on a small scale and fail in a big test? And —well, somehow I can't believe a wave, electricity, can have the power to move such things. Why, man, it would take more gunpowder than there is in existence even to fire one of the darned things a few hundred yards."

Henderson roared with laughter. "All for the big noise and the flash and smoke!" he cried. "Do you doubt the power of electricity when an electric locomotive hauls your train at seventy miles an hour? Do you question the power of electricity when you see huge factories, mills, all operating on the same invisible thing? If an electric crane with an electromagnet can lift a hundred ton casting, is there any reason why an electric current should not lift one thousand tons? And if a radio wave can transmit your words and your picture around the world, is there any reason why it should not do things no more remarkable in their way, even if they *are* new?"

"No, I don't suppose there is," I admitted. "But," I added, "I'm still a bit of a doubting Thomas, and I'd like to see one of those thousand—or even hundred-ton meteorites go skyshooting off into space, just because you turn a switch near it."

"That, my dear friend, is just what you shall see," he assured me. "As soon as I can rig up a large enough apparatus, I'm going to make the test. Now don't say a thing about this. Keep it mum until we *know*. I'm not going to be laughed at again, and I'm not going to get the whole world in a state of expectation and then disappoint it. I haven't even told Fothergill yet, but just as soon as I'm ready, I'll invite you both to the test, and if I'm not terribly mistaken, we'll have the supreme satisfaction of seeing some of these unwelcome visitors go tearing back to their senders."

I chuckled. "In that case," I said, "I wonder what the Martians will think when the things come shooting back to them."

"Yes, I wonder," he said. "But I'll guarantee that if it works out as I expect and hope it will, the Martians won't enjoy it. They'll be getting a taste of their own medicine. I wonder if they've got any big cities to be knocked to pieces. Too bad we can't watch the results."

I could hardly contain myself for the next few days. I dreamed of Henderson's latest discovery, I had nightmares about it, it filled every moment of my days. And when, less than a week later, he called me and informed me—in quite casual tones—that all was ready for the test, I felt as nervous and excited as though I personally were about to start on a journey through space.

I found Henderson awaiting me with Fothergill. The latter seemed to take the affair quite as a matter of course, and as we climbed into Henderson's car, he spoke quite casually of it.

"I've another item that will interest you," Henderson informed me. "Fothergill has calculated the length of time it should take for the things to get back to Mars, and he believes that it may be possible for observers on earth to note the effect of the things when they hit."

"*If* they hit—" I reminded him.

"Oh, I'm confident they will," he replied. "If we can start 'em off they'll go home to roost all right."

Our first objective was a meteorite—no, projectile—about fifty miles from town. It was one that had fallen several months previously, one of the same shower that had destroyed Schenectady and Poughkeepsie and had caused tremendous damages to Albany, Northampton and Saratoga. It lay in an uninhabited district and was particularly well suited to Henderson's experiment.

"Besides, there are two or three others not far away," he said, as we raced along the Hudson Boulevard. "If we fail on one we'll try another, and if one works, we'll start all of them on their way."

Reaching the vicinity of the projectile, Henderson turned into an abandoned road, once an important state-highway but now overgrown, out of repair and never used on account of its proximity to the thing we sought. A mile farther on we came to a barbed-wire fence bearing the customary government warning of a meteorite.

Here Henderson stopped his car, brought out the wave-proof suits we were to wear, and unloaded several heavy and cumbersome cases.

"Too bad we couldn't get nearer the thing," he grunted as he lifted some instrument from the car. "And too bad we couldn't bring along some husky lads to carry these things. But we'll manage somehow. There's

plenty of time and we can take one at a time if necessary."

I admit that it was hard work getting the things up to the meteorite, but we accomplished it at last. I had never been so near one of the things before, and I looked at it curiously. It was three-quarters buried in the earth, a harmless-looking, blackish, slightly rusty mass that might have been a huge boulder. But, for several hundred yards about it, every vestige of vegetation had been completely wiped out. Remains of charred trees and piles of ashes covered the upthrown earth that was burned a vivid brick-red, and for nearly a mile in every direction the trees had died, and stood gaunt, pathetic testimonials to the heat of the thing when it fell.

"How close to the darned thing shall I put this box?" I asked Henderson.

He scratched his head and grinned. "Hanged if I know," he admitted. "We don't want to get too near. When that baby wakes up and starts for home, he's going to kick up a lot of dust and dirt and raise the devil about here. I've tried out the things in my laboratory, and if the big ones work on the same principle and in the same ratio, then we ought to be able to give it a kick from about fifty yards off. But I'll make it surer and say thirty yards. That's safe enough. Don't you think so, Fothergill?"

"H-m-m, I should imagine so," he assented. "Aside from the dust and dirt it throws off, I cannot see that there is any danger to be apprehended. If your theory is correct—as I have no doubt it is—it will be drawn, not projected from here. In that case there should be no concussion, no recoil. It should leave its bed smoothly and silently. I think even ten yards would be quite safe."

"We'll split the difference and say twenty, then," grinned Henderson. "All right, let's hook her up and say good-bye."

Very quickly the boxes were unpacked, the various instruments assembled, and the innumerable connections and wires properly arranged by Henderson. Fothergill and myself could do nothing to help. The apparatus was all Greek to us. But as we watched, it seemed too utterly preposterous to think that the little instruments Henderson was fussing over, those mahogany and bakelite cabinets and panels with their nickel knobs and connections and green-coated wires — could even affect, much less move that huge, dull, rusty mass of metal lying firmly, deeply embedded in the soil.

"All O. K.!" Henderson announced at last, straightening up. "Now, ladies and gentlemen," he laughed, "we are about to demonstrate to you the truth of the old saying that faith can move mountains. Keep your eyes on yonder sullen mass of mineral, my friends, and see if you can tell how the trick is done; see if the eye is faster than the hand, as the conjurers say. Already? Hold hard! One, two——"

There was a sharp click, a deafening roar. I was lifted from my feet, whirled about, spun like a top and thrown flat on my face. Confused, gasping, scared, the breath knocked from my lungs, I sat up and stared about. A few feet away Fothergill was blinking his eyes, spitting dirt from his mouth, rubbing his shoulder. Off to the other side Henderson was slowly rising to his feet and gazing in a half-dazed manner towards the meteorite. I turned and stared in the same direction.

The next instant I leaped to my feet and let out a yell like a Comanche. The thing had vanished! Where it had rested a moment before was only a shallow pit into which dirt and pebbles were slowly sliding. I could not believe my eyes. Then, as I gazed at the spot, I was aware of a peculiar greenish light that seemed to flood everything.

Henderson's voice brought me to my senses.

"Hurrah!" he yelled, "it worked! Number one's off on its way!"

"But what the deuce happened?" I asked, still confused and a bit breathless.

"I hadn't thought of that," replied Henderson. "Good thing we weren't any nearer. Between the outrush of displaced air in front and the inrush to fill the vacuum behind the thing, we got pretty well knocked about. And, say, notice the green light? I hadn't thought of that either. That old boy certainly *is* traveling. It's getting as het up leaving us as it did coming. Too bad it isn't dark so we could watch it go."

He stepped towards his instruments and bent forward. Fothergill leaped upon him with a sharp cry and flung him back.

"For God's sake, don't touch it!" he yelled. "Do you want that blazing thing to come hurtling back here?"

CHAPTER VIII

What Happened to Mars

"WHEW!" exclaimed Henderson, "I *did* come near putting my foot in it that time! Thanks for stopping me, Fothergill. I completely forgot about that. Funny how I could. Well, that puts the kibosh on sending off any more of the darned things."

"What's it all about?" I queried. "What did you come near putting your foot in, Henderson? What did you forget, and why isn't it possible to start more meteors—or projectiles—on their homeward journey?"

The others laughed heartily. "Don't you understand?" cried Henderson. "If I switch off the confounded thing that mass of molten metal—it's molten by this time right enough—will turn around and come galumping back here. I've got to keep the switch on until the thing hits Mars!"

"And, possibly, even then it might return," put in Fothergill, "that's a matter we—or rather you, Paul—hadn't thought of."

Henderson grinned. "Sort of rubber ball effect," he remarked. "'Twould be funny if the things were to go bounding back and forth between here and Mars. But I don't think there's any danger of that. Once they get home I'll bet they stay there—unless the Martians fire 'em back again. And I don't believe that one would come back even if I shut the current off. I'm going to try it."

"Hold on," I warned him. "I don't want to be here when it comes back."

"No danger to us," declared Fothergill. "If it returned now, it wouldn't strike here. The earth has moved a good many miles since it left. But you could not feel certain one way or the other if you did switch off the current, Paul. Even if it returned you could not distinguish it from a new body."

"H-m-m, that's so," admitted Henderson, then, with a laugh, "Looks as though I'll have to tag them when I send them off, so as to be able to identify them."

"I think," said Fothergill judicially, "that by operating at night we may be able to determine if it is essential to keep your apparatus in action in order to prevent their return. We could then watch the—er—objects until they were barely visible. Then, if you switched off your device and they continued to recede, we could be quite sure that they would *not* return."

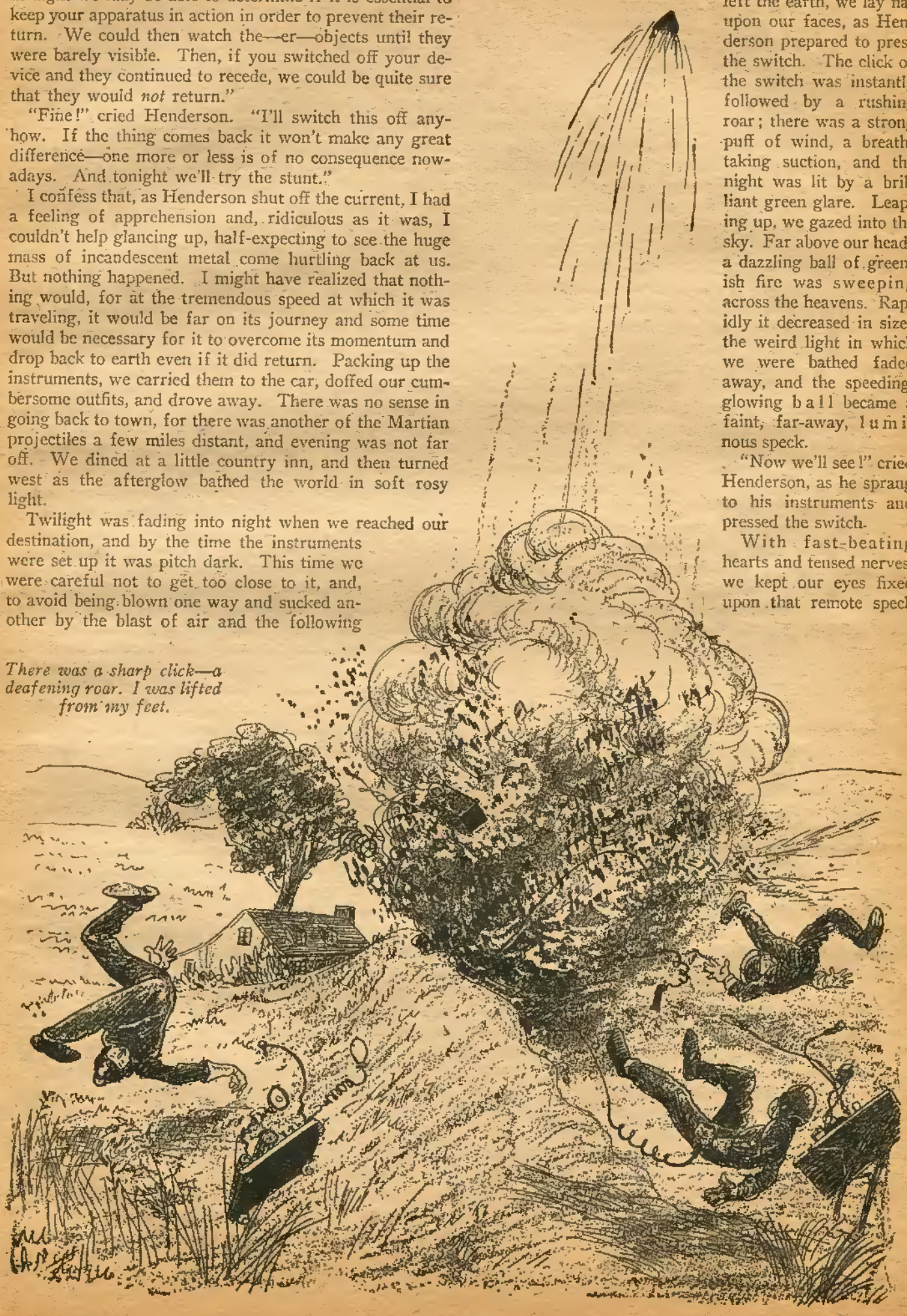
"Fine!" cried Henderson. "I'll switch this off anyhow. If the thing comes back it won't make any great difference—one more or less is of no consequence nowadays. And tonight we'll try the stunt."

I confess that, as Henderson shut off the current, I had a feeling of apprehension and, ridiculous as it was, I couldn't help glancing up, half-expecting to see the huge mass of incandescent metal come hurtling back at us. But nothing happened. I might have realized that nothing would, for at the tremendous speed at which it was traveling, it would be far on its journey and some time would be necessary for it to overcome its momentum and drop back to earth even if it did return. Packing up the instruments, we carried them to the car, doffed our cumbersome outfits, and drove away. There was no sense in going back to town, for there was another of the Martian projectiles a few miles distant, and evening was not far off. We dined at a little country inn, and then turned west as the afterglow bathed the world in soft rosy light.

Twilight was fading into night when we reached our destination, and by the time the instruments were set up it was pitch dark. This time we were careful not to get too close to it, and, to avoid being blown one way and sucked another by the blast of air and the following inrush, as the projectile left the earth, we lay flat upon our faces, as Henderson prepared to press the switch. The click of the switch was instantly followed by a rushing roar; there was a strong puff of wind, a breath-taking suction, and the night was lit by a brilliant green glare. Leaping up, we gazed into the sky. Far above our heads a dazzling ball of greenish fire was sweeping across the heavens. Rapidly it decreased in size; the weird light in which we were bathed faded away, and the speeding, glowing ball became a faint, far-away, luminous speck.

"Now we'll see!" cried Henderson, as he sprang to his instruments and pressed the switch.

With fast-beating hearts and tensed nerves, we kept our eyes fixed upon that remote speck



There was a sharp click—a deafening roar. I was lifted from my feet.

of light. For an instant it seemed to waver, to remain fixed, and our hearts fell. The next second it flickered and vanished.

"Hurrah!" yelled Henderson. "That's that! Once they get going, there's no come back. Gosh! I hope a big reception committee's waiting up there to welcome you, old boy—and I hope you smash about ten thousand of 'em." Then, abandoning his flippant manner and speaking seriously. "It's just as I expected," he said. "I've been thinking a lot about it since this afternoon; and I've changed my opinion and ideas some. I've thought all along that the result was produced through an alteration or some effect upon the Martian waves, but I'm beginning to doubt that now. I'm more inclined to think it's in the projectiles themselves, some sort of magnetic property that is shifted from positive to negative by my device so that the things become violently repelled. Or again, it may be gravitational—perhaps when affected by my wave and current they become immune to gravitation and just shoot off into space by centrifugal force."

"I really can't see that it makes much difference as long as they go," I said, "and," I added, "I don't see how you're going to find out anyway."

"I don't, either," admitted Henderson. "And, as you say, what's the odds? Come, let's see how many we can get going tonight."

"Possibly," remarked Fothergill as we packed up the instruments, "by observing the trajectories followed by the departing objects, we might be able to ascertain which theory is the correct one. If it is the Martian wave that operates them, I should assume that the masses would return to Mars. But if it is merely an anti-gravitational effect, or is due to a reversal of a magnetic property, there is no logical reason why they should return to that particular planet. They would more probably head for the moon."

"Righto!" exclaimed Henderson. "I'll let you try your hand at that, Fothergill. You can keep watch through your telescope tomorrow night, while we shoot the things off. But, personally, I don't care a whoop where they land, as long as they don't land on our old earth."

HALF an hour later we watched another of the projectiles hurtling like a gigantic blazing cannon-ball into the sky.

"Gosh almighty!" cried Henderson as it swept upward like a stupendous rocket, and disappeared. "Talk about the Fourth of July! this beats any fire-works display all to pieces!"

When we at last turned towards the city, the eastern sky was paling with approaching dawn, and we had seen four of the Martian projectiles vanish into space.

"I wonder," remarked Henderson with a yawn, "how many people saw the things and what they thought. I'll bet more than one chap who saw them has jumped upon the water-wagon. And—say, come to think of it, I didn't notice any new ones falling tonight. Did you?"

We shook our heads. "It is strange," I said, "but then, it's not the first night that none has fallen, and besides, some may have fallen on the other side of the earth."

When, towards noon the following day, I reluctantly arose and glanced at the morning paper, I chuckled. "AMAZING PHENOMENA OBSERVED!" I read in glaring headlines. "Incredible as it may seem," began the article, "several of the Martian projectiles, or masses of incandescent material resembling them, were reported last night. This would of course excite no comment were it not for the fact that instead of approaching the earth these were moving *away* from us! Residents of the Catskills declare that they were very brilliant and illuminated the district as brightly as searchlights, but that there were no explosions such as have invariably accompanied the appearances of the projectiles. Moreover, the observers declare that they distinctly saw the projectiles rushing upwards and away from the earth and that they gradually dwindled and disappeared. It has long been rumored that moonshining is a thriving industry in the Catskills, and were the reports of departing projectiles confined to the scene of Rip Van Winkle's amazing experiences, we would be inclined to attribute them to the potency of local "mountain dew." But the reports from there are substantiated by innumerable trustworthy and well-known citizens who observed the same phenomena from various widely separated points. Inquiry also elicited the fact that at least four of our most eminent astronomers observed the receding projectiles. What does it mean? Are our unwelcome celestial visitors about to retreat and leave us in peace, or is our harassed world ridding itself of its tormentors by some unknown and mysterious power? Undoubtedly Professor Sir Paul Henderson can answer the question, but he is at present absent from the city."

How Henderson will enjoy that I thought, as I turned to the other columns. Then the daily forecast caught my eye and I glanced over it. Beneath it, in the space usually devoted to a report of the disasters of the past twenty-four hours, was a brief paragraph that astonished me.

"For the first time Henderson's forecast had *not* been fulfilled. He had prophesied a fall of the projectiles in southern Europe, and had named Nice, Milan, Venice, Marseilles and Barcelona as the cities liable to suffer. But not one had been hit. A few projectiles had fallen during the preceding day, but without material damage, and not a single one had been reported during the night!"

I remembered Henderson's remark about our not having noticed any. What did it mean? Was it merely coincidence that none had fallen after we had hurled the first one into space, or was there some direct connection between that and the sudden cessation of descending projectiles? I was still puzzling over it when Henderson called me.

"Didn't I say we'd have folks guessing?" he chuckled. "But what do you know about the darned things quitting and leaving me flat? If this keeps on, my stock will be down to zero. A prophet who can't prophesy nearer than that is out of luck. All joking aside, though, it's got me guessing. Come on over and let's see what we can make of it."

I found him busy writing an account of his astounding discovery and the night's activities for publication in the afternoon papers.

"No use delaying it," he remarked without looking up from his work. "I've had about a thousand calls already this morning—all wanting to know what I think about the reports of the things reversing their ordinary procedure, and I've agreed to give my explanation to the press today. There!" he ejaculated in a tone of relief. "*That's* finished. I wonder how the world will take it. But honestly, I can't understand why the blamed things quit coming. I can't believe it has anything to do with

our shooting those five into space—it must be just a coincidence, or perhaps the Martians have exhausted their supply. But it's mighty strange that last night should have been the first night none have fallen in—let's see—nineteen months."

We were still discussing this phase of the matter when Fothergill put in an appearance.

"I think," he announced, "that there is no doubt that the projectile you despatched returned to Mars. I have been in communication with several astronomers and have secured all possible data as to their observations of the receding projectiles—the sight was sufficiently unusual to attract and concentrate their attentions—and while the data are, I confess, meager, I have worked out the trajectories and am convinced they followed a direct course towards Mars."

"Bully for them!" cried Henderson. "But what's your idea about none of the things coming earthwards last night?"

"That is a matter to which I have already devoted no little thought," replied Fothergill. "Of course I am not very familiar with the science of electricity or the laws of vibratory action, but speaking from the layman's viewpoint, is it beyond the bounds of possibility or probability that your currents or waves or both, if powerful enough to repel the masses of Martian matter, might not have so disturbed or affected the Martian waves or apparatus, that it was impossible for projectiles to be hurled at us?"

"Gosh, Fothergill, I don't know but that might be the explanation," said Henderson. "No one knows how far vibrations may travel, and no one can state positively whether or not they diminish with distance in space. For all we know, every wave may go vibrating through space forever and reach the most distant stars. And in that case mine may reach Mars and put their sending apparatus out of order. I don't see any scientific reason why, assuming my device reverses the Martian waves or alters them in one place, it shouldn't do the same thing right back where they start. But of course, if it's the other way, if it's an anti-gravitational action or if it's a magnetic effect, it wouldn't work. And it puzzles me how they keep going after I switch off. It doesn't work that way with the pieces in my laboratory; just as soon as I turn off the current, down they come again."

"Isn't it possible," I suggested, "that they only drop back when they are within a certain distance of the earth. But once they get well started, traveling at full speed, their momentum is sufficient to carry them beyond the gravitational pull of the earth and within the attraction of Mars."

Henderson shook his head. "The Lord alone knows," he declared. "But there's one thing certain. If we keep on sending the things off and no more come back, we can feel darned sure we've beaten the Martians at their own game, and that's the one really important thing."

Needless to say, Henderson's announcement of his most astounding and latest discovery not only amazed but elated the entire world. And no one, not even the most pessimistic and skeptical, could question its truth. All knew that projectiles had been seen to shoot into space. He actually had accomplished what he claimed, and it was only a question of time and the installation of apparatus before the last of the deadly things would be sent back to their place of origin.

Henderson had promised that he would demonstrate his discovery again that night and would send several more of the projectiles into the heavens, and tens of thousands of people waited and watched the darkening skies as night approached.

They were not disappointed. Three of the projectiles hurled skyward from the Litchfield Hills that night, their dazzling green light illuminating the country for miles around, and in their flight they were visible to watchers more than two hundred miles distant.

And not a single falling projectile had been reported from any portion of the world since our first successful test of Henderson's apparatus.

Whatever the reason, whatever the explanation, we—and the public as well—were convinced that the sudden and complete cessation of destructive Martian projectiles was a direct result of Henderson's feat, and the world went mad, delirious with joy. Everywhere there were wild, enthusiastic celebrations and thanksgivings. The world was saved, the Martians were defeated! Once more people could live without fear of being destroyed at any moment. Once again the cities would be safe from sudden and complete destruction.

And nightly, daily, steadily, the great masses of metal from another planet were being projected into space. Thousands of the Henderson repeller devices were being manufactured. Thousands of men equipped with wave-proof outfits were hunting out the fallen projectiles and, by pressing a tiny switch, were hurling the stupendous masses of metal from the earth.

From sundown to sunrise the skies were ablaze with the flaring, speeding, ever-vanishing things. They had fallen to earth singly, by twos and threes, by dozens. But they were leaving, rushing back to their source, by hundreds, thousands, at a time. Never in the world's history had there been such a wondrous, fascinating, awe-inspiring sight as the countless streaming, fiery objects presented. It was like an incessant display of innumerable sky-rockets multiplied ten thousand fold. No more projectiles fell, no more were seen. The papers ceased publishing Henderson's forecasts. People moved back to abandoned cities. Valuable were replaced in their original resting places. Within a few weeks nearly all the projectiles lying outside the ruined cities had been disposed of. Only those buried in the ruins they had wrought and those which fell in the most remote districts remained.

Then one day Fothergill burst into the room where I was talking with Henderson. His eyes were wide, his face flushed, his hair rumpled and he was fairly bristling with excitement.

"I've seen it!" he yelled. "It's marvelous, absolutely astounding! There's no doubt about it!"

"Hold on, old man!" cried Henderson. "What's all the shouting about? Talk sense and tell us what 'tis you've seen, what's so astounding, and what there's no doubt about. I assume it's something to do with that new telescope of yours. Seen the man in the moon or is old Mars itself coming down to attack us?"

Fothergill mopped his brow and grinned. "Not quite that," he said, more calmly. "But it *does* have to do with the new telescope. I used it last night for the first time—it's the most powerful of its type in the world, as you know. And the first object I viewed was Mars. I——"

"Quite natural," commented Henderson. "Well, what *did* you see?"

"It's what I didn't see, that surprised me," declared

Fothergill. "I have frequently observed Mars through my own as well as other instruments; I am thoroughly familiar with its various features and I have, of course, been more than usually interested in the planet since you promulgated your theory of the Martian origin of the projectiles. I may, I think, without exaggeration, state that I am as conversant with the superficial aspects of Mars as with those of the earth itself, perhaps even more so, as I have never had the opportunity of viewing the earth's surface from a distance from which it was observable as an entity. I have, as I have said, devoted a great deal of study to Mars, and it was largely due to my interest in that planet and my desire to see more of its details, that I ordered this new and extremely powerful telescope. In fact——"

"For Heaven's sake, Fothergill, tell us what it's all about!" demanded Henderson. "You certainly didn't get all het up over anything you've said yet. What was it you *didn't* see. Don't tell me Mars has vanished—that we've smashed him all to pieces by our bombardment."

"No, indeed!" Fothergill exclaimed. "Mars is—or was when I last observed it, still in its accustomed position and is, as you would flippantly express it, 'going strong.' But the astonishing thing, the matter that amazed me, is that the face of Mars is completely altered. Several of the larger equatorial canals have completely vanished; others have entirely altered their size and position, and where formerly there were level illuminated areas there are now shadows indicating irregularities of immense dimensions. In fact, through my superior telescope I could clearly discern the existence of huge craters, quite similar to the lunar craters. There can be but one explanation, Paul. The projectiles hurled back at Mars have created stupendous disturbances upon that planet."

"Three cheers for us!" shouted Henderson, leaping to his feet. "And if I'm not mistaken, the darned things are just beginning to arrive at their destination."

"Jumping Jupiter! What's going to happen on jolly old Mars when they begin to arrive in full force?"

"That I cannot say," declared Fothergill, controlling his excitement with an obvious effort. "But if, as you say, and as calculations indicate, only the vanguard of the projectiles has wrought so much havoc on the planet, I should assume that, by the time they have all descended upon its surface, the greater portion of its visible area would be in much the same condition as the battlefields of France during the World War."

Henderson emitted a long whistle. "Good Lord!" he exclaimed, "I hadn't thought of it before, but don't you see, Merritt and you Fothergill, what will happen up there? Mars isn't anything like the size of the earth, and so the projectiles will be concentrated instead of scattered. And there's another thing. Probably all of them were shot or sent or fired or directed or whatever it was from one point. And if they follow the same course back, they'll all land pretty close to that point. Gosh almighty! Things must be getting pretty hot up there by now. Wish we could see 'em landing. Just try to imagine it. Think of hundreds of projectiles, weighing anywhere from one hundred to one thousand tons, banging into poor old Mars in a steady stream! It was bad enough here, but it must be a darned sight worse there."

"You must bear in mind," remarked Fothergill, "that an object that weighs one thousand tons here will not weigh much more than one hundred tons there. Moreover, the projectiles must of necessity lose a large portion of their weight during their flight through our atmosphere and through that of Mars, due to the frictional heat and the consequent combustion of their gaseous contents."

"Maybe," assented Henderson, "but don't forget they've come the devil of a distance and darned fast. According to the laws of physics, a small body traveling at high speed strikes as hard a blow as a large body traveling at proportionately low speed. And according to your own observations, those things must be banging into Mars with awful jolts."

"I should think," I ventured, that, if they are actually the cause of the changes Fothergill reports, we should be able to see them strike or at least should be able to see their immediate effect, if we watched carefully through the telescope."

Fothergill shook his head. "No, even my telescope is not sufficiently powerful for that," he declared. "Although it might be possible to note the changes of the surface as they occur. I am going to communicate with Lick, Harvard and other observatories and inquire if any unusual changes have been noticed on Mars. I'll communicate with you as soon as I know. And I hope you will both come to my observatory tonight and have a look at the planet."

Within an hour after his departure he called us up.

"I was not mistaken," he announced triumphantly. "Several astronomers noticed the same disturbances, but they did not associate them with the projectiles. I shall write a monograph upon the subject."

When we entered his palatial home that evening, he was jubilant. And when, after he had adjusted the enormous and complicated telescope that had cost him several fortunes, and I peered into the eye-piece, I did not wonder at his enthusiasm and excitement. There, appearing nearer than the moon shows through an ordinary telescope, was Mars, glowing ruddily, its gleaming ice caps sharp and clear, its surface streaked with the dark lines of its mysterious and puzzling canals. Even I, unfamiliar with the ordinary aspects of the planet, had no difficulty in seeing the circular and semi-circular shadows that marked immense depressions or craters exactly like those upon the surface of the moon. I noticed, moreover, that several of the canals were broken and interrupted, that several of the craters were in the canals themselves. I was convinced that Fothergill was right, that the planet was being scarred, blasted, altered; was suffering terrific damage from the projectiles with which the Martians had attempted to destroy the earth. Henderson, too, was convinced. "It's all up with the Martians," he said, as he gazed into the eye-piece. "Begins to look like the moon already. I've heard some astronomers claim that the craters on the moon were caused by giant meteorites, that its atmosphere, its life had been wiped out by meteorites in past ages. I wonder if at some time someone—maybe the Martians—tried the same trick on the poor old moon. I shouldn't wonder, if, by the time we get through, Mars is as dead as the moon is now."

And as the days and weeks passed it began to look as if his words would be borne out. The surface of the planet was speckled with craters; one by one the canals vanished, the ice-caps crept farther and farther from the Martian poles towards the equator, and there were no signs of life, no new canals visible.

Meanwhile the work of ridding our earth of the few remaining projectiles was proceeding steadily. But it was now slower work. Those that remained were buried in the ruins of the cities and buildings they had destroyed, and vast quantities of débris had to be removed before they could be reached.

In many cases, where they were not deeply buried, they could be projected despite their covering. It was a marvelous sight to see a great pile of broken stone, bricks, masonry and twisted structural steel suddenly erupt like a volcano, to see the stones and beams hurled to every side, and to see a great gleaming, roaring mass burst forth and go screaming upwards into the sky. But it was dangerous work, the apparatus had to be operated from a distance, and even then one could never feel certain that all of the death-dealing mass had been eliminated. Very frequently the projectiles had been shattered when they struck buildings and other structures; in other cases two or more had fallen side by side, and although one might force its way upward others of smaller size or more deeply buried might still remain among the ruins. Quite a number of serious accidents and several deaths had already been caused by these conditions during the earlier part of the work. The men, thinking they had eliminated the things, removed their wave-proof coverings in order to work more freely, and were struck down by the waves emanating from masses still hidden in the débris.

To obviate all such perils and casualties, and to speed up the reconstructive work, Henderson had invented and was perfecting an improved device of far greater scope and power. This, he explained to me, was to embody both a finder and a repeller. He had discovered, he said, that the so-called death-waves not only affected human and animal tissues—the brain being most susceptible, but that they also affected various inorganic substances. This was particularly true of mineral salts and metallic oxides. Blue vitriol, or copper sulphate, became dull yellow; copper carbonate changed from green to purple; gold chloride was transformed from yellow to black; silver chloride became green, and the mercuric oxides became intense blue when acted upon by the waves.

"The trouble is," he declared, "that none of these are affected unless close to within a few inches of the stuff, and the color change is permanent. What I'm looking for is some material that will alter in color when a long distance from a projectile or even a fragment of a projectile. It must be extremely sensitive to the waves—as sensitive to them as is the human brain, and it must change back to its natural color as soon as it is free from the action of the waves. Of course," he continued, "that is not essential, for I can probably restore the normal tint by using my resuscitating waves. If I can find such a salt or oxide, we can then locate a mass of the material, get rid of it, and be sure there are no bits remaining to raise hades later on. You see, Merritt," he added, speaking very earnestly, "it wouldn't do to have a mite of the damnable stuff hanging about. Even after a city was rebuilt and all had been going on as usual for years, someone might be digging a hole or some kid might be playing in a sand pile and a piece of the stuff would bob up and kill God knows how many people."

"I see your point," I replied. "But I'm afraid you've got a mighty hard job to be absolutely dead certain that not an atom of the stuff remains on earth. A lot of it must be under water, in ponds, lakes or rivers—and may be dredged or fished up at any time. A lot of it must be in deserts and forests and among mountains where no one suspects it. It's like the dud shells and the floating mines after the World War. Even now they're still turning up at times and causing accidents."

"Yes, but that's different," persisted Henderson. "There is no way of locating those, and no known way of getting rid of them without actually finding them. But with this stuff it's another matter. If I can locate the things, I can get rid of them even if they're not visible. I admit if they're deep under water, they'll probably have to remain there until they decompose and disappear. And of course neither I nor anyone else can cover every square mile of the earth's surface hunting for stray pieces. Neither can anyone stamp out all the rattlesnakes in the world, but that's no excuse for having rattlers under one's doorstep or in one's city yard. And you may not have noticed it, but it's darned funny that the stuff goes on sending off those death-waves despite all we've sent back to Mars, and that the chances are ten to nothing that every Martian is dead and gone. Either the things send out the waves of their own accord or else the controlling waves keep on coming from Mars without anyone directing them."

"Yes, I had thought of that," I replied. "But about this new device of yours. Instead of hunting about for the finding material, why don't you make the thing so that you can set it going and be sure that every speck of material within a certain area has been blown into space?"

"Because," he laughed, "there are certain things that are impossible. We can't entirely defy the laws of nature, you know. No matter how powerful my apparatus might be, it couldn't make a five-pound piece of the stuff force its way through a fifty-ton block of granite, a ten-ton I-beam, or two or three hundred tons of dust, dirt and broken stone."

"No, I suppose not," I admitted, "but do you think you'll ever find the material you need for your indicator? There are such an unlimited number of salts and oxides, sulphides, chlorides, sulphates, chlorates, carbonates and all, that you could spend years experimenting with them. Even then you might overlook the very one you needed. It might be right under your eyes, so obvious that it never occurred to you. It might be any common thing—even common salt. It——"

Henderson gave a yell that startled me and leaped from his chair. "By the Lord, Merritt!" he cried, "that may be the very thing. I'm going to try it."

Now in any story, any fiction, by all the rules of the game, Henderson should have found that salt *was* the very thing he sought. But this is not fiction and hence it is not surprising that salt was not the desired material. But salt, as everyone knows, is sodium chloride, and, once his attention was turned to that metal, Henderson determined to go through the whole known list of sodium salts and compounds. To do so took some time, but he was amply rewarded in the end. Pure metallic sodium did the trick. It was extremely sensitive to the death-waves and showed marked alteration even beyond the range at which the waves affected the human brain. And the intense ruby red that it assumed when subjected to the waves faded out and disappeared as it was withdrawn from them. Henderson, of course, was delighted. He insisted that I had succeeded where he had failed, but I wouldn't listen to that. I had mentioned salt merely as the commonest thing that came to mind to illustrate my

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One Leg

By W. Alexander

Author of the series of short stories which appeared in Amazing Stories from time to time

A JUDGE can appeal to any fact that he absolutely knows and put it on the record, much as if sworn to by witnesses. He is then said to take "judicial cognizance" of the fact in question. Some low forms of life reproduce limbs which have been lost by accident. Suppose we were as fortunately constituted, how convenient it would be. This story is a blend of law and anatomical science that holds the attention to the final words.

AS Dr. Wentworth stood on the steps of his residence awaiting the arrival of his chauffeur with the car, he watched with a speculative eye a young man cutting the grass of his well-kept lawn. The chap, he thought, was about twenty-five, and strong, for he pushed the heavy lawn-mower with ease, although somewhat handicapped by a wooden leg which occasionally sank deep into a soft spot on the lawn.

"Good morning, William," greeted the doctor approaching him across the springy sward. "You seem to be working hard this warm morning. By the way, how long is it since you lost your leg?"

"Good morning, Doctor," answered the young man, with a wide smile, which exposed a beautiful set of white teeth, and also a cavity where a molar was missing. "It is about eight years since I lost my leg. It was crushed in a railroad accident and amputated about four inches below the knee."

"How would you like to have a new leg?" asked the doctor.

"Oh, you mean one of those new-fangled artificial legs with joints and all that? I guess that would be fine. I see fellows walking around with them and you can hardly tell they are artificial, but I understand they are very expensive."

"Well, that is not just what I mean; but suppose you drop in to see me tonight about eight and we will talk it over."

"MR. WILLIAM HALL to see you by appointment, sir," Haskins, Dr. Wentworth's man, with a bit of a sniff, announced that evening, as the doctor sat reading in his library.

"Very well, Haskins," the doctor replied. "Show him in and see that I am not disturbed for the next hour."

"Come in, William," called the doctor when the young man appeared, looking well groomed in a neat brown suit. "Make yourself comfortable in that easy chair. You will find smokes of various kinds on the stand beside you."

After William had touched a match to a long, slim cigar and had settled back comfortably in his chair, Dr. Wentworth asked:

"How long have you lived here, William?"

"Almost five years. I came here from Dancerville, Iowa, about a year after my accident. I had been living with my father on a farm just outside the village, but we quarreled and I left home."

"How much schooling have you had?"

"High school and one year in college."

"Then you have probably read enough," said the doctor, "not to be too startled at what I am about to say to you. You know that science has made immense progress in the past twenty-five years, more perhaps than was made in the previous two hundred years.

"A few years ago I became convinced that the human body should be able to replace by new growth a lost limb, as do crustaceans such as the lobster, shrimp, crawfish, and many others. After some investigation I concluded that the lobster was the best adapted for the purpose of my experiments, as it grew a lost leg or claw much more quickly than the others.

"My first effort was to learn what part peculiar to these creatures caused the new growth. For this purpose I secured from a French scientist, a friend of mine, an X-ray moving picture machine and a projector, that I might note on the film any changes in the lobster's interior while the new growth was taking place. It was in this way that I learned of a ductless gland which became intensely active the minute a claw or leg was lost. This gland immediately swelled to twice its normal size and emitted a constant flow of hormones into the bloodstream until the claw was fully grown, then it subsided to normal size and apparently lay dormant."

"This is all very interesting, Doctor," interrupted William, "but a little over my head. What, for instance, are hormones?"

"Roughly speaking," explained the doctor, "hormones is the name given to the secretion of ductless glands—glands with no outlet—which is sent through the bloodstream to rejuvenate some part of the body. As you are probably aware, gland transplantation from animals to the human body has been carried on with more or less success for some time. It occurred to me that if this new-growth gland could be transplanted from the lobster to a human body, it would function in the same way and for the same purpose, thereby causing a new limb to grow on the human body where one had been lost by accident.

Too Many

Illustrated by Briggs

¶ *As he listened to the scathing denunciation of the judge, he was filled with rage to think that these small-town ignoramuses should doubt his word. Then he was seized with an inspiration, a method of proving the truthfulness of his story*

"The chief difficulty was to find a method to successfully transplant a living gland from a lobster—a cold-blooded arthropod—to a warm-blooded animal, under which head a human body would come. After a number of failures I succeeded in transplanting a gland to a guinea-pig's leg. I reduced the blood temperature in the guinea-pig by partially shutting off blood circulation in the leg and packing it in ice until the gland had thoroughly knitted to the animal's tissue. My next successful operation was to transplant a gland from a lobster to a male and female guinea-pig, as I was anxious to find if the gland would be transmitted to their young.

"While I was awaiting developments in this operation, the first guinea-pig lost three toes in an accident and when they quickly grew out again, I knew my experiment had opened a vast field of possibilities. Later I found that the progeny of the pair of guinea-pigs had inherited the gland and the ones I now have are the tenth generation and the gland in them is almost twice the size of the gland originally transplanted from the lobster.

"I am now ready to carry my experiment to its conclusion, that is, transplant a gland from a guinea-pig to a man. I am inviting you to participate in this experiment with me. If it is successful—which I have no reason to doubt—you will again have two sound legs; if unsuccessful, you will be no worse off physically and I will make you a present of five thousand dollars to assuage your disappointment. What do you say?"

"You almost take my breath away!" exclaimed the astonished William. "If I did not know of your reputation for performing operations that seemed like miracles, I would call it all a fairy tale, but I am prepared to believe that a doctor who can transfer vital parts from one person to another can do almost anything. I am ready to take a chance with you. When do you wish to operate and how long will I be laid up?"

"I will make the gland transplantation tomorrow, and unless my calculations are wrong, your new leg should be fully grown in thirty days."

THE first and second efforts were failures as the gland refused to amalgamate with the tissues of William's body. In the third operation Dr. Wentworth filled the incision, in which the gland was to nestle, with

Dr. Zambi's famous Collodiansy and in thirty-six hours it had adhered to the surrounding tissue and was functioning as perfectly as though it were an integral part of William's body. Then the doctor removed the skin from the end of the leg-stump and all was ready for the expected growth.

It was with fascination and almost awe that Wentworth and William watched the leg grow by inches day after day, until at the end of thirty-five days William had two as fine a pair of legs as any sturdy young man could desire. While watching the developments of the operation, the doctor and William had become very friendly. On the day he was to be dismissed from the hospital, Dr. Wentworth asked William:

"What are your plans for the future, William?"

"I am going to look for a job, sir," he answered. "Something better than pushing a lawn-mower. With my wooden leg I was too diffident to go after anything better, but now with two good legs, I feel that I can tackle more."

"I am badly in need of a secretary," remarked the doctor. "I wonder if you would care for the position? You could handle it nicely, your chief duties being to relieve me of the many minor details connected with my work that now harass me."

"Thank you, Doctor," replied William, gratefully, "I don't know of a position that I would like better. Since I have been here in the hospital I have read many of your medical books, especially those telling of your wonderful operations. It seems to me that your success with my leg opens vast possibilities in surgery. It seems logical that from now on, when a patient is about to be operated on for the removal of some part, a gland will first be transplanted to the patient. Then after the diseased part or organ is removed, the gland will quickly cause a new and healthy part to re-grow. I have been keeping a surprise for you, Doctor. Do you remember the cavity in my mouth where I had lost a molar? Look at it now."

The doctor looked and was startled to note that the cavity was now filled with a new tooth.

"That is surprising," said Dr. Wentworth. "If the gland will cause one new tooth to grow, it could also cause a whole set of teeth to grow, replacing those removed. And as you suggest, it should cause internal parts to grow where those diseased had been removed."

WILLIAM had been with Dr. Wentworth for six months, when he entered the library one night very much excited.

"Doctor," he cried, "read this letter which I just received."

The doctor took the letter and read:

Dancerville, Iowa, April 10, 1926.

Mr. William Hall,
San Diego, Cal.
Dear Sir:

Your father died some five months ago, since which time I, as executor under the will, have made every effort to locate you, as you are named as sole heir. I learned today that you had been seen in San Diego some time ago, so am addressing this letter to that point in hopes of reaching you.

You may not be aware that your father left an estate of considerable value, approximately half a million dollars, oil having been found on the home farm shortly after you left. If this letter reaches you, wire me at once when you will arrive here.

Yours truly,
James Ralston,
Executor, Estate of Frank B. Hall.

"That certainly is wonderful news, William," said the doctor heartily. "Did you wire Mr. Ralston?"

"Just going to do so now. Can I leave for Dancerville tomorrow morning, sir?"

"Surely, William," answered the doctor, looking at him with affection. "I am going to miss you badly, but I am happy in your good fortune."

"Oh, you are not going to lose me, Doctor," replied William. "I have become too much interested in your work to leave you now. This money will enable me to take the medical course I have wanted."

Ten days later Dr. Wentworth received the following telegram from William, dated at Dancerville:

"Executor refuses to turn estate over to me, claiming that I am an impostor. Says the William Hall who is the heir has but one leg, while I have two. Explained about operation, but he just laughed. Have brought suit for possession of estate, case comes to trial next Monday. Can you be here to help me prove that I am I?"

The doctor wired William that he would be there and commenced at once to arrange with his assistants for the care of his patients.

On the following Monday, when William's attorney put Dr. Wentworth on the stand, he told of his experiments and eventual operation on William, which produced the growth of a new leg. When he had finished his recital, he saw that Judge Long, before whom the case was being tried, and also the spectators in the court-room, were incredulous. He even fancied he heard a titter ripple through the room.

"Doctor, if doctor you be," said the judge, shaking a finger at him in wrath, "that is the most preposterous story to which this court has ever been forced to listen. There is evidently a conspiracy here to defraud the real William Hall of his inheritance. Grow a new leg indeed! You should be indicted for perjury and I shall bring the matter to the notice of the Grand Jury."

Dr. Wentworth was greatly embarrassed and, as he watched the finger the angry judge was shaking at him, he absently noted that the first joint was missing. As he listened to the scathing denunciation of the judge, he was filled with rage to think that these small-town ignoramuses should doubt his word. Then he was seized with an inspiration, a method of proving the truthfulness of his story.

"Your Honor," he asked, "may I have a word with you in private?"

The judge nodded and he mounted the rostrum to his side and whispered to him for a moment. Judge Long was seen to shake his head vigorously, but still the doctor whispered. At last the judge was seen to nod and Dr. Wentworth walked from the room, a half smile on his lips.

Judge Long glared about the room for a moment as though seeking a culprit on whom he could vent his wrath, then seeing none, pounded on his desk with his gavel and said: "This case is postponed for ten days. Clerk, call the next case."

TEN days later the case was again called for trial and the attorney for the defense at once put on the stand a number of witnesses. First came the doctor who had amputated William's leg and the nurse who attended him. Then the claim-agent of the railroad who had settled William's claim against the company. Next came a dentist who testified to pulling a molar tooth for William Hall. Finally, several neighbors were put on the stand who had known William after his accident. They all testified that the plaintiff closely resembled William Hall, but were sure he had but one leg.

The attorney for the defense, in concluding his summing up of his case, said: "Your Honor, we feel that we have made our case. We submit that this is the most brazen attempt of an impostor that we have ever witnessed. While it is true that the plantiff does closely resemble the missing William Hall, he has one leg too many to qualify. We rest our case."

The attorney for William Hall, the plaintiff, stated that they really had but one witness, Dr. Wentworth, and as the Court had already heard his testimony, they felt it unnecessary to again put him on the stand. Therefore they rested their case.

Judge Long arose and leaned on his desk, peering over the top of his glasses at the spectators in the court-room. His chin whiskers were slightly a-tremble and an odd smile played about his lips. After a moment of silent gazing he spoke: "In the past ten days this Court has looked into the record of Dr. Wentworth, the only witness of the plaintiff, and found to its astonishment that he is a scientist of international renown. He has performed many operations that to the lay-mind appear little short of miracles. Ten days ago this Court, in its ignorance and small-town bigotry, spoke to this honorable gentleman in a manner for which it now most humbly offers its apologies. I say to you that a monument should be built for this man to commemorate the relief he has brought to suffering humanity with his wonderful operations.

"This Court finds for the plaintiff and instructs that the defendant, James Ralston, shall at once turn over the estate in question to the plaintiff, William Hall."

After a dramatic pause, Judge Long raised his right hand in the air, index finger extended, and cried: "There is the evidence that convinced this Court."

The spectators, familiar for years with the sight of the judge's finger with the first joint missing, now gazed with astonishment at that same finger with the first joint three-fourths grown and almost half of a new nail showing.

THE END

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 anyone 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 of science.

1. What is the law of impact of a moving body with a stationary one? (See page 510.)
2. What is judicial cognizance? (See page 612.)
3. What forms of life sometimes have the power of reproducing lost limbs? (See page 612.)
4. How far up the Amazon River is the effect of the ocean tide discernible? (See page 631.)
5. What kind of arrows do the South American Indians use? (See page 634.)
6. The watch can sometimes be used as a compass to guide a traveler in unknown places. Can you give an example? (See page 642.)
7. Give one example of the discharge of steam and hot water from the earth. (See page 642.)
8. Where does the heat come from that produces fumaroles or steam discharges from the ground? (See page 644.)
9. What indications of possession of legs in former ages do whales show in their formation? (See page 650.)
10. What division of animals do whales belong to? (See page 650.)
11. What process can be used to make geysers active? (See page 651.)
12. How would gravity affect travelers in a space flier? (See page 668.)

The

By
Allen S. Kline
and
Otis Adelbert
Kline

IN the first instalment of this three-part serial telling of a strange and unknown empire in an unexplored land, the author takes us through mysterious regions of the interior of South America. There is no way of telling what tribes or races of various peoples might be dwelling in these unknown places—or what progress they might have made scientifically or as a civilization. Since necessity is the mother of invention, why might not an exiled folk of many generations back have progressed along our own present-day lines? Mr. Kline needs no introduction to our readers and "The Secret Kingdom" is one of his best.

Illustrated by
Bob Dean

"Only to crave your majesty to remember his generous promise," humbly answered the high-priest

Secret Kingdom

Part I

CHAPTER I

The Minions of Hair-Face

THE morning mists hung over the river, making the outlines of the low hills with their dense tropical vegetation hazy and indistinct. A dugout canoe containing two men pushed its way steadily against the considerable current, hugging the left bank. The rhythmic rise and fall of its prow, coinciding with the almost noiseless backward thrust and forward movement of the blades, gave evidence that the craft was propelled by deft and powerful hands.

Suddenly the half-naked Indian kneeling in the stern raised his spade-like blade and gently prodded his companion in the back. The white man turned, a look of inquiry in his eyes. Placing a finger to his lips, the aborigine nodded toward the bank. His quick ear had caught some suspicious sound.

A sinister something flashed past their heads and fell into the water with a subdued gurgle that bespoke sharpness, slenderness and tremendous momentum. The two men immediately bent to their paddles and made for the opposite shore at full speed. Another swift arrow imbedded itself in a sack of provisions, its long shaft quivering from the force of the impact.

Seizing a rifle that lay in the bow before him, the white man fired several times at the spot from which the missiles had seemed to come. There was no answering cry to show that his bullets had taken effect—no sound except a timid resumption by the forest denizens of their momentarily silenced babble. The muscle-straining pace was resumed.

The canoe, with its occupants fortunately unscathed but doubly wary because of the ambush they had so narrowly evaded, rounded a bend in the stream and entered a maze of small, thickly wooded islands. Pulling up under the low-hanging bushes that bordered one of these, the men peered out for signs of their lurking assailants.

After a time they proceeded cautiously upstream, keeping always to the right so as to screen themselves from observation—a precaution which the lifting of the mist rendered even more imperative.

THOUGH still in his late twenties, the white man, Alfred Bell, had already achieved considerable eminence as a scientist. The imposing array of letters which followed his name on the title pages of his published works spoke clearly of high scholastic attainments. However, the man himself bore not even the slightest resemblance to the stately, sedate individual one looks for in the common or parlor variety of scientist. He was neither bespectacled nor bewhiskered. His forehead, while ample, was not abnormally high. His tall, athletic figure and vigorous movements marked him, not as a bookworm, but as a person accustomed to a strenuous outdoor life.

In short, he belonged to that rarer, sterner type of men, whose thirst for knowledge drives them to the far corners of the earth to brave danger, privation and death itself in their efforts to reveal to their fellow men the most securely hidden and jealously guarded secrets of Nature.

Two months before he had been detailed by the Society for Biological Research to penetrate the great, forbidding Brazilian wilderness, there to collect and classify hitherto unknown species of plants, animals, birds and insects. At the same time he had believed that he might contribute to the world's geographical knowledge by charting and describing such sections of the country as had not, up to that time, been explored by civilized men.

With Tumba, his native guide, he had proceeded from Para by steamer up the four-hundred-odd miles of the Amazon which felt the effects of the tide. They had taken to canoe-travel as soon as the danger of the tidal bore was past, completely though lightly equipped for their expedition.

In spite of his certain knowledge that they were pursued, Bell had time and again dared death at the hands of their mysterious enemies in order to gather valuable specimens. Solely on the basis of two singular experiences could he guess at the identity of their murderously minded foes. At Para, while waiting for the steamer, he and Tumba had barely thwarted an attempt by native ruffians to seize the instruments and specimen cases. Later, a glowering, hirsute, thickset German and a lean, alert Yankee had taken passage on their steamer. On several occasions Bell had surprised them casting furtive and none too friendly glances at him. Their covertly hostile attitude had led him to redouble his vigilance. The two had appeared to have considerable luggage and many native attendants.

TWICE in the forest Bell and Tumba had narrowly escaped bullets from high-powered rifles, and the keen-eyed Indian had on one occasion caught a glimpse of the bearded face of the Teuton.

For the remainder of the day the two men kept up their wearisome toil at the paddles, pausing infrequently in patches of shade to catch their breath and refresh themselves with sips of tepid coffee. The shadows lengthened and at last, satisfied that they had eluded their pursuers for the time, they landed and made camp just as the tropical night descended.

While Tumba prepared the simple meal, Bell, stationed near the ruddy fire, shook off his fatigue and applied himself to his scientist's labors. So many data had to be jotted down, while they remained fresh in his memory—items concerned with the attributes, behavior and habitat of his specimens, before the merciless cyanide had snuffed out their lives. His writing table was a specimen box elevated on pegs; his chair, a second box up-ended.

AS he sat there with the flickering firelight playing on his strong features, absorbed in his exacting task, his precise handwriting and minute attention to details seemed grotesquely out of place. Had he been whetting a woodsman's axe, the picture would have been much less incongruous; for his clothing consisted of a flannel shirt unbuttoned at the throat, tough khaki trousers and heavy boots which laced up to the knee, while the removal of a three days' stubble of reddish-brown beard had been thus far delayed by the intervention of more pressing matters. His face, neck and hands showed almost as dark as the skin of his half-clad guide.

The meal which Tumba was preparing for his employer consisted of bacon and flapjacks, but for himself he was roasting a goodly portion of a black monkey which he had brought down the previous day. In common with other natives of the country, he considered the flesh of this animal a great delicacy, and the fact that the tropical climate had rendered his kill slightly odoriferous, mattered not a whit to him.

Besides many other rare specimens, Bell had carefully preserved and mounted a small insectiverous marsupial, remains of which had previously been found in the strata of the Triassic period, but which scientists thought to have been long extinct. He was particularly elated over this discovery and dwelt for a brief time on the triumph that awaited him, should he succeed in getting back to civilization with his collection intact.

So engrossed was he in these pleasing reflections that he failed to hear Tumba announce "Chow ready."

The Indian repeated his statement more loudly, and Bell, roused from his reverie, put his manuscript in the box and sat down to the simple meal. He had hardly sampled the food when a portentous sound caused him to drop knife and fork with a start, seize his rifle and hurriedly arise. In the thick trunk of the huge *miriti* behind him vibrated the shaft of a deadly blow-gun dart. He leaped behind the tree and scanned the surrounding brush. Tumba had disappeared. Abruptly a scream of pain and terror rent the air. Out of the shadowy obscurity in the direction from which the poison-tipped missile had come a crouching figure darted into the circle of firelight and made straight for the specimen cases. The scientist raised his gun with a swift movement and fired. The marauder toppled forward, knocking the larger box from its supporting pegs.

RUNNING to the side of the fallen man, his rifle held ready for action, Bell noted the location of the wound on the glistening, half-naked body. A tiny stream of blood trickling from the side of the prone savage told him that his bullet had found a vital spot. A long blow-gun lay beside the dead man and depending from his belt were a bamboo quiver, which Bell knew contained the poisoned darts, and a heavy *machete*.

Bell was about to plunge into the undergrowth and search for his faithful guide, when the figure of a man appeared at the edge of their small clearing, dragging another. The man dropped his burden, peered cautiously around and said softly:

"No shoot. Me Tumba."

With a suppressed exclamation of relief, Bell lowered his weapon.

"Tumba, you scamp," he said, "where the devil have you been?"

The Indian swept his arm around in a circle to indicate that he had been reconnoitering.

"How many men try kill us?" questioned the scientist.

Tumba held up two fingers. Then, after pointing significantly at the huddled shapes at their feet, he turned toward his interrupted repast. But the scientist was not yet ready for food.

"You think safe now?" he asked.

The taciturn Indian nodded his head, munching a mouthful of monkey flesh.

"These men live here?" persisted Bell.

"No," said Tumba, breaking his silence, "belong Para —long way."

"Belong Hair-Face?" asked the white man, using the name by which Tumba customarily identified the bewhiskered German.

"Think mebby," answered the Indian.

Then, apparently wishing to reassure his employer, he added:

"Hair-Face long way back. Come tomorrow."

Satisfied for the time, Bell attacked the meal that had been prepared for him. They ate as only healthy men can who have passed the day in strenuous toil. At length Tumba rose sluggishly, for he was gorged with flesh, and started to sling his hammock where the smoke from the fire would float directly through and around it. Such was the manner of his race, providing against molestation by mosquitoes and other insect pests. The Indian seemed content to pit his keen senses against the chance of further attacks by their enemies, his tired body insistently demanding sleep.

Bell, however, thinking of this new attempt on his precious specimen cases, decided against remaining in camp. He had fired a shot, and keen aboriginal ears could hear it and accurately guess its location from great distances. Accordingly, he arrested the drowsy Tumba in his preparations for repose and curtly ordered him to assist at packing up.

They loaded the canoe and paddled out on the river beneath the star-sprinkled heaven. A few moments later Bell fervently thanked his own lucky stars for the intuitive warning that had impelled him to break camp; for, upon looking back, he saw a dozen shadowy figures silhouetted against the firelight. Shouts of savage rage greeted the finding of the slain prowlers. Swiftly, silently the two men strained at the paddles in a desperate effort to get out of bowshot before this detachment of their pursuers could discover their proximity.

CHAPTER II

A Singular Acquaintance

"TUMBA, you lazy lump of sun-baked clay," said Bell, emphasizing his words with a prod from the surveying instruments he carried, "why the devil haven't you cooked up?"

The Indian grunted, slowly lowered his feet from the hammock to the ground, and, rising, removed the lid from a kettle. A rich, rare and racy aroma smote the scientist's nostrils.

"Pah! Stewed ocelot!" he exclaimed disgustedly, "and three days old at that. Do you take me for a condor?"

"That all chow we got," replied Tumba apologetically. "Where's the bacon?"

"All gone."

"And the flour?"

"All gone, too."

"Well, thank heavens, there's plenty of fresh meat roaming around us and we still have cartridges."

He deposited his surveying instruments and charts on the ground, unslung the rifle from his back and remarked:

"I'm going out after some white man's food. You guard camp."

Replacing the kettle lid, Tumba grunted once more and shuffled back to the hammock while his employer struck off at a swift pace through the small clump of trees that bordered the ravine in which their camp was pitched.

Months had passed since their last encounter with the advance guards of the mysteriously belligerent Teuton, each replete with its own toils and dangers. They had traveled rapidly until reasonably certain that they had far outdistanced the more heavily equipped party of their pursuers; then had settled down to the no less arduous work which had induced the scientist to enter this vast tropical wilderness.

Bearing steadily westward, Bell had continued to increase his treasures of specimens, notes and charts, with the result that these now formed a considerable portion of their luggage. Their provisions had dwindled at a corresponding rate, despite the substitution of fish, game and fruit whenever possible, until there remained but a small tin of coffee, a handful of salt and a pinch or two of tobacco.

The torrid climate of the country through which they had passed had shown but little appreciable change from month to month, except for the added discomforts caused by the periods of greatest rainfall. Now, fortunately, they had entered upon the comparatively dry season, and Bell had made the most of his increased opportunities by widening the range of his explorations.

His map showed him that they had reached a locality the topography of which had never been recorded by a white man, and so anxious was he to round out each day's quota of thrilling discoveries, that the depleted condition of their larder vexed him sorely—not that he was alarmed, but simply because its replenishment hampered his scientific labors. The duties of Tumba, except when they were moving on to a new site, were necessarily restricted to guarding camp and preparing meals.

BELL'S explorations that morning had been to the eastward. Following his resolution to seek palatable meat, however, he strode along the gradually ascending course of the ravine, which led him for some distance toward the southwest. As he trod the margin of the swift stream, the going became steeper and more rugged. Presently, after being compelled to climb out and detour through the forest, he arrived at the base of a roaring waterfall at least fifty feet in height.

Divided by a projecting rock at the summit, it reminded the hunter of a pair of gigantic, gracefully hung drapes, gleaming white in the rays of the sun and decorated with tossing, shifting, rainbow-tinted spray. Beside this gorgeous product of Nature's handiwork and immediately confronting him was a shaggy cliff, in the fissures, seams and niches of which vines, shrubs and

The scientist raised his gun with a swift movement and fired. The marauder toppled forward

occasional stunted trees had found foothold and sustenance.

Undaunted by the forbidding aspect of this unexpected obstacle to his progress, Bell swung the rifle to his back and began what proved to be a laborious half-hour of most difficult climbing. When, panting and triumphant, he at length reached the upper level and looked about him, he was both astounded and delighted at the fresh surprise which this marvelous country had in store.

A huge, flat-topped mountain, which he judged to be about ten miles away, was by all odds the most spectacu-

lar object on his new horizon. Its bare, gleaming sides appeared to be almost perpendicular. Even at this distance, it towered above its lesser fellows as a giant among pygmies. The outstanding feature of the mountain, however, was its length; for while the phalanx of surrounding upheavals represented little more than large hills, the lofty cliffs that formed the sides of the central peak seemed to extend for miles in an unbroken line.

A brief appraisal was enough to arouse the scientist's keen enthusiasm. No explorer had mentioned this mountain range. True, it was comparatively small, with a maximum height probably not exceeding seven thousand feet above sea level. Nevertheless, he reflected, no expedition could have failed to mention it, had its existence become known. The latest Ecuadorian maps showed nothing to compare with it, within at least a hundred miles of this location. There grew on him the conviction that chance had made him a discoverer indeed, both of the uncharted river, on the bank of which they were now encamped, and of this jungle-surrounded eminence.

Had it not been for the recurring pangs of hunger, Bell might have remained in rapt contemplation for an hour or more. As it was, he felt obliged to canvass the food-bearing qualities of his immediate environment.

Before him stretched a grassy savanna. He plunged unhesitatingly into the forest of waving blades, many of which were higher than his head. A few minutes' progress brought him to the summit of a small hummock. Here he was afforded a considerable view of the surrounding plain.

With quickened pulse, he brought the rifle to his shoulder in a single movement. A deer was grazing peacefully about a quarter of a mile away. The eager man had already tightened his grip on the trigger when he noted that the wind was in his favor. Confident that he could approach for a closer shot, thus making it easier to locate his kill, he began stalking the animal with high hopes of a venison steak for supper.

HE had proceeded only a few yards, however, when a new and amazing sight gave him pause. Directly in his pathway was a man spectacularly garbed, bending over a young cougar whelp—one hand busy with a cloak which muffled its whines and snarls, the other averting the menace of sharp little claws by holding fast the twitching hind legs.

Bell had seen hundreds of Caribs in his journeyings through the country, but this man was not a representative of that widely scattered tribe—of so much the scientist was sure. Clothed from head to foot, whereas the Caribs seldom wore any article of apparel other than a loin cloth; the refinement of his countenance in decided contrast with the sullen ferocity which seemed to characterize the savages' broad, swarthy faces—the surprising individual over whom the avid hunter had well nigh stumbled seemed far removed, both in culture and in physical characteristics, from the uncouth rovers of the near-by jungle. In fact, the scientist concluded, there was a strong resemblance to the Aryan type, with the one exception that the stranger's skin was a trifle darker than that of a white man. His nose was but slightly aquiline, his forehead high, while his mouth was firm and thin-lipped and his chin quite prominent.

He had succeeded in binding the feet of the struggling cub and had started to carry it off by the loose skin of its neck, when Bell saw a female cougar, evidently the mother of the captured kit, creep up behind and crouch for a spring. With action outstripping conscious thought, the scientist brought up his rifle and fired.

The bullet struck the beast in the shoulder just as it vaulted through the air. With terrible claws still a-spread, it alighted on the captor's back, then rolled off, clutching and clawing at the surrounding vegetation.

As Bell hurried forward, the stranger turned and whipped a jeweled sword from his side. Noting, however, that the cougar had ceased to struggle, he returned the weapon to its scabbard, the while he calmly awaited his rescuer's approach. Their eyes met in a steady gaze for a moment, and Bell could detect in the other's face not the slightest indication of excitement or pain, although his clothing had been torn and his back cruelly lacerated by the sharp claws of the furious beast.

The stranger was the first to speak.

"An excellent shot, señor," he said in pure Spanish. "May I ask whom I have to thank for this unexpected favor?"

"My name is Bell, Alfred Bell," the scientist replied in the same language, "and as I have but rendered that common service which is due each and all of us from a fellow man, thanks are quite unnecessary."

A brief silence ensued, during which Bell noted the brilliant, not to say magnificent, apparel of the man he had befriended. His clothing was woven of exceedingly fine wool, dyed a rich purple and secured by golden clasps ornamented with precious stones. On his head was a turban of many-hued folds, encircled by a bright scarlet fillet of tasseled fringe, from which protruded two feathers of the same color, held in place by a jewel-studded fastener. His feet were shod with sandals, of a pattern entirely new and strange to the scientist, and his sole visible weapon was that exquisite sword—a replica of the type carried by Spanish adventurers of the sixteenth century. He had about him an air of regal hauteur and reserve, and it was quite evident to Bell that he was a person of high rank, perhaps of royal blood.

THE rather tense quiet was broken by a chorus of yells from beyond a near-by ridge, and Bell was surprised to see a dozen men, carrying army rifles with bayonets fixed, rushing toward them. As they approached, the stranger gave a sharp command in a tongue unknown to his rescuer, whereupon they halted immediately and came to attention.

"You will pardon the impetuosity of my men, Señor Bell," said he, "but, hearing the report of your rifle, they imagined that I had come to harm and hastened to my assistance."

"Which was quite natural," replied Bell, smiling. "You are most fortunate in having such faithful retainers."

When the chieftain had motioned to one of the men to come and get the young cougar, he again addressed Bell.

"As I said a moment ago, I owe you a debt of gratitude that cannot be repaid in words—but it is possible," he added significantly, "that if you will come with me I may be able, in some slight measure, to recompense you for your kindness. At the same time, I can save you the trouble of further search, with its attendant dangers, for that which white men seem to hold dearer than life."

"If you mean gold," responded Bell, quickly divining the veiled inference of the other, "you are slightly mistaken regarding my mission in these parts. I am a seeker

after knowledge, not wealth, and am at present engaged in collecting and classifying specimens of your flora and fauna for the edification of the scientific world."

"Nevertheless," said the chief, "your appearance shows that you have passed through many hardships and are greatly in need of rest and recuperation. Come with me as my guest and find surcease from your strenuous labors."

In his travel-worn condition, the scientist was not averse to accepting this friendly offer of hospitality. Moreover, a consuming curiosity urged him to find out more about the identity of this important personage, and to learn what manner of people he ruled. Bell had noted with surprise that the soldiers were much darker skinned than their commander, as well as coarser featured, more nearly resembling the aborigines of the region. Still, it was quite apparent that they were not common Caribs, both because of sundry outward evidences and because they spoke a tongue wholly unlike that of the natives with whom he had previously come in contact.

"I should take great pleasure in accepting your generous offer," said Bell, "were it not for the fact that my specimens and manuscripts, which are far more precious to me than many times their weight in gold, are guarded by only one man and might easily be removed by a small party of marauders. Moreover, if I do not return within a reasonable time, my servant will quite naturally conclude that I have been killed or captured, and will no doubt leave the camp to its fate and attempt to make his way back to Pará in the canoe."

The reply which the urbane chieftain seemed on the point of framing was interrupted by three sharp reports from the direction of the camp, followed by two more in quick succession. Picking up his rifle, Bell set off at a dead run, attended closely by ten of the soldiers at the behest of their commander, and by the chieftain himself, who had snatched a gun from one of the two remaining men.

CHAPTER III

Madness

WHEN Bell and his new-found allies arrived within a short distance of the camp, they approached with greater caution, the chieftain sending a man ahead to reconnoiter. This scout returned in a few minutes and made a report in his own language to his commander, who informed the white man that his servant was sorely beset by a party of Caribs.

They advanced a little nearer, and Bell, looking over a ridge, saw Tumba barricaded behind the specimen cases, firing each time one of the savages showed himself and ducking now and then to escape the spear-like arrows launched at him with no uncertain aim by the attackers.

Both the bows and the arrows of the aborigines were over six feet in length and, as the besiegers were also armed with blow-guns and poisoned darts, they constituted a force not to be despised by even a much larger party than the scientist had at his disposal. They could easily have rushed and overcome Tumba by force of numbers, but were apparently held in check temporarily by the certainty that this method would cost them the lives of a half-dozen warriors or more. The intrepid guide had already demonstrated his marksmanship by wounding two of them and killing a third.

No doubt the wily natives had been spying on the two travelers and were confident that not more than one person could possibly come to aid the defender. Hence they kept behind rocks or chance vegetation, assured that it

With terrible claws still a-spread, it alighted on the captor's back

would be only a short time until one of the arrows or darts should find its mark, after which they might despoil the camp in safety.

Bell and the chieftain held a short council, and it was decided that the party should circle around and assail the Caribs suddenly from the rear. They moved away accordingly and soon were in the proper position for a swift attack. A hasty count showed that the besiegers numbered well over fifty men.

The soldiers raised their weapons and, at a sign from their leader, fired in unison. Seven savages dropped and two more seemed badly injured by the volley. Their comrades, taken completely by surprise, were thrown into a panic, scurrying this way and that, in their efforts to escape the deadly rifle fire that was fast depleting their numbers.

They were quickly rallied, however, by a tall fellow who appeared to have authority, and charged their opponents furiously, sending a shower of arrows and darts ahead as they ran.

One of the soldiers fell, impaled by a six-foot shaft, and three of the others were wounded before the bloody close-quarter fighting began. Knives, clubs, spears and bayonets were brought into play, and it looked as though the Caribs would soon get the better of the uneven encounter. In the thick of the fighting Bell fired his last cartridge, and, having no time to reload, clubbed his empty gun and laid about him. So wrought up was he by the primitive struggle that he scarcely noticed the prick of a tiny dart that struck and clung to his left shoulder.

Some time during the mad moments that followed he faintly heard a shout from an adjoining hill. A fresh party of soldiers, thirty in number, came rushing to the defense of their hard-pressed commander. At this unexpected onslaught, the remaining savages broke and ran, forsaking their wounded and dying.

IT was the quick eye of the chieftain that detected the tiny harbinger of death in the scientist's shoulder. Paying no heed to his own wound—a deep gash—he said coolly, "Permit me, señor," and, cutting the flesh with two swift strokes, removed the dart.

Seeing that the incision bled profusely, he gave a crisp order to one of his men in the unknown tongue. The soldier, hastily opening a pack, handed over a phial of ointment and a roll of bandaging tape. The chieftain himself dressed and deftly bound the wound. Meanwhile the man had been mixing some powders with water in a gourd, and the latter was quickly pressed to Bell's lips. In spite of these precautions, he felt a numbness creeping over him and knew that some of the deadly *curari* had found its way into his blood.

He attempted to speak to Tumba, who had just come up, but his tongue seemed paralyzed. A moment later he fell forward into the arms of his faithful aide and lapsed into unconsciousness.

Madness.

In the miasmatic lowlands of far Papua, Bell had known the ravages of the dreaded jungle fever. The malaria of India's humid, pest-ridden marshes, too, had had its demoniac way with him. Yet the mental and physical torture of both, blended into one, could never have equaled the suffering induced by the virus with which the tiny missile had inoculated every aching fibre of his body.

From the first, he knew that death was near at hand, and gladly would his spirit have left the pain-racked shell that held it in agonizing embrace, had it not been for an indefinite something or someone that each time bade him carry on.

The blackness of complete oblivion was always welcome. While in a semi-conscious state, burning with fever and raging with delirium, he would cry out in relief as he seemed to see it coming toward him in the form of a dense, cool, dark cloud into which he could plunge his heat-parched, tired body.

THE bearded German troubled him much. It seemed that his enemy was always near, ready to strike in an unguarded moment. He fought battle after battle with this relentless adversary, but the result was always the same. If he used a gun, the cartridge failed to explode. If he wielded a knife and struck at a vital spot, the blade invariably snapped off or bent over like paper.

The malignant eyes, the sneering, hairy face, kept mocking him, and the powerful, thick hands of his tormentor became talons that reached out to clutch him by the throat. Sometimes it seemed that the heavily shod feet of the Teuton were crushing and lacerating him, grinding him into the slime of a swampy, dismal forest, where tangled vines shut out the light and a million scaly serpents writhed and hissed.

Madness.

The time came when he felt that he was too weak to struggle—that he could resist the Grim Reaper no longer. Then it was that a new face became associated with his visions—a face angelic by contrast with the bestial visage that so long had menaced him. He thought he could see at times the lovely features of a radiantly beautiful girl, crowned with a wealth of fluffy brown hair. Her eyes were of the deepest deep blue, and her frequent smile was comparable to a dazzling white light bursting through velvety, ruby-tinted clouds.

Occasionally her low, musical voice would displace the medley of harsh sounds that accompanied his fancied conflicts, and its effect was to soothe him, reassure him and bid him dismiss his fears. Then the voice would fade away and the glorious face would dim before his sight, obliterated by the hideous tumult of battle and the baleful countenance of his foeman. The fight would be on in fearful earnest again; but somehow, though he felt himself growing weaker with each new encounter, he came to be tremendously heartened by the certainty that this dream woman with the soft, melodious voice would come to his rescue—blessed relief—just in time.

Madness—sheer madness—but of a pleasanter sort.

Oblivion.

CHAPTER IV

The Secret Kingdom

JUST beyond the eastern rim of the great flat-topped mountain the sun appeared, reddened as from the exertions of a recent strenuous climb. As he mounted higher in the heavens, the crimson hue faded, till at length the day-bringer loosed his arrows of pure yellow gold at the peak's uppermost levels.

Had these shafts been sent in retaliation for the trouble of climbing its steep sides, they could not have been

aimed more truly. They penetrated here, there and everywhere. A goodly number of them, having found an arched opening in a certain window of a large building, lighted up the wan face of a sleeper.

Alfred Bell opened his eyes, blinked them for a moment in the unaccustomed glare and closed them again. He was very weak and his head ached almost unbearably, but he could see and he could think rationally, and for this much he was indeed thankful.

Presently he permitted himself the luxury of vision once more, his wonder increasing as he took in each new detail of his surroundings. He was lying on a sort of low couch, covered with a soft woolen blanket into which had been woven strange, brightly colored emblems and figures. The walls of the room, perhaps eighteen feet in height, were paneled about two-thirds of the way up from the floor with beautifully grained, highly polished mahogany. Above this was a finely executed frieze, representing battle episodes, the chase, and herds of grazing llamas with their human attendants.

Turning his head slightly in order to pursue his inspection still farther, Bell gave a start of surprise when he discovered that he was not alone. In a far corner of the room, on a couch similar to the one he occupied, lay the beautiful girl of his dreams—the guardian angel who had watched over him night and day as he had lain stricken and helpless.

She was sleeping lightly, peacefully, totally unconscious of his ardent gaze. He was almost afraid to move lest she vanish into thin air, for he was not yet far enough removed from the stark terrors of his delirium wholly to trust his senses.

The next instant, she was fully awake. It seemed to Bell that all the fairness of the morning came with her as she crossed the floor. After looking down at him searchingly for a while, she said in Spanish:

"My patient is much improved this morning. Reason once more holds sway." She placed her soft hand gently on his forehead. "Your headache will soon leave, and you will feel much stronger when you have eaten. Of course you would like some breakfast."

So saying, she pulled a bell-cord. In a few moments, a brown-skinned servant girl appeared in answer to her summons. Brief orders were issued in a strange tongue and the girl, after bowing low, departed in quiet haste.

Bell was charmed by the words and manner of his materialized dream woman. He was mystified by the knowledge, uncanny to him, of his symptoms which she displayed. The cool hand on his brow was vastly comforting, too, and he reached for it eagerly.

"You are real—you must be real," he said exultingly, when his fingers had assured him that her hand was flesh and blood indeed. "You are not part of a dream, as I at first imagined."

"No," she replied, smiling slightly, "your troublesome visions are over, and should be dismissed from mind. You have returned to the world of reality."

As she stood awaiting such reply as he might make, Bell thought her the most glorious creature he had ever seen—even though, in visiting practically all the countries on the globe, he had sojourned in many lands famed for their beautiful women. Never a "ladies' man," he had always regarded feminine loveliness in the abstract, as one marvels at a fine work of art or a masterpiece of nature. This woman, however, was different.

The look of admiration which came into his eyes caught her off her guard. Her calm, almost commanding demeanor gave way to one of sudden shyness, and she quickly lowered her dark lashes, turning aside to conceal a most becoming blush.

At this moment, the brown-skinned servant girl came in with their breakfast. Bell noted, with growing appreciation, that small melons similar to the cantaloupe, cassava bread, poached eggs and a pot of coffee had been provided. After arranging the contents of the tray at his side, the girl left them alone once more.

THE scientist's companion had meanwhile regained her composure, and they chatted merrily as she charmingly assumed the rôle of hostess, pouring coffee with a dainty grace, which made that beverage seem a thousand-fold more delicious to Bell than it had ever tasted before, whether in camp, bazaar, banquet hall or the homes of his friends.

He learned that her name was Nona Flores, daughter of a Spanish father and French mother. She had been born in Lima and reared in a convent. Her parents had both succumbed to an epidemic of smallpox when she was three years old.

Seeing that she was saddened by this allusion to her orphaned childhood, Bell changed the subject.

"Can you tell me," he asked, "where I am, how I arrived here and who my host is?"

"You are in the palace of the Inca, Huayna Capac II, rightful emperor of Peru and Ecuador by birth, but compelled by circumstances to live in this mountain fastness with a few thousand of his faithful followers. You were brought here from your camp near the falls by the Inca's men, after you had fainted because of the poisoned arrow."

Bell was more than surprised—he was dumbfounded. He knew the history of that most illustrious of Incas, Huayna Capac, whose wealth had been far superior to that of the famed Croesus of Lydia, whose lands had been more extensive and whose conquests greater than those of Napoleon or Alexander, and whose wives had outnumbered the consorts of Solomon. He had read how death had mercifully taken this sagacious and humane monarch in time to prevent his witnessing the spoliation of his empire by the Spaniards in the name of the Holy Vicar of Christ and the crown of Castile, but was under the impression that all of his lawful heirs had been put to death.

"Do you mean to tell me," asked Bell in amazement, "that the chieftain I met in the foothills is a descendant of Huayna Capac?"

Nona Flores smiled at his incredulity.

"Huayna Capac had many descendants—thousands of them, in fact——" she replied, "but he has only one lawful heir. The 'chieftain,' as you call him, is that heir. Have you read the history of the Incas, *señor?*"

"Indeed I have, with a great deal of interest; but I recall no circumstance noted by any historian which lends the slightest support to the amazing statement you have just made."

"In a little while you shall see that, though startling, it is nothing short of the very truth. But first, tell me what you have learned from the books men have written."

"Well, *señorita,* we shall see how my memory serves me. After the death of Huayna Capac early in the sixteenth century, two Incas ruled his kingdom for a time.

His lawful heir, Huascar, held Peru while Atahualpa, his son by a concubine, daughter of the conquered Scyri of Quito, exercised dominion over what is now Ecuador. Am I right?"

She nodded, indicating that she wished him to continue.

"It was the treason of Atahualpa which made the conquest of Peru comparatively easy for Pizarro and his little band of freebooters," he resumed. "This ungrateful son, not content with the kingdom which his father had conferred on him, elected to rule the empire of his brother as well. While they were engaged in civil war, with Atahualpa gradually winning, the Spaniards appeared on the scene. Huascar's armies had just been defeated, and the lawful heir of Huayna Capac imprisoned by his half-brother, when Pizarro obtained possession of the person of Atahualpa by a ruse.

"It is not difficult for me, *señorita,* to recall these historical incidents, for they have always seemed to me to represent a chain of remarkable coincidences, without which the Spanish occupation might never have occurred. While he was held a prisoner by the Spaniards, Atahualpa treacherously ordered Huascar drowned. Later, Atahualpa was himself slain by the conquerors and Manco Capac, another brother, who would have succeeded to the throne in the ordinary course of events, after harassing the invaders with guerilla warfare for a time, succumbed in the bitter realization of the utter futility of his efforts to restore the glory of his fathers.

"LATER a few attempts were made by alleged descendants of the Incas to incite the Indians to rebellion against their cruel taskmasters, but these met with utter failure. I trust you will pardon my unbelief, *señorita,* but your quiet assurance in naming this chieftain the lawful heir of Huayna Capac is most astounding. May I inquire upon what facts or circumstances his claim is based?"

"You may, *Señor* Bell, and I grant that your skepticism seems well grounded. However, I shall answer you. At about the time of Atahualpa's death, an event took place which, because it was of a secret nature, was never recorded by the curious and observant conquerors. Huascar had a son named Yahuar Yupanqui. He was only seven years old at the time of his father's death, but knowledge of his existence was kept from the Spaniards by his mother and a few faithful followers, who subsequently retreated into the wilderness. They lived the life of nomads for nearly twenty years. At length Yahuar Yupanqui, being attracted by this spot, fixed on it as his place of permanent residence and founded the city of New Cuzco. Here royal generation has followed royal generation in unbroken line, down to Huayna Capac II.

"Only one-tenth of the subjects of the Inca live in this city. The rest are scattered through the surrounding country, living as Caribs and speaking the language of the savages in order that their identity may remain unknown. It is the hope of Huayna Capac and his people that they, or their descendants, may some day become strong enough to reconquer the territory which they believe rightfully belongs to them, and thus reestablish the Inca on the throne of his forefathers.

"Every male over sixteen years of age is a soldier and trained in modern warfare, although the only ones permitted to bear rifles regularly are the royal guards and the soldiers and nobles residing in New Cuzco. All subjects dwelling outside the city are required to wield only the weapons of the native Caribs, as the extensive use of firearms by them might cause an investigation, which would lead to the disclosure of their great secret."

Bell and his fair companion had finished breakfast during this recital. Nona Flores now recalled the servant girl, who bore away the dishes.

The scientist further presumed on their brief acquaintance by asking how she happened to be in New Cuzco.

"I came here as a captive, intended for the royal seraglio, three years ago," she replied. "However, I persuaded the Inca to spare me from that fate, by the threat that I would kill myself before consenting to become his concubine, and by the promise that if allowed to live I would employ my knowledge of medicine—which I studied in the university—for the benefit of himself and of his followers.

"With many another man, my plea would have fallen on deaf ears; but beneath his calm, cold exterior the Inca really conceals a heart of gold. He has not only permitted me the freedom of the secret kingdom, but has showered honors and gifts on me as well. Were I allowed to return to civilization with my present possessions, I should be an immensely wealthy girl—but that can never be," she added with a sigh.

"And why will you not be permitted to live among your own people?"

"For the reason that this kingdom is unknown to the outside world, and because it is the will of the Inca to keep it so, until he shall be strong enough to reclaim the empire of his fathers. No one, except he be an hereditary subject of the Inca, may leave this place after having once visited it."

"Ah, now I see why he brought me here," said Bell. "I had looked upon the countenance of the Inca, therefore I could never be trusted in the outside world again. All my life's labor will have been in vain. My specimens, charts, descriptions, will be as so much rubbish unless I can escape, which I presume is well nigh impossible."

"I have sought the opportunity for three years, and can offer no hope. We are on the peak of a great, flat-topped mountain whose sides are sheer, impassable cliffs. There is only one mode of exit, namely by a footpath which follows the course of a streamlet through a deep, narrow canyon. This path is heavily guarded night and day, and itself becomes impassable sometimes when the stream is swollen by an extra heavy rainfall."

She sighed once more, half protestingly and half resignedly.

"I must leave you now, *señor,* with the suggestion that you keep to your room today and rest as much as possible. This evening I shall call and ascertain if you are well enough for an audience with the Inca tomorrow morning."

WHEN she had gone, Bell inspected his apartment. His first concern was for his luggage. This he discovered piled neatly in a corner and, to his inestimable relief, intact.

He lost no time in getting out his shaving outfit and making himself presentable. Then he opened the box containing his precious manuscripts and, taking them to the table, was soon absorbed in his work.

The task was fascinating, and would have claimed his entire attention at any other time. Now, however, he found that he lacked his accustomed zest for it. How futile, indeed, he reflected, to be writing exhaustive descriptions which would be and, perhaps, would remain forever, nothing but useless scribblings on the top of this huge pile of rock!

CHAPTER VI

The New Curaca

BELL was awakened the following morning by the sound of movement in the next room. He sat up with a start; then noted that someone had brought in a costume, complete from headgear to sandals, and was evidently in his dressing room. A moment later, a servant in resplendent livery emerged from behind the curtained door.

"Your toilette is ready, *señor,*" he said in Spanish.

"Ah," thought Bell, "so I am supplied with a valet. A new suit of clothes, too. Very kind of the Inca."

He bathed luxuriously in the delicately perfumed water, shaved and put on his new garments with the assistance of his servant. The man then pulled the bell-cord, summoning a maid with breakfast.

His meal finished, the scientist was about to resume work on his manuscripts when a page arrived with a message from the Inca. *Señor* Bell was wanted in the audience chamber at once. He hastened to comply, sensing coming events which might have an important bearing on his future in New Cuzco.

The page led him out into an immense hall, and he had a chance to observe that the Incas had made extensive use of the arch in the construction of their magnificent palace, departing in this respect from the custom of their ancient forebears, who had possessed no knowledge of this architectural device.

The audience chamber was within the palace. Arrived at the door, the scientist was divested of his sandals by one servant, while another placed a bundle on his back. At the conclusion of these preliminaries, he was instructed to enter and approach the throne.

A burst of sunlight greeted him, blinding after the comparative darkness of the corridor. When his eyes had adjusted themselves to the great brilliancy of the morning sun, he saw that the monarch was engaged with two of his barefooted, kneeling subjects, each of whom bore a burden on his back. This gave Bell an opportunity to take stock of his surroundings.

The entire eastern exposure of the room consisted of an immense arched opening, the massive doors of which were swung back on their great hinges. No pillar, tree or building obscured the direct beams of the bright solar orb. The Inca's massive raised throne stood before the western wall. Behind it was wrought in gold a representation of the Sun god, consisting of a male countenance from which emanated rays in all directions. These rays were of burnished gold, thickly powdered with many-faceted gems, and reflected the unimpeded sunlight in such a manner as to dazzle and overawe those seeking audience with the monarch or summoned by him.

On the right of the great throne was that of the queen, and behind this lesser seat was depicted in silver a female countenance surrounded by a blue-black field set with precious stones. Bell saw, in these symbols, the perpetuation of the ancient belief that the Inca and his Coya were direct descendants of the Sun, and of his sister-wife, the Moon—the former holding forth as sole monarch of the day and the latter attended by her court, the stars, was the queen of the night.

To the right of the queen was a platform, supplied, not with thrones or chairs, but with a number of cushions on which reclined some twenty women, no doubt favorite concubines of the Inca. Behind this platform was a brilliant representation of the rainbow, done in colors that rivaled the original in splendor and variety.

At the Inca's left was the throne of the Villac Vmu, or High Priest, behind which was the face of a youth cut from the clearest crystal and mounted on a pale-blue plate. Two huge emeralds formed the eyes of this image, and the lobes of the ears were represented as having been cut and stretched around heavy discs of gold. Bell was sure that this symbolized the planet Venus, known to the Incas as Chasca, or "the youth with the long and curling locks"; for as Chasca was in close attendance upon the Sun at his rising and setting, so was the High Priest in attendance upon the Inca during the morning and evening hours.

Next to the throne of the Villac Vmu was a platform occupied by a representative of the military, probably the commander of the royal guard. Behind him was portrayed a jagged, brilliant flash of lightning in polished silver on a jet-black background, evidently intended to typify his post as dread minister of the Inca's vengeance.

AT regular intervals about the room were niches in which reposed golden images of various animals and birds. The hangings were mostly composed of finely woven wool of a silky texture, probably from the vicuña, in intricate patterns of gorgeous colors, tasseled and fringed with gold.

Those who were seated on the upper steps of the platform leading to the throne, the scientist thought, must be the high Inca nobles, and those occupying the lower steps the Curacas or inferior nobles. He recalled that the Inca nobles must be of pure Inca blood, while the Curacas were descended from the nobility of conquered races. Guards, servants and plebeians, clad in varicolored garments and liveries, lined the walls on both sides of the room.

Bell, somewhat taken aback at the splendors of the place, stood hesitating. The audience with the two suppliants had ended. He began to sense the curious gaze of the hundreds of people surrounding the Inca, and became aware of a feeling akin to stage fright.

Hearing a suppressed titter from a damsel at his right, and guessing that his conduct was likely to bring derision on him for all time to come, he pulled himself together and mounted slowly and with studied dignity to the foot of the throne.

The Inca gazed down on him with that stoical expression which had so impressed Bell at their first meeting. The scientist had read that these potentates neither smiled nor frowned. It appeared that the present monarch was no exception; that he upheld the traditions of the reigning Incas, who have ever considered it beneath their kingly dignity to betray their emotions by any change of countenance. No doubt he had from childhood been rigidly educated to keep his features under absolute control, no matter what might happen.

The monarch addressed him in Spanish:

"We welcome you, *Señor* Bell, to the land of the Incas. You have come as a friend, and as a friend you shall remain with us. When we met you on the plains, we made a promise. That promise shall be fulfilled today. We promised you riches. Behold!"

Ten slaves stepped forward and made obeisance before the throne. Each vassal carried a strong-box which, at a sign from the Inca, he placed at Bell's feet.

Scarcely had the Inca spoken when one of the nobles came forward and threw back the lids of the boxes, disclosing to Bell's startled eyes, gold and silver ornaments and utensils of various kinds, cleverly and artistically wrought; cut jewels of fabulous value, some in settings and others unset; and a quantity of gold and silver bullion. In short, he beheld vast wealth such as he had never dreamed of possessing.

He was about to speak, but the Inca continued:

"In order that you may enjoy to the fullest extent the wealth which we have bestowed upon you, you must have a home. Advance."

Bell mounted to the throne and received a brightly colored twisted cord, from which a number of smaller cords depended, forming a sort of fringe. Keeping his face toward Huayna Capas, he retraced his steps until he stood once more in his original position.

"The cord which we have just bestowed on you," the Inca went on in grave and measured tones, "is the deed to your house, furnishings, lands, servants and all things that appertain to a proper domestic establishment. In the language of the Incas it is called a quipu. Every thread in that twisted cord and every string of the fringe has a separate meaning easily interpreted by our amautas, or wise men. All transactions of the state are recorded through this means by our quipucamayus, or quipu-keepers.

"You will notice that the clothing you wear is similar to that of the nobles on the lower steps leading to the throne. These men are called Curacas, the name by which we designate all nobles who are not of pure Inca blood. It is possible for a Curaca to become an Inca nobleman only when he has rendered some great and signal service to the state. Our worthy High Priest, Tupac, whom you see seated at our left, was once a Curaca; nevertheless, he has rendered us such notable service that we have not only raised him to the rank of an Inca noble, but have even bestowed on him the office next in dignity and authority to our own—an office which has never previously been held by one of other than unalloyed Inca descent."

THE monarch paused, giving Bell an opportunity to glance toward the illustrious personage whose praises he had just heard. Their eyes met briefly, and the scientist had his first personal experience with an icy, disdainful, haughty stare, such as only a small-natured man in a big position can muster. He turned to face the Inca once more.

"Your civic duties will, for the present, be very light," pursued the latter. "You must first learn the language of our people. We shall expect you to attend our morning audiences only on the first three days of each week. You may come at other times if you so desire, but it shall be your duty to take your place among the Curacas on the days mentioned."

The Inca then clapped his hands, and six young and graceful maidens stepped forward.

"To complete the royal gift, we have selected from among the most beautiful girls of our kingdom these six lovely virgins. On the national marriage day, less than two months hence, we shall be pleased to make them your wives, to cheer and brighten your home, otherwise lonely, and to bring you heirs who will perpetuate the name and fame of the house of Bell.

"Such is the gift of the Inca to his friend."

Bell cudgeled his brain for a fitting response to the monarch's somewhat lengthy remarks.

"Your Majesty," he began, "I am at a complete loss for words with which suitably to express my gratitude for this wholly unmerited kindness and generosity.

"The gift of wealth, home, lands, servants, I accept with thanks; but, if Your Majesty will permit, I should like to decline the gift of wives, as I am a confirmed bachelor and have no desire for connubial felicity."

The emperor's expression did not change by so much as the shifting of a single line. Gravely and courteously, yet in a tone expressive of finality, he replied:

"It is the wish of the Inca that you marry, for we know from experience that no man is contented while he remains single. If you are not pleased with the brides we have chosen for you, we will gladly marshal a thousand from whom you may select. Furthermore, you must have not less than six wives in order to maintain your standing as a Curaca. The very poorest of our nobility have six wives or more, while most of the greater nobles have from twenty to thirty. The wives of the Inca number three hundred. In the old days, they were numbered by the thousands."

Bell saw that if he persisted in his objection to the matrimonial gift he would be sure to incur the disfavor of the Inca, so he resolved to bide his time in the hope that some means of escape might be found before the marriage day. He, therefore, said deferentially:

"Your Majesty's choice of brides for me is most satisfactory, and I am sure that I could not find better in the whole kingdom, or in the whole world for that matter, with perhaps one exception. It was merely because I have always been averse to marrying at all that I spoke as I did. Since it is the wish of Your Majesty that I marry, I gratefully accept the wives as part of your munificent gift."

"It is well," responded the Inca. "You will now be conducted to your new home. Tonight we give a celebration in your honor. The festivities will begin two hours after sunset. We have spoken."

"The Inca has spoken. All glory to the Inca," chorused the nobles and attendants, and Bell backed out of the room accompanied by the ten slaves bearing the treasure boxes.

He was met at the door by two men, one a total stranger to him, the other his valet. The latter relieved him of his burden and strapped on his sandals, while the stranger addressed him as follows:

"I am Quizta, the amauta. I have been commanded by the Inca to conduct the noble Curaca Bell to his new residence and to instruct him in the language and customs of our people."

THEY set off for Bell's new estate, followed by the valet, the ten vassals and a half-dozen porters who had just arrived with his luggage. As they passed through the streets, they furnished the occasion for

(*Continued on page* 657)

The CHAMBER OF Life

Illustrated by Briggs

By

G. Peyton Wertenbaker

Author of "The Man from the Atom"

THE author of "The Man from the Atom" comes back to us with a strange tale—a sort of synthesis of a voyage to the cloud-blanketed planet Venus, in which he outdoes himself as a writer of scientific fiction. It is a long time since we heard from Mr. Wertenbaker, but he has promised us more stories—even better than this. We know you will enjoy "The Chamber of Life," and be glad with us to know there are more coming.

A Strange Awakening

MY first sensation was one of sudden and intense cold—a chill that shot through my body and engulfed it like a charge of electricity. For a moment I was conscious of nothing else. Then I knew that I was sinking in cold water, and that I was fighting instinctively against the need to gasp and breathe fresh air. I kicked weakly and convulsively. I opened my eyes, and squeezed them as the bright green water stung them. Then I hung for an instant as if suspended over the depths, and began to rise. It seemed hours before I shot up into the open air again, and was drinking it deeply and thankfully into my tortured lungs. The sun touched my head warmly like the hand of a benign god.

Floating gently, I lay there a long while before I even looked about me. There was a vague confusion in my head, as if I had just awakened from a long sleep. Some memory seemed to be fading away, something I could still feel but couldn't understand. Then it was gone, and I was alone and empty, riding on the water.

I glanced about, puzzled. Only a few yards away rose the gray stone side of the embankment, with its low parapet, and behind that the Drive. There was no one in sight—not even a car—and the open windows of the apartment houses across the Drive seemed very quiet. People slept behind them.

It was only a little after dawn. The sun, blazing and tinted with pink, had hardly risen from the horizon. The lake was still lined with dark shadows behind glittering ridges of morning sunlight, and a cool breeze played across my face, coming in from the east. Over the city, the sound of a street car rumbling into motion, rising and dying away, was like the crowing of a rooster in the country.

I shivered, and began to swim. A few strokes brought me to the embankment, and I clambered up, almost freezing as I left the water. I was fully clothed, but without a hat. Perhaps I had lost it in the lake. I stood there, dripping and chill, and suddenly I realized that I had just waked up in the water. I had no recollection of falling in, nor even of being there. I could remember nothing of the previous night.

A glance along the Drive told me where I was, at the corner of Fifty-third street. My apartment was only a few blocks away. Had I been walking in my sleep? My mind was a blank, with turbulent, dim impressions moving confusedly under the surface.

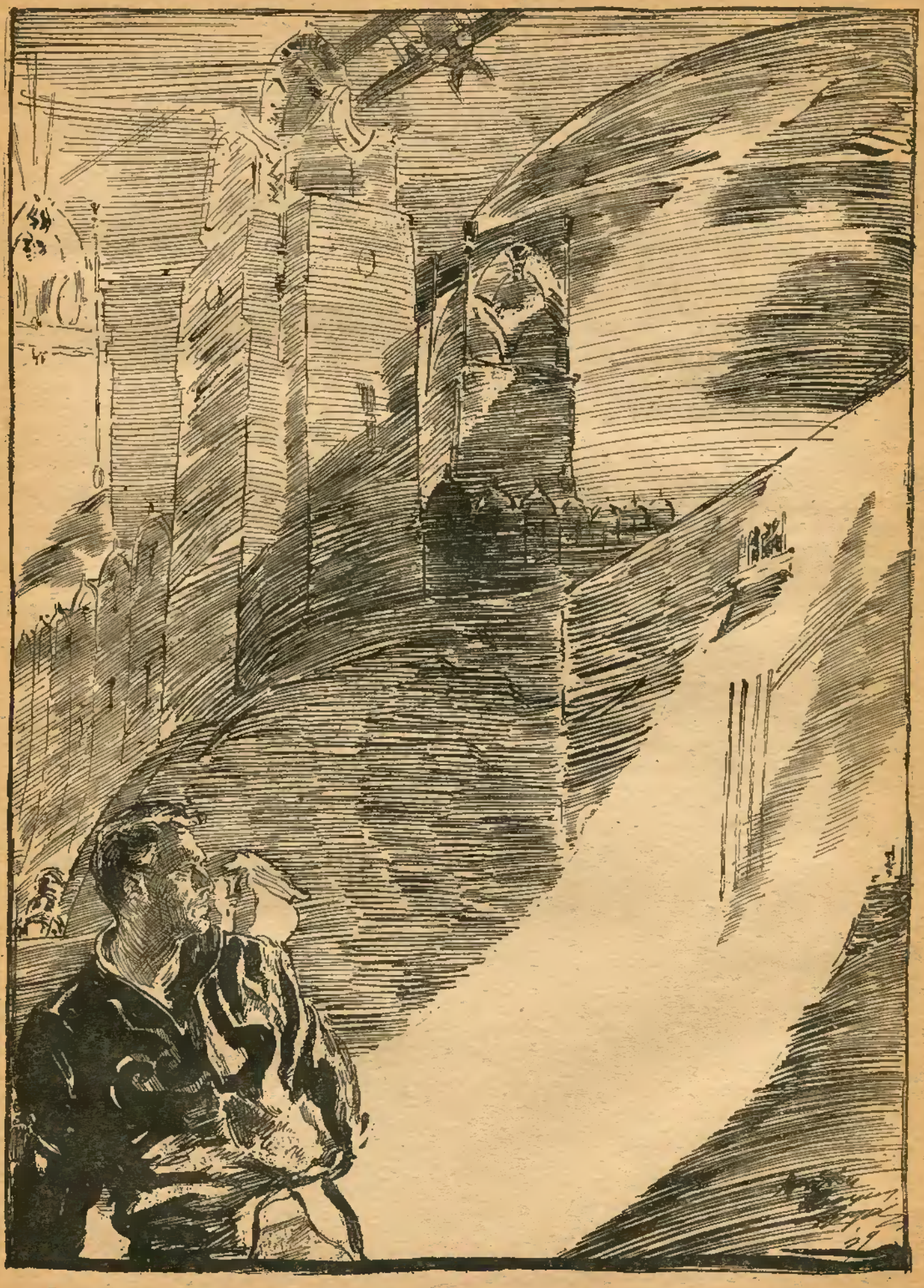
Trembling in the chill air, I started up the Drive. I must go home and change at once. Something came back to me—a memory of talking to some friends at the Club. But was that last night? Or months ago? It was as though I had slept for months. We had had a few drinks—could I have been drunk, and fallen into the lake on my way home? But I never took more than two or three drinks. Something had happened.

Then I remembered the stranger. We had all been sitting about the lounge, talking of something. What had we been discussing? Franklin had mentioned Einstein's new theory—we had played with that for a while, none of us with the least idea what it was about. Then the conversation had shifted slowly from one topic to another, all having to do with scientific discoveries.

Somewhere in the midst of it, Barclay had come in. He brought with him a guest—a straight, fine-looking man with a military carriage, about fifty years old. Barclay had introduced him as Mr. Melbourne. He spoke with a slight southern accent.

In some way Melbourne and I gravitated into a corner. We went on with the conversation while the others left it. They drifted into politics, drawing together about the table where the whisky stood, leaving us alone.

Melbourne had been a fascinating man to talk to. He



¶ *At the center of the plain stood a tall white building. It was delicately and intricately designed, terraced much as most modern office buildings in New York are terraced, but more elaborately.*

discussed topics ranging from theories of matter to the early Cretan culture, and related them all to one dominant scientific thread. He spoke like a man of wide knowledge and experience. . . . As I walked up the Drive, bits of his conversation came disjointedly back to me with the clarity and significance of sentences from Spengler.

An early-morning taxi went by slowly as I crossed the Drive to my apartment. The driver stopped a moment, and looked at me in astonishment.

"What's the matter, buddy," he said, "you look all wet. Fall in the lake?" I smiled, embarrassed.

"Looks that way, doesn't it?" I answered.

"Can I take you anywhere?"

"No," I said, "I live here." He grinned, and started off again.

"Wish I'd been in on that party!" he called back, as he drove away.

I frowned, once more with that puzzled feeling, and went in.

Melbourne's Story

GLIMPSES of last night came back to me and pieced themselves together slowly while I undressed and drew the water for my bath.

Melbourne had been interested to know that I worked for Bausch, the motion picture producer.

"Perhaps you could be of aid to me some time," he said thoughtfully.

"In what way, Mr. Melbourne?" I asked him.

"I can talk to you about that later," he replied cryptically. "Tell me about your work."

So I told him the conception I had of the motion pictures to be made in the future. He listened with keen interest.

"I visualize a production going beyond anything done today," I said, "and yet one that would be possible now, if there were someone capable of creating it. A picture with sound and color, reproducing faithfully the ordinary life about us, its tints and voices, even the noises of the city—or traffic passing in the street and newsboys crying the scores of the afternoon games—vividly and naturally. My picture would be so carefully constructed that the projector could be stopped at any moment and the screen would show a scene as harmonious in design and composition and coloring, and as powerful in feeling, as a painting by Rockwell Kent." After a pause I added, "And I'd give almost anything if I could do it myself."

Melbourne looked at me sympathetically, reflectively.

"It might be possible," he said after a time.

"What do you mean, Mr. Melbourne?" He puffed at a cigar, and considered.

"It's not something I could explain to you off-hand," he said. "It's strange and it's new. It needs preparation."

"I'm ready to listen," I said with eager interest. He smiled.

"Perhaps I had better tell you a little of my life."

"Go on," I answered briefly.

"I had ideas much like yours when I was a boy," he began his story. "In high school and college I had believed myself an artist. I was a good musician, and I dabbled with painting and literature. I wanted to come back for post-graduate work, though, and something attracted me to science. I had put off studying mathematics until my graduating year, only to find that it fascinated me. And I was curious about physics.

"While I was studying for my Master's degree and my Doctorate, I felt the need of some interest to merge all the divergent sides of my nature. Something that would give me a chance to be both the artist and the man of science. That was a quarter of a century ago. The motion picture and the phonograph were just coming into the public eye. They seemed to supply just the field for which I felt a need.

"I had much the same idea as yourself, except that there were no discoveries to back it—no color photography, no method for harmonizing sound and sight. Indeed, neither the screen nor the phonograph had come to be regarded yet as essentially more than a toy. But, like yourself, I had vision. And enthusiasm. And an intense desire to create.

"After I had taken my degrees, I went to work with almost abnormal intensity. With sufficient income to live as I desired, I fitted up my laboratory and concentrated on the thing I wanted to do. I spent years at it. I gave my youth—or, at least, the best of my youth—to that labor. Long before sound and color pictures were perfected commercially, I had developed similar processes for myself. But they were not what I wanted. The real thing was beyond my grasp, and I couldn't see how to attain it.

"I worked feverishly. I think I must have worked myself into a sort of frenzy, a sort of madness. I never mingled with people, and I became bitter and despondent. One day my nerves broke down. I smashed everything in my laboratory, all my models, all my apparatus, and I burned the plans and papers I had labored over for years.

"My physician told me that I must rest and recuperate. He told me I must interest myself again in daily life, in people and inanimate things. So I went away. For the next few years I traveled. I tore myself away from everything scientific and plunged into the business of living. Almost overnight I became an adventurer, tasting sensations with the same ardor I had once given to my work. I went back to art, to painting and literature and music. I was a connoisseur of wines and of foods and of women. I was an experimenter with life.

"Little by little, though, the zest of that passed away. I grew tired of my dilettantism. And eventually I found that, even while I had been moving about the world and experiencing its curious values, my mind had been grappling quietly, subconsciously, with my old problem. The change in my life had given me the wider outlook, the keener understanding necessary to the accomplishment of my task. In the end, I went back to it again with renewed vigor. With greater power, too, and greater sanity."

Melbourne paused here. Sensing his need, I brought him a highball, and one for myself. He tasted it with a quizzical expression.

"They call this whisky nowadays!" he observed absently, with quiet irony. I wanted to hear the rest of his account.

"Go on with your story, sir," I begged him.

"The rest is simple enough—but it's the meat of the narrative. You see, I had to revise the way I was going about my work, and I went at it at a new angle. By this time wireless telegraphy was being widely developed, and there were many features of it that appealed to me. With the knowledge I had gained during my first feverish years of experiment, however, I was able to go far

beyond even what has been done in recent times with radio.

"I used a system differing in many respects from that of the commercial radio. We haven't time now to go into all that—I can tell you later, and it involves much that is highly technical and still secret. It is sufficient if I explain that my object was to evolve and fuse methods for doing with each of the senses what radio does with sound. Telephotography was the simplest problem—the others required an almost superhuman amount of labor.

"But my biggest job was to combine them. And, to do that, I had to use knowledge I had gained not only in the laboratory but in my wanderings about the earth—not only in the colleges and salons of Europe and America, but in the bazaars and temples of India, Egypt, China. I had to unite the lore of ancient and modern civilizations, and I created a new factor in electrical science. I suppose the simplest and most intelligible name for it would be mental telepathy. But it is more than that, and basically it is as simple and material as your own motion pictures."

I think Melbourne would have gone on and told me more about his discoveries. At that moment, however, he paused to reflect, and we looked up to find the others leaving. The bottle of Scotch was empty.

"Ready, Melbourne?" Barclay called. We rose.

"I didn't realize it was so late," Melbourne answered. "Mr. Barrett and I have found each other most interesting."

We all found our hats and went out. Melbourne and Barclay, each apologizing for having neglected the other, said good-bye. Barclay was tired and wanted to go to bed. He went off with the others, but Melbourne turned my way.

"If you're not too weary of my company," he said, "I'll go with you a little way."

"You know I'm not," I answered. "I've never been so interested in anything before. It sounds like a chapter from Wells, or Jules Verne."

He smiled, with a little shake of his head, and we walked on for awhile in silence toward the lake. . . .

All this came back to me swiftly and with an effect of incoherence, much as a dream moves, during the few moments when I was getting ready for my bath. I laid out my shaving things, and put a record on the Victrola. I have never quite conquered my need for music while I bathe and dress. I think the record was a Grieg nocturne—something cool and quiet, with a touch of acutely sweet pain and melancholy.

Then I happened to glance at a mirror for the first time. I stood amazed and transfixed. Overnight I had grown a beard such as wanderers bring back with them from the wilderness. Under the beard, my face seemed to have altered somehow, to have changed in some peculiar way. Physically it appeared younger, with an expression of calm and repose such as I had never before seen on a man's face. But the eyes were wise and old, as if—overnight!—the mind behind them had learned the knowledge of all time.

Or was it overnight? I could not lose that feeling that time had passed by since my last contact with ordinary life. It was as though, somewhere and somehow, I had lived for weeks or months in some new plane, and forgotten it. I felt richer and older than I had once felt, and the things I had been remembering seemed remote.

At that moment, a chance strain from the machine in my living room brought back a whole new group of vivid impressions, strange and yet in a sense more familiar than my memories of Melbourne. They opened up to me a different life in which I seemed to have participated by chance, and a life which had, at first sight, no point of contact with the reality to which I had returned. . . .

A Chance Strain from Grieg

I RECALLED waking up in another place, on a long slope of green hill that overlooked a valley. It was dawn again. The sun was just rising over the crest of the hill behind me, and it threw long shadows across the grass from the tall, slender trees along the summit. Down in the valley a broad, clean river of clear water followed the curve of the hill until it disappeared from sight. There were other hills beyond the river, all with the same long, simple slope of grass; and, beyond the hills, there were the tops of blue mountains, swathed in white morning mist.

It was a strange place. Its strangeness consisted in a subtle appearance of order and care, as though a gardener or an army of gardeners had arranged and tended the whole vast sweep of landscape for years. It was uncultivated and deserted as waste land, but as well trimmed, in spite of its spaciousness, as a lawn.

The morning was very warm. I was not conscious of any chill in the air. I was clothed only in short trousers, such as athletes wear, and a short belted tunic without sleeves and loose—both of them indescribably soft and comfortable.

I was aware of the strangeness of my awakening, but I seemed to have no definite recollection of falling asleep. I felt that I had come there during my sleep under unusual circumstances and from a very different life, but the thought didn't disturb me or trouble my mind in any way. My chief emotion was a curious feeling of expectancy. I knew that I was about to have some new and curious experience, something not trivial, and I was eager to meet it.

I lay there for awhile, drinking in the beauty of the morning, and breathing an air of miraculous purity and freshness. Finally I stood up, light and conscious of a sudden grace, aware for the first time, in its departure, of the awkwardness and weight which ordinarily attend our movements on earth. It was as if some of the earth's gravity had been lost.

For a while I examined the valley, but I saw no sign of life there. Then I turned and went slowly up the hill, the sunlight falling warmly on my body, and my feet sinking sensuously in the deep grass.

When I came to the crest and looked over, I saw another valley before me, deeper than the first. The hill rolled away, down and down for miles, to a long, wide plain. More hills rose from the plain on every side, as simply as if they had been built there by the hand of some gigantic child playing in a wilderness of sand. And the river, coming around the base of the hill on which I was standing, but several miles away, swept out upon a great aqueduct of stone, hundreds of feet high, which crossed the plain through its very center, a straight line of breath-taking beauty, and disappeared far away into the pass between two mountains. The whole scene was too perfect to be wholly natural.

At the center of the plain stood a tall, white building. Even in the distance from which I viewed it, it looked

massive—larger than any skyscraper I had ever seen. But it was delicately and intricately designed, terraced much as most modern office buildings in New York are terraced, but more elaborately. Its base stood about the aqueduct, which passed through it, and it swept up magnificently to a slender peak almost level with the crest of the hill where I was standing. It was the only building in sight.

I don't know how long I stood there, admiring the clean sweep and vastness of the scene, before I saw something rise sharply, with a flashing of bright wings, from some hidden courtyard or terrace of the building. It was followed closely by another and then another, like a flight of birds. They shot up swiftly, circled once or twice, and moved away in different directions, straight and purposeful. One of them came toward my hill.

IT was only a few moments before the thing sped up to me and swooped down as I waved my arms. It was, of course, a machine, slender and long, with wide arching wings. It seemed almost light enough to float. It had a deck, shielded from the wind by a shimmering transparent thing like a thin wire screen, and under the deck a cabin made, it seemed, of glass. A man and a woman stood on the deck, the woman handling the controls. They were both dressed much like myself.

The machine came to rest on the hill near me. I stepped forward, and the man leaped down to meet me. His first greeting was curious.

"So you *are* here," he said. His voice was small but cool, penetrating and metallic. I thought of fine steel wires. And, when I replied, my own voice had something of the same quality.

"Were you expecting me?" I said. He nodded, shaking my hand briefly and quietly.

"We know all about you," he answered. I was pleased—it made things simpler—but I wanted to ask him who I was. I didn't remember anything up to the moment of my awakening on the other side of the hill. Instead, I asked him:

"Shall I go aboard?" He nodded again, and waved his hand toward the ladder. I went aboard lithely, and he followed. The girl and I glanced at each other; I was surprised and rather disturbed by her beauty and cleanness of body. I turned to the man, a little embarrassed, as she manipulated some controls and set the ship in motion again.

"You'll have to forgive me," I said. "Something has happened, and I don't know things. I've completely lost my memory."

They understood at once.

"Your name is Baret." He pronounced it oddly. "I am Edvar, and this girl is Selda." We all looked at each other intently, and I went on hesitantly.

"I don't know where I am. Can you tell me something about myself?" Edvar shook his head.

"Only this," he said, "that we were notified of your presence and your name. This city is Richmond." I glanced about me quickly.

"Richmond!" I exclaimed. "Virginia?" But he shook his head.

"I don't understand you," he replied.

I went on, with a puzzled frown. "It has changed. . . ." Both of them looked at me curiously.

"How has it changed, Baret?" the girl, Selda, asked me. I glanced at her absently and closed my eyes.

"Why . . . I don't know," I stammered, "I don't remember." For a few moments there was silence, except for the shouting of the wind past our ship. Then Selda asked me another question.

"Where are you from?" I shook my head helplessly, and answered again, "I don't know—I don't remember."

A moment later we dipped into the shadow of the building, which they called Richmond. We slipped by a succession of vast and intricate façades until we came to a court-like terrace, hundreds of feet above the ground and sheltered on three sides by walls that leaped up toward the sky for hundreds of feet more. The effect of height was dizzying and magnificent.

Selda brought the ship to a quick and graceful landing. I found that we were in a large paved court like a public square, facing the east and the sun, which bathed it in cool bright light. It was still early in the morning. Innumerable windows looked down upon us, and a number of doorways led into the building on all sides. From one of these a girl stepped forward. Edvar spoke to her, evidently reporting himself and Selda. The girl pushed several buttons on a small cabinet which hung from her shoulder. It rang, low and silvery, twice. Then she pointed to me.

"Who is that?" she asked.

"His name is Baret," Edvar told her. "I was sent to meet him."

"But where is he from? He is not registered."

"We don't know. It's an unusual circumstance," he explained, while the girl examined us all carefully. "Very well," she said finally, "you must attend him until he is registered. I'll notify Odom." Edvar nodded, and we turned away.

Glancing back as we crossed the court, I saw the ship descending noiselessly, on the square of pavement where it had landed, into the depths of the building, while the girl made other gestures with her little cabinet. Then we passed through a doorway into the subdued glow of artificial lighting."

"Why was she so worried?" I asked Edvar. "I don't understand anything, you know."

"You were not registered," he said. "We are all registered, of course, in our own cities. The authorities know where to find us at any moment of the day during our routine. If we leave the city, or depart from our usual program, naturally we note down where we are going, registering ourselves upon our departure and upon our return. If we visit another city, our arrival there is expected and reported here, as well as our departure."

"Is all that necessary?" I asked him. "Is there a war, perhaps?"

"No," he said, "it's customary. It prevents confusion. Everything we do is recorded. This conversation, for instance, is being recorded in the telepathic laboratory at this moment—each of us has a record there. They are open to the public at any time. It makes dishonor impossible."

We paused at a doorway, and Edvar spoke a word. It opened noiselessly and we went into his apartment.

"We are assigned to you this morning," Edvar said. "We are at your service."

THE apartment was hardly very different from what I had unconsciously expected. It seemed to have two rooms and a bath. The room we entered was a sort

of study. It was hung with drapes closely woven from some light metal, with cold designs that were suggestive of mechanical, mathematic conceptions, but inspiring in much the way that the lines of the building were inspiring. There were no pictures and no mirrors. All the furniture was made in straight lines, of metal, and somewhat futuristic in design. The chairs, however, were deep and comfortable, although the yielding upholstery appeared at first sight hard and brittle as metal sheets. The room was perfectly bare, and the color scheme a dull silver and black. To me it seemed extremely somber, but it pleased Edvar and his companion.

The first thing I noted when we sat down was the absence of any small articles—books or papers or lamps—and I remarked on this, somewhat rudely perhaps, to Edvar.

"Whatever you wish is accessible," he explained with a smile. He rose and went to the draped wall. Drawing back the folds of the curtains in several places, he showed the metal wall covered with dials and apparatus. I noted especially a small screen, like a motion picture screen. Later I was to find that it served not only for amusement, showing sound-pictures projected automatically from a central office, but also for news and for communication, like a telephone.

"Would you care for breakfast?" Edvar asked me. I accepted eagerly, and he manipulated some dials on the wall. A moment or two later a small section of the wall opened, and a tray appeared. Edvar placed it on the table by my chair.

"We have had our breakfast," he explained, and I began to eat with a keener appetite than I thought I had. It was a simple meal with a slightly exotic flavor, but without any strange dishes. During the course of it, I asked Edvar questions.

"Your life is amazingly centralized," I said. "Apparently all the things you need are supplied at your rooms on a moment's notice."

"Yes," he smiled, "it makes life simpler. We have very few needs. Many of them are satisfied while we sleep, such as cleansing and, if we like, nourishment. We can study while we sleep, acquiring facts that we may want to use later from an instrument which acts upon the subconscious mind. These dials you see are mainly to give us pleasure. If we care to have our meals served in the old-fashioned way, as you are having yours, we can do so, but we reserve those meals for the occasions when we feel the need of eating as a pure sensation. We can have music at any time——" He paused. "Would you care for some music?"

"There's nothing I'd like better," I told him. He went to the wall and turned the dials again. In a moment the room was filled with the subdued sound of a cool, melancholy music—Grieg, or some other composer, with whom I was unfamiliar, exotic and reminiscent in mood, cool, and quiet with a touch of acutely sweet pain. I listened to it in silence for a while. It was so subtle and pervasive, however, that it seemed to play directly upon the subconscious mind, so that the listener could go on thinking and talking uninterruptedly without losing any of the feeling of the melody.

"Have you no private possessions?" I asked. "Things that you share with no one? Your own books, your own music, your own jewelry, perhaps?"

"We have no need of them," he replied. After a moment's thought, he added, "We have our own emotions, and our own work—that's all. We do not care for jewels, or for decoration for its own sake. The things we use and see daily are beautiful in themselves, through their perfect utility and their outward symbolism of utility and creation. Our tools and our furniture are beautiful according to our own conceptions of beauty—as you can see." He made a gesture about the room.

"And who serves you with those meals, and the music, and the knowledge you learn in your sleep? Who does the work?"

"We all do the work. Each of us has his own work. Each of us is a craftsman and a creative artist. The real work is done by machine—our machines are the basic structure of our life. But we have men, highly trained and fitted temperamentally for their professions, who watch and direct the machines. It is a matter of a few hours a day, devoted to fine problems in mechanics or building or invention. The rest of our time is our own, and the machines go on moving automatically as we have directed them to move. If every man on earth should die this morning, it would be perhaps fifty years or a century before the last machine stopped turning."

"And the rest of the time?"

It was Selda who answered this time. "We live. We devote ourselves to learning and creative thought. We study human relations, or we wander through the forests and the mountains, increasing the breadth and significance of our minds and emotions." Selda's voice, rising suddenly after her long silence, startled me, and I looked at her, disturbed again by some subtle attraction exercised over me by her body. We were silent a while, then I relapsed into my inner questionings, and turned to Edvar.

"You must live under a sort of socialistic system," I said thoughtfully. "Even a sort of communism?"

"In a sense. Rather it is an automatic life. The soul of the machine pervades us all, and the machines are beautiful. Our lives are logically and inevitably directed by environment and heredity just as the machines are inevitably directed by their functions and capabilities. When a child is born, we know already what he will do throughout his life, how long he will live, what sort of children he will have, the woman he will marry. The Bureau could tell you at this moment when my great-grandson will be born, when he will die, and what his life will do for the State. There are never any accidents in our lives."

"But how did you develop so highly technical a civilization?"

"We came to it gradually from the last governmental system. It was called the *phrenarchic system*—the rule of the mind. It was neither democracy nor monarchy nor dictatorship. We found that we could tell the temperament and characteristics of a child from his early years, and we trained certain children for government. They were given power according to the qualities of their minds and according to the tasks for which they were fitted. We even bred them for governing. Later, when the machine began to usurp the place of labor all over the world, and gave men freedom and peace and beauty, the task of government dwindled away little by little, and the phrenarchs turned gradually to other occupations."

I LEARNED innumerable details of that life from Edvar, and occasionally Selda would add some fact. They are not important now. It is the narrative which I

must tell, not the details of a social system which, as I would discover later, was purely hypothetical.

The three of us spent the morning in conversation there, until the entrance of another man I had not seen before. He came in without knocking, but Edvar and Selda did not seem to be surprised. He was the representative of the Bureau.

"You are Baret?" he said, looking at me keenly.

"Yes," I replied.

"I have been directed to tell you that your visit here is temporary, and that you will be returned to your previous life at the end of a certain period of time which we have not yet calculated precisely. You have been registered with the Bureau, and you are free to come and go as you see fit, but you are not to interfere with anything you see. You are an observer. You will be expected to comply with our methods of living as Edvar or Selda will explain them to you."

With a slight bow, he turned to go. But I detained him.

"Wait," I said. "Can you tell me who I am, and where I've come from?"

"We are not yet certain. Our knowledge of you has come to us in an unusual manner, through a series of new experiments now being conducted at the Bureau. If possible, we will explain them to you later. In any case you may be assured that your absence from your usual life will not cause you any harm, and that you will return after a definite time. Rest here, and keep your mind at peace. You will be safe."

Then he turned and left. I was puzzled for a while, but I forgot that shortly in the strangeness and wonder of the life I was living in a strange world. . . .

AND the lake? Melbourne?

The Grieg nocturne came to an end. I frowned as I set down my razor, and went into the living room to change the record. Conflicting memories . . . where did they meet? On the one hand was the awakening in the cold waters of the lake—only an hour or less than an hour ago. And there was Melbourne, and the strange conversation at the Club. Finally there was this amazing and isolated recollection, like a passage from a dream.

Suddenly, as I went back to my bath and plunged into the cool water, my mind returned to Melbourne. I had been walking home with him that night from the Club—perhaps last night. We had gone on a while in silence, both of us thinking. Then we had come to the Drive. At that moment Melbourne had said something—what was it?

He had said, "Tell me, Mr. Barrett, would you care to see that dream of yours come true?"

The Chamber of Life

I DIDN'T know what Melbourne meant, and I looked at him inquiringly.

He explained: "I have in my home a model—or rather a complete test-apparatus. It was finished only a few days ago. I have been postponing my trial of it from day to day, afraid that it might be a failure—although, of course, it can't be. I have verified my work dozens of times, step by step.

"If you care to see it, I should be glad to have you come with me. Now that I have reached the end of my search, I need someone to share my triumph with me." I glanced at him eagerly, but hardly understanding that his offer was serious.

"But, Mr. Melbourne," I said, "why have you chosen me—a man you've only met this evening?" He smiled.

"I am a lonely man, almost a recluse, Mr. Barrett," he answered. "I have many friends in many countries—but no intimates. It is the penalty of a man's devotion to one single and absorbing task. And, too, I think you share a little of my interest in this particular task."

"I do, sir! It has fascinated me," I said.

"Then come along. I shall soon be an old man, and I will need someone to carry on this work as I should carry it on. Perhaps you will be that man."

A taxi was coming up the Drive at that moment. Melbourne hailed it, and held the door for me to enter. Then he gave the driver an address which I didn't hear, and climbed in after me.

"This will be quicker," he said. "After all, I am more excited about it myself than I should care to admit."

As we turned and went on up the Drive, he told me more about his invention.

"I call it the Chamber of Life," he said. "It's a fantastic name, but it designates precisely what my instrument is.

"You see, it's like living another life to experience an hour or two in the Chamber. You cannot possibly realize yet just what it's like. I have created a means of reproducing all the sensations that a man would have in actual living; all the sounds, the odors, the little feelings that are half-realized in daily life—everything. The Chamber takes possession of you and lives for you. You forget your name, your very existence in this world, and you are taken bodily into a fictitious land. It is like actually living the books you would read today, or the motion pictures and plays you would watch and hear.

"It is as real as life, but it moves swiftly as a dream. You seem to pass through certain things slowly and completely, in the *tempo* of life. Then, when the transitional moment comes, between the scenes, your sensations pass with unbelievable rapidity. The Chamber has possession of your mind. It tells you that you are doing such and such a thing, it gives you all the feeling of doing that thing, and you actually believe you are doing it. And when it snatches you away from one day and takes you into the next, it has only to make you feel that a day has passed, and it is as though you had lived through that day. You could live a lifetime in this way, in the Chamber, without spending actually more than a few hours."

The taxi turned a corner, leaving the Drive, and plunged into a maze of side streets. I didn't notice particularly where we were going, because I was utterly absorbed in everything Melbourne said. The city, along the upper part of the Drive, is filled with streets that twist and turn crookedly, like New York's Greenwich Village. It has always puzzled me to know how the residents ever find their way home at night—especially when they are returning from parties. I suppose they manage it somehow—perhaps by signs cut in the trees, like primitive Indians.

"Even after I had worked out the machine," Melbourne continued, "it was a year's job to put together a record for a thorough trial. That was a matter of synchronization like your talking pictures, except that every-

thing had to be synchronized—taste and touch as well as sound and vision. And thought-processes had to be included. I had this advantage, however—that I could record everything by a process of pure imagination, as I shall explain later, just as everything is received directly through the mind. And I worked out a way of going back and cutting out the extraneous impressions. Even so, it was all amazingly complicated.

"I've gotten around the difficulties of this, my first record, by avoiding a story of ordinary life. Indeed, what I have made is hardly a story at all. You can readily see how hard it would have been to use the medley of noises in traffic, or the infinite variety of subtle country-sounds. Instead, I made a story of an ideal life as I have visioned it—the future, if you like, or the life on another planet."

At this moment we turned into a dark driveway and skirted a large lawn for several hundred yards, up to Melbourne's home. It was a large house, dark at the moment, like the colonial houses you see in Virginia—the real ones, not the recent imitations that consist of little except the spotless white columns, which Jefferson adopted from the Greeks.

WE went up some steps to a wide porch as the taxi drove away, and Melbourne unlocked the door. The hall inside was a hint of quiet, fine furnishings, with the note of simplicity that marks real taste. Melbourne himself took my hat, and put it away meticulously with his own in a cloak-room at the end of the hall. Then he led me up the stairs, deeply carpeted, to his study. I glanced around the study with interest, but I saw nothing that could, conceivably, have been what he called the Chamber of Life.

"It's not here, Mr. Barrett," he said, noticing my eagerness with a smile, "we'll go to it in a moment. I thought you might care for a highball first." From a closet he selected a bottle of Scotch, some soda, and glasses. Before he poured the whisky, he removed a small box from a cabinet, opened it, and extracted two small capsules. He dropped one of them into each glass.

"This is a harmless drug," he explained. "It will paralyze some of the nerves of your body so that you won't feel the chair you'll be sitting in nor any extraneous sensation that might interfere with the impressions you must get from the instrument. It's a sort of local anesthetic." He handed me my glass.

We drank the highballs rather hastily, and rose. Melbourne went to a door at one end of the room and opened it, switching on a light. Following him, I looked past the doorway into a small room something like the conception I had of the control-room in a submarine. It was a small chamber with metal walls. It had no windows, and only the one door through which we entered.

Around the walls were a series of cabinets with innumerable dials, switches, wires, and tiny radio tubes. It was like a glorified radio, but there were no loud speakers and no ear-phones. Two very deep and comfortable chairs stood side by side in the center of the room.

"The experience will be very simple," Melbourne said softly. "I'm not going into any detail about this instrument until we see how it works. I may as well explain, though, that the room is absolutely sound-proof, so that no trace of noises outside can enter it. Furthermore, I maintain it at an even body temperature. These precautions are to prevent interference with the sound impressions and the heat and cold stimuli of the instrument. That is the only reason we have to be confined here in this room, because it is especially adapted to the reception of these impressions.

"The instrument, you see, like a radio, is operative at a distance. I am going to test you in a moment for your wavelength. When I have that, and set the instrument, you could receive the story, so far as I know, anywhere in the world. No receiving set is necessary, for it acts directly upon the brain. But you must have these ideal conditions for pure reception."

I seated myself in one of the chairs, yawning a little. Melbourne, working at the dials, noticed my yawn and observed approvingly.

"That's good. The more deadened your body is to real sensations—the nearer it is to sleep—the better and more vivid will be your impressions." He pressed several buttons, and twisted a dial with sensitive fingers.

"Now, concentrate for a moment on the word *Venus*," he directed. I did so, and shortly I heard a faint humming which rose within the instrument. Then Melbourne turned a switch with a nod of satisfaction, and the humming ceased.

"That gave me your wavelength," he explained. "I have set it for my own as well—I can broadcast at one time two or more different lengths. I can broadcast more than one part in the drama, too. Whereas you, for instance, will be the man waking up in a strange world in the record we are going to receive, I have connected my wavelength to receive the emotions and the sensations of the girl, Selda."

He came forward to the other chair, and sat down.

"Everything is in readiness now," he said. "When I press this button on the arm of my chair, the lights will go out. A moment later we shall be under the stimulus of the machine. I don't think anything can happen." He smiled. "If anything does, and you are conscious enough to know it, you can call my butler by means of an electrical device I have perfected, simply by speaking his name, Peter, in an ordinary conversational voice. But I don't see how anything can go wrong."

We reached for each other's hands, and shook them quietly.

"Good luck," I said. "The outcome of this means almost as much to me as it does to you." With another smile, Melbourne answered:

"Good luck to you, then, too."

At that moment the lights went off, and we sat there a few moments in total darkness. . . .

Remembering this scene, as I bathed that morning when I came out of the lake, I began to understand more clearly what had happened to me. Evidently, then, it *had* been last night that I saw Melbourne, and the strange other-life I had been recalling earlier had been the experience in the Chamber of Life.

But there was more yet. My mind raced back to the awakening on the hill, and to the landing in the city of Richmond. I remembered the conversation with Edvar in his apartment, the place where I had left off and gone back to my recollections of Melbourne.

Now, as I stepped out of the tub and dried myself and dressed, I returned mentally to the curious, mythical adventure in the mythical city. It was still impossible for me to feel that it was unreal, it had been so vivid, so clear.

Baret and Selda

I REMEMBER that I lived nearly two months—or so it seemed—in that other world. I was assigned an apartment near to Edvar's—Selda was between us. Edvar instructed me in the details of the life I was to lead. But he was a rather cold sort: his interests were ancient history and archeology, and he would spend his mornings at work in the Library of History or in his study, the rest of his time flying about the world on curious expeditions of discovery—examining the soil, I suppose, and investigating the customs and records of other cities.

Selda devoted most of her time to me. It was she who took me from place to place, showing me the natural beauties of that world. There were, you see, not only gentle slopes and hill-tops. There were mountainous crags as high and as wild as the Alps, forests as impenetrably deep and still as the jungles of the Amazon, and rivers that rushed and tumbled over rocks, or fell for thousands of feet from mountain cliffs.

The first time I went with her, she took me to a gigantic peak that overlooked the sea. There was, of course, a small level place for the airship to land. We left it there, and climbed on foot the last hundred yards or so. Our way lay through the heavy snow, but it was not too cold to be more than gloriously bracing, exhilarating. We wore our usual costume of trunks and tunic.

The sunlight seemed to fade, and there was a vague hint of darkness all about me, with black walls looming up on all sides. It was as though I stood in two worlds at once, transfixed between night and day

We stood at the top and looked out over the grandest horizon I had ever seen. To the east there lay the sea, deep and very blue in the sunlight. The shore was just a dark line far away and below us. There was a long strip of grass and field bordering the sea for miles, and behind that the forest. Toward the north, the mountains crept out from under the forest and moved down to the sea, rising until they became a vast wilderness of cliffs and rocks, and hid the sea, with peak after peak rising as far as the eye could reach into the snow and the mist. Then the hills sloped down westward into a series of wooded valleys, through which ran the wide river I had seen at my awakening, coming down from the mountains and through the valleys until it flattened broadly out into the low plains in the south and moved eastward to the sea. Everywhere in the valleys and over the plains, I knew that cities were scattered, lonely and tall like the one they called Richmond. But we were so high in the mountains that they were invisible to us—perhaps a keen eye could have found them, tiny white dots crouching upon the earth.

I turned to Selda—and caught my breath. The wind, swooping up from the sea, whipped her thin covering against her body and fluttered it like the swift wings of a butterfly behind her. Her short, dark hair, too, was lifted and blown back from her forehead, revealing the clean, soft profile of her face. I had never seen a girl who stood so clean, so straight. I watched her until she turned, too, and met my eyes. In them I thought I detected something startled and unfathomable.

"My God!" I cried across the wind, "you are beautiful!" She frowned a little, but her eyes still looked searchingly into mine. I stepped forward, facing her. But I didn't touch her. I was afraid to touch anything so clean.

"You belong here, Selda," I added. "The wind is a part of you, and the mountains, and the sea. You shouldn't have to live in the midst of all those people in the city. You belong here." She smiled faintly, looking up at me.

"You belong here more than I do, Baret," she said. "You came to us, not from the city, but from the hills."

We stood there, examining each other's eyes, for a long while. I wanted to take her in my arms, but I didn't. I looked away at last, back at the sea, puzzled and disturbed. I had never been aware of anything so fine as this before, nor of anything so painful. Suddenly I found myself wanting to be something, to do something—not for myself, but for her. It was strange.

"Come," she said at last, "we had better go back."

"I'd like to stay here forever," I answered moodily, glancing around a last time at the versatile horizon.

"So would I," she admitted. Then, in a low voice, she added, "But one can't. One has to follow one's program."

We returned to the airship, and rose into the cool,

thin air. I stood behind her on the way back, watching her slender body as she guided the plane. Once in a while she would turn her head and look up at me over her shoulder, then quickly look away again.

"Why is it," I asked her as we passed over the valleys and the river on our way home, "why is it that these hills have such a cultivated look—as though they had been laid out?" She glanced back, and smiled.

"They *have* been laid out," she said. "The hills, and the rivers, and the tallest mountains have all been constructed by our landscape artists in order to achieve their various effects. Even the line of the sea has been determined and arranged by the artists."

"But why?" I said. "Wasn't it a frightful waste of energy?"

"It didn't seem so to us," she answered. "We had no further need to cultivate the land except in small patches, when we learned the secret of artificial food. And we wanted to have perfect beauty about us. So we remodeled the outlines of the earth, and eliminated the insects and the harmful animals and the weeds. We made the land clean and fine as it had never been before."

"It must have been a terrific labor."

"It pleased us. Our instinct is to arrange and remodel things, to order our life so that we know what it is and what it will always be." She paused for a moment, and added in a low voice, "One is necessarily a determinist here."

We said no more until our arrival in Richmond.

It is not my purpose to detail here all that happened during the time I spent in that world. Most of it had to do with Selda, and our daily expeditions about the world. This is not, after all, a love story, but the account of a very strange experience; and, too, none of it was real.

During my last week, a series of strange moods and happenings complicated my life. One day, after a visit to the sea with Selda, we were walking back to our plane across the sand. Without any warning, surrounded by the brilliant morning sunlight and the miles of sea and beach, I struck my knee against something hard and immovable, and, flinging out my hand to catch myself from falling, I clung to a hard surface like an iron railing. For a moment I was stunned and confused. The sunlight seemed to fade, and there was a vague hint of darkness all about me, with black walls looming up on all sides. It was as though I stood in two worlds at once, transfixed between night and day. Then the darkness went away, the sunlight brightened. I looked around, and found Selda watching me curiously, a little alarmed.

"What happened, Baret?" she asked, puzzled. I shook my head in bewilderment.

"I seemed to stumble——" I said. There was nothing underfoot but the soft sand, and where I had flung my hand against a sort of railing, there was nothing either. We went back to the airship in silence, both of us confused.

AFTER that, with increasing frequency, there would come interruptions, like iron bars striking dark, jagged holes in the tissue of life. From time to time I heard inexplicable noises—the whirring of motors, the skid-skid of tires on invisible streets, the rumble of carts around corners of a world where there were no carts. Again and again those moments of confusion would come over me, when I seemed to be looking into two worlds at once, one superimposed upon the other, one bright, the other dark with faint points of light in the distance. Once, walking along the corridor beyond my room in Richmond, I collided with a man. For a moment the corridor faded completely. I stood on a street with dark houses about me. Overhead was the glow of a street-lamp, and a milk-cart was just rattling away around a corner. A man with a frightened face stood before me, his hat on the pavement, his eyes staring. We looked at each other in astonishment. I started to speak. Then he reached for his hat quickly, and brushed by me, muttering close to my ear.

"For God's sake, look where you're going. . . ."

I stood in the corridor again, staring. Down the corridor, coming toward me, was a single figure—Selda. Behind me there was nobody. I went to meet Selda, dazed and uneasy. I could still hear, close to my ear, an echo of that muffled, hoarse voice that I had never heard before.

That was two days before the end. We were leaving the city on that final bright morning, when a representative of the Bureau stopped us. I looked at him inquiringly.

"I have come to tell you, Baret," he said, "that your departure is scheduled for this evening." I drew back, startled, and looked at Selda.

'My departure?" I repeated in a low voice, hardly understanding. "So soon?" I had forgotten that one day I should have to leave.

"It has been arranged," he said impersonally.

We bowed slightly to each other, and he went away. Selda and I stepped aboard our ship in silence.

That time we flew up the river until we came to the foothills of the mountains in the north. We landed in a little clearing by the river at the foot of a waterfall hundreds of feet high, towering over us. The forest stood about us on all sides, coming down to the river's brim on the opposite bank and meeting it not far from us on the near bank. The precipice, covered with moss and small bushes, stood above us.

We sat a long while in silence, before I said bitterly: "So I must go."

She didn't look at me, but answered quietly, "Yes, you must go."

"I don't want to go," I cried, "I want to stay here!"

"Why?" she asked me, averting her face.

"Don't you know?" I said swiftly. "Haven't you understood long ago that I love you?" She shook her head.

"Love is something that we don't know here—not until we have been married and lived with our men. Sometimes not then." But she looked at me, and I thought there were tears in her eyes. Suddenly the impulse I had been resisting ever since the morning on the mountain became insupportable, and I caught her in my arms almost roughly. Her face was close to mine, and she closed her eyes. I kissed her, forgetting everything but the knowledge that I had stumbled upon the sort of love that doesn't pass away, no matter how long a man lives.

After a while, though, she drew away as if she resisted not my desire, but her own.

"No——" she said in a low voice, "no. . . ."

"But Selda!" I stammered, "I love you—I want to marry you." She shook her head.

"No," she said again, "didn't you understand? I am scheduled to marry Edvar."

At first I didn't know what she meant.

"Scheduled?" I repeated dully. "I don't understand."

"It has been arranged for years. Don't you remember what Edvar told you about our marriages here, the very first day you came? I was destined to marry Edvar long before any of us were born, before our parents, even, were born. It's the way they order our lives."

"But I love you," I cried in amazement. "And you love me, too. I know you love me."

"That means nothing here," she said. "It happens sometimes. One has to accept it. Nothing can be done. We live according to the machinery of the world. Everything is known and pre-determined."

SUDDENLY, in the midst of what she was saying, close behind me there sounded even above the roaring of the waterfall a raucous noise like the hooting of a taxi horn. It was followed by a shrieking of brakes, and a hoarse voice near by shouted something angry and profane. A rush of air swept by me, and I heard faintly the sound of a motor moving away, with a grinding of gears. I looked at Selda.

"Did you hear that?"

She nodded, with wide, frightened eyes. "Yes. It's not the first time." Suddenly she rose, frowning, as if with pain. "Come," she added, "now we must go back."

There was nothing else to do. We went back silently to the airship, and turned its nose toward the city.

But when I left her at her apartment, promising to see her later, I had one last hope in my mind. I went to the Bureau.

The Bureau was a vast system of halls and offices, occupying two floors of the great building. I was sent from one automatic device to another—there were no human clerks—in search of the representative who had spoken to me before. Finally I found him in his apartment, down the corridor only a hundred feet or so from my own. He was poring over a metal sheet on his table, where innumerable shifting figures were thrown by some hidden machine, and he was calculating with a set of hundreds of buttons along its edges. He spoke to me without pausing or looking up, and throughout my interview he continued with his figuring as if it had been entirely automatic—as perhaps it was.

"What is it, Baret?" he said. I felt like a small child before the principal of the school.

"I have come to ask you whether it is necessary for me to go," I answered. He nodded slightly, never looking up.

"It is necessary," he said. "Your visit was pre-arranged and definite." I made a gesture of remonstrance.

"But I don't want to go," I insisted. "I like this place, and I am willing to fall into its life if I can remain under any conditions."

"It is impossible," he objected angrily.

"I have never been told why or how I came here. You said you would tell me that."

"I have never been told myself. It is a matter known to the men who handled it."

"If I went to them, surely they could find some way to let me stay?"

"No," he said coldly, "the thing was as definite as every event that takes place here. We do not let things happen haphazardly. We do not alter what has been arranged. And even if it were possible to let you stay—which I am inclined to doubt—they would not permit it."

"Why not?" I asked dully.

"Because there is no place for you. Our social system has been planned for hundreds of years ahead. Every individual of today and every individual of the next six generations has his definite place, his program, his work to do. There is no place for you. It is impossible to fit you in, for you have no work, no training, no need that you can fill. You have no woman, and there are no women for your children or your children's children. You are unnecessary. To fit you in, one would have to disrupt the whole system for generations ahead. It is impossible."

I thought a moment, hopelessly.

"If I made a place?" I suggested. "Suppose I took someone else's place?" He smiled, a faint, cold smile.

"Murder? It is impossible. You are always under the control of the Bureau in some way, whether you know it or not."

I turned away, a little dazed. The whole thing was inevitable and clear as he put it. I knew there was nothing to be done.

I left his apartment, and went down the corridor to the landing stage. No one interfered with my movements, and my commands were not questioned. I ordered a plane, and gave my name to the girl in charge.

"Your destination?" she asked.

I said, "I am only going for pleasure."

"Your return?"

"Expect me in an hour."

I had watched Selda pilot the planes for so many weeks that I was familiar with the controls. I rose swiftly, circled the building, and headed north toward the mountains. I hadn't the courage to see Selda again. It was only a little while before I came to the place by the river where we had spent the morning. I slowed down, and flew over it, just above the waterfall.

There was a landing-spot by the river just beyond the top of the fall. I came to rest there, and left the machine.

I stood looking at the river for a moment. I don't remember that any thoughts or emotions came to my mind. I simply stood there, a little dazed, and very quiet, with a vague picture of Selda before my eyes. It was a dream-like moment.

Then I slipped over the river's bank, into the water, and the swift current, catching me up and whirling me around dizzily, carried me toward the edge of the waterfall.

And So to Work

I GLANCED at the clock on the mantel. It was five minutes to eight: time to leave, if I was to get a decent breakfast before I went to the office. I found an old hat in the closet and put it on. It would do until I had time to buy another.

Last night—and this morning. Last night, after supper, I had dropped by the Club for a drink. And met Melbourne. This morning I woke in the water of the lake, and came home, and dressed. And went to work. Twelve hours—and in that time I had lived two months. I had fallen in love, and died. Now I must go to work.

As I left the apartment, and turned west away from the Drive, toward the street cars, I was whistling over and over a brief snatch of music. Was it Grieg? Or some composer never heard on earth?

There were people on the street now. They went by with frowning, intent faces—on their way to work. And

cars rolling by, pausing at the cross streets with little squealings of brakes.

Everything was so simple now. I went over it all as I waited for the street car, and as I rode down town. It was strange that Melbourne had never foreseen that one possibility among so many.

We had sat down in our chairs, and then the adventure had begun. I had felt the sensation of moving about, of going from place to place. When I was a child I used to have dreams of walking about the house and about the streets. I would wake up on the stairs, or at the door—sleep-walking. Reflexes did it. I had left the chair, under the influence of the story in the Chamber of Life, and gone out of the room. I remembered now all those brief moments, when I had seemed poised on the brink of the real world—the stumbling against some hard object, the face under the street-lamp, the taxi, the voices. I had been going through the dark streets, with closed eyes, going toward the Drive—sleep-walking. And when I slipped over the bank of the river, in the dream, and down into the water—in reality I had gone over the side of the Drive, and down into the cold lake.

It had been dawn.

I left the car, and walked down the street, lost in the midst of the crowds hurrying about me. It was all over, gone like one of those old dreams of my childhood. I could never forget it—never forget Selda—but it was gone. It had never existed. It had been cruel of Melbourne, cruel and ironic, to put Selda in the dream. But perhaps he had never realized that it would last over into reality.

I had no hope of seeing her again, even in the Chamber. I knew I could never find Melbourne's home: I had paid no attention to the way the taxi-driver took. And I wasn't very much interested now. It was only a dream. I had lost the only girl I had ever loved, in a dream.

I pushed open the door of the Norfolk Lunch. It was late—I had only a little while for breakfast. I sat down at one of the tables, and spoke to the waiter in much the usual manner.

"Hello, Joe. I'm in a hurry—bring me bacon and eggs, as usual."

"Coffee, Mr. Barrett?"

"Yes, coffee too. And hurry it up."

It wouldn't do to be late at the office, where I, too, was a maker of sometimes cruel dreams.

THE END.

THE Steam God

ILLUSTRATED BY WESSO

The Interior of the Earth Is Undoubtedly in a State of Almost White Heat, and we are protected only by a thin crust of rock and soil. Sometimes our mother earth breaks through this crust and we have volcanoes, hot springs and geysers. Recently the steam and boiling water from a geyser in the Yellowstone National Park killed a tourist. Read this story of hot spring activities and see what happened to the hero.

WE were members of the Kingsford Arctic Expedition.

We were at an altitude of about four thousand feet, flying due south. In every direction, as far as we could see, were the white wastes of the Arctic polar regions.

Evidently we were over thick glacier ice, for there was a slight tinge of blue to the surface, except where long rifts of dazzling white marked extensive pressure ridges.

As I swept the encircling landscape with my glass, I detected a long, irregular streak of faint color away to the west. It was of an indefinite green tint; and I wondered if it could be the outcropping of a mountain range.

I wished we might turn aside to explore it. But I knew that to do so was out of the question, for we had flown much farther afield than our gas supply warranted, led on by new and interesting sights that we believed no Arctic explorer had ever seen.

It was imperative for safety's sake that we take the straightest and quickest route back to our base.

We were still beyond the safe flying radius for planes of the type used by our expedition, and we knew that in case of disaster to our machine there would be little if any chance of our being found or rescued. I pointed to the rift of color, and passed my glass to Hadley, who was piloting the plane. At that moment a foreign sound mingled with the rhythmic hum of the engine, and instantly our whole attention was turned to the machine, for evidently something was the matter. The motor commenced to labor and an unmistakable odor warned us that she was getting hot. Hadley cut off the spark and tilted our course earthward. The motor was so hot that it refused to stop but throbbed on. As I reached to cut off the flow of gas, there was an explosion and a flash of flame. The machine was on fire and I knew there was no time to lose. As I inserted a finger in the ring of my ready parachute the flames roared past me.

I closed my eyes and jumped.

A few moments later I was fairly launched on my way to the ground, in comparative safety. I looked about me and caught a glimpse of the flaming, smoking machine, far away and below me, catapulting to earth. I hoped my companion had been able to get clear; but I could see no other parachute, and my hopes died. I landed very safely on rough ice, and hastily gathering up my parachute, I hurried away to where a dark blotch marked the end of the descent of the plane.

Everything combustible was burnt. The metal skeleton of the machine had struck the ice with terrific force, utterly demolishing it. In the midst of it all was the charred and mangled remains of poor Hadley.

How long I stood there, dazed and stupefied, helplessly staring at this terrible sight, I do not know. But I was aroused by a consciousness that I was very cold. I realized that inaction in such a climate, in spite of my warm aviator's clothes, would very shortly end my career, so I decided to cover the wreck with my blue parachute, in order to mark the place in the vast expanse of white, and venture forth in search of shelter.

Hurriedly, and with stiff, numb hands, I fastened the cloth over the tangled mass as best I could and turned away. I was sick with horror and half paralyzed with cold. I had no notion of where I was going. I ran, aimlessly, stumblingly, blunderingly, over the ice. Presently, as my heart commenced to race and my circulation sped up, I felt more comfortable; and my mind began to function more normally. I slowed my pace and tried to plan some course of action.

Here I was, alone in the wastes of the Arctic, far north of the haunts of any living thing. No bird or animal, not even a fox, could support life on this eternal ice. There was no land; only endless snow and ice. All I had was the meagre one-day emergency ration that all members of the expedition were required to carry upon their persons when away from the base. I had my knife and watch and some matches. Yes; and I now realized that I had thrust the telescope into my coat pocket also.

I took it out and looked at it. Then I remembered for the first time the faraway streak of green. Here was a gleam of hope. Possibly it would prove a refuge!

No doubt it was far off. But it would be better to be striving for a definite goal than to wander about aimlessly over the desert of snow and ice until certain death should overtake me.

By

Walter Kateley

Author of "The Eye of the Vulture," "The Hollister Experiment"

There before me lay a narrow valley, with white steam rising from a thousand places

I made my way to the top of a neighboring pressure ridge and tried to get my bearings and clear up my sense of direction. Since we had been flying south when I saw the rift of color, and it had appeared directly on my right, it must be in the west. I turned toward the southern sky. There was the sun showing dimly through the frosty air. I took out my watch and saw that it was a quarter after twelve. That meant the sun was nearly due south; and the minute hand of the watch should point west when I turned the dial so as to make the hour hand point to the sun.

But how was I to keep a straight course? There was no sign of a landmark. The ice in every direction had as much of a sameness as the waves of the ocean.

I was again feeling the cold, so I decided to keep the sun on my left and trust to good luck. It didn't seem as though I would be likely to miss the place so badly that I would be unable to pick it out with my glass. It had seemed quite long, subtending an angle of perhaps five degrees. I took one last look back at the dark speck that marked the scene of the recent tragedy and pushed off. Now that I had a definite plan, I felt a little heartened. I picked up a fragment of ice and put it in my mouth to quench my growing thirst and tried to estimate how far away the green patch probably was.

It had not been visible to the eye except through the glass; and since it was a day of fair visibility, I judged that one could see probably sixty-five miles from that far height with the unaided eye. So it would not be reasonable to suppose that the place was much less than that distance away. On the other hand, it might be considerably farther. Suppose I could travel twenty-five miles a day? It would take me nearly three days to reach it.

It was a disheartening outlook. I had meagre rations even for one day. I had no snowshoes. If I encountered soft snow, I could not hope to make progress. Fortunately, I had stout boots that could reasonably be expected to hold out as long as my strength would last.

But would the sun continue to shine for three consecutive days? If its position should be obscured, I would have no guide; and in that case I knew that if I kept on I should naturally travel in a wide circuit and be lost.

Of course the sun would not set in this high latitude at this season; and its course from east to west was so short that, knowing the time of day, I could easily gauge my course fairly well. It seemed that my only salvation lay in the chance that there would be no storm.

All the long afternoon I trudged on. At six o'clock I halted and erected a slight wind-break with some broken chunks of ice. There I rested a while and ate sparingly of my emergency ration. I decided if the low-lying sun furnished sufficient light, I would go on until midnight; and then, if I could find any kind of shelter, I would lie down and sleep.

So I wound my watch and started on. At about one o'clock I came upon some block ice—that is, ice that has been broken up into large, irregular chunks and piled haphazard. Among these chunks was loose snow. I sought out a place somewhat sheltered from the cold wind, made a little burrow in the snow, and lay down to sleep.

I wondered if I would ever wake up; and if I did survive the night in the snow, wouldn't it be frozen so hard around me that I could never get out?

But I was so exhausted that I soon fell asleep and slept soundly until seven o'clock.

To my great relief, I found upon waking that I was neither dead nor frozen fast in the snow; but on standing up I found I was stiff with the cold and every one of my muscles was sore. The good old sun, although dim, was still there. I ate the remainder of my emergency ration and started again for the west. My progress for the next two days was painful and tedious, but not very eventful.

I encountered a number of wide crevasses in the deep ice floe, and was obliged to make several long detours. By the end of the third day, I was weak from my long fast and exhausted by the constant exertion.

I felt sure that, in spite of all detours and rough going, I must have traveled at least sixty miles; and I could not imagine why I had not come within sight of my goal.

If it was a range of mountains, or an outcropping of light green rock, and I had been going all the time in something like the right direction, I should be able to see it now even without the glass.

During the whole day and the preceding day I had repeatedly taken the telescope from my inside pocket, where I now carried it to keep it free from frost, and had scanned the entire horizon for signs of outcroppings. But it had been a fruitless search. There was absolutely nothing but limitless fields of ice and snow. Could it have been an optical illusion? Or had I traveled in the wrong direction and so missed it?

I wished that Hadley had seen it, too. Then I would know that there was really something there. I came upon some broken ice and snow, such as had served me the previous nights for a shelter, and made my usual preparations for sleep. I was so starved and utterly exhausted that I felt the end was not far off.

I wondered dimly if it would be better on the morrow to seek a somewhat sheltered place and await the inevitable in comparative comfort. Or would it be better to keep struggling on to the bitter end?

In the morning I woke still feeling very weak and disheartened.

A little way off I saw a pressure ridge where the ice was heaved to quite a height. I made my way to the highest point and strained my eyes to scan the landscape. I could see nothing unusual. I adjusted the glass with trembling hands and examined the western horizon.

No. There was nothing but ice. But wait! There was something! A bit of white mist, or was it snow against the darker color of the glacial ice?

My heart began to beat fast with excitement, although reason told me that a wisp of fog in the early morning was nothing to get excited about. Still, it was perhaps something more than coincidence that it was located in the very direction where I had hoped to find something unusual; and besides, it appeared too definitely localized to be the result of general weather conditions.

I tucked the instrument under my clothes, next to my body, to warm it and make sure it was free from frost. Then I wiped off the lens and looked again.

Yes, surely enough, there was something of an unfamiliar aspect. It could hardly be a snowbank, because it was too billowy. And it did not look like a cloud, either. It must be either smoke or steam. I could not imagine what could cause steam, unless there might be open water there.

I had often seen fog or steam rising over lakes and ponds in the early morning in temperate climates. But nothing short of a volcano could cause smoke in a country where there was no vegetation to burn, and volcanoes were only on mountain tops.

Well, no matter what it was, I must reach it. But I found myself under a strange hallucination. There were now two of us. One here on the ice ridge and the other over there a little way, asleep in the snow. I felt that I must hurry back and rouse him and tell him to take new heart and press on, for yonder was a hopeful sight.

No, I reflected, it could not be. For I had had no companion on the march. Perhaps I was still asleep in the snow and only dreaming of a bank of mist.

I had been standing still for some time in this exposed place, and I knew I was wretchedly cold. I swung my arms frantically and ran down among the ice blocks to escape the cold wind.

Gradually my thoughts cleared as my circulation increased, and I knew I was alone and up and about. Moreover, I had no time to lose. I must go quickly, while my strength held out. I was terrified at this indication of the weakening of my mind. I ran back up to the tip of the little rise and looked again.

Yes, it was there. I could see it dimly with the naked eye. I only hesitated to make sure of the direction and fix it in my mind before I struck off as fast as I could go in my weakened condition.

I didn't walk; I ran. I ran for what seemed a long time. Then I seemed to remember that I had left somebody back there, asleep in the snow. Why had I done such a thing? Why had I not roused him and urged him to come with me?

It was only a momentary thought. Instantly I recognized the old enemy. I must be overexerting myself. I was sapping my system of the little strength that still remained. I must slow up and conserve my vitality. I fell into a brisk walk.

Soon I topped a little rise and saw again the bank of mist. This time it seemed to be a little closer. I hurried on. What if it should prove to be only open water when I arrived? Still, there would be a possibility of fish or some aquatic thing to be captured for food, and maybe driftwood or something to make a fire.

I no longer had to look for the sun to direct my course. From the top of every little ridge I could see this thing I was striving to reach.

But I felt myself growing weaker. My feet were as heavy as lead, and I stumbled awkwardly whenever I encountered a rough spot.

Yet I had no notion to give up the fight. There is in the cold countries an almost unbelievable vitality, an unquenchable instinct to live that does not exist elsewhere in the world. It is a matter of common knowledge to men who have lived in the Far North that both men and animals will survive hardships and recover from injuries that would unquestionably be fatal in any other climate.

Perhaps it was this Arctic will to live that kept me up. At any rate, I perceived at last that the mists were visible not only from the top of the ridges but from the level as well.

I must be getting quite close, and with renewed hope I pressed on.

I looked at my watch. It was noon. I had been on the way five hours. I took out the glass again and examined the mist. It was now clear that it was mist. I thought I could see it moving and changing in shape; and some of it seemed to be drifting away with the wind.

Yes, and to the south of it there was now visible an expanse of glare ice. It must be fog of some sort, rising from I knew not what; and as it blew away and condensed, it was falling in fine rain!

Surely, I thought, there must be a great deal of warmth of some kind there, if nothing else; and I fought off the now almost overpowering feeling of weariness and tried to ignore the cutting cold of the fierce north wind.

The last few miles of my journey I remember only very dimly.

Once I wondered what time it was. But it seemed as though I had no watch—that I had left it behind with the man who was asleep back there in the snow. With an effort I overcame the delusion and took out my watch. It was two-thirty. I couldn't seem to get it back in my pocket. I let it hang by its short leather guard.

At length I encountered a steep upgrade; and the rising mists were close at hand. I dropped on my knees and pulled myself along with my hands. My arms seemed much stronger than my legs. I struggled on to the top. Was this a mountain? Could it be a volcano?

I stood up and peered over the crest of the rise. A wholly unexpected sight met my astonished eyes and a breath of warm wind filled my nostrils.

There before me lay a narrow green valley, with white steam rising from a thousand places!

I stood transfixed. I could hardly believe my senses. Could it be that this was a dream, a vision? I had heard that people dying in the desert saw visions most inviting.

I almost suspected that the whole last day's trek was only visionary, and that I was actually lying in the snow, away back there where I had dug in for the night—about to start into the Great Unknown.

I pulled myself together with a feeling of impatience and started along the slippery way to look for a place where it would be possible to descend. One of my feet slipped and I fell, and I felt the impact of the hard ice. I was conscious of a swift, gliding motion, like a toboggan on an icy slide. It must have been several hours later that I regained consciousness. I opened my eyes and looked about me. It was nearly dark. The Arctic sun must have sunk to a very low level, possibly as low as it ever does in the season of the midnight sun.

I knew I must be down in the deep gulch, because it was warm, blissfully warm!

I felt no pain, but I was very tired, so I turned over on my left side and went to sleep.

When I awoke it was ten o'clock and much lighter. I got up and found that I had been lying on a low ledge of rock which was but partially covered with loose soil.

A few feet away was a crack in the rock, and out of it came hissing a number of little jets of steam.

Looking up, I saw that a great white steam cloud obscured the whole sky.

I congratulated myself on being still alive, and cast about in quest of food. I was ravenously hungry. There was vegetation all about me, but it was very pale, having the light green color peculiar to plants grown in cellars and dark places.

The west side of the valley was very steep, almost a sheer cliff, and the entire wall was covered with clinging vines that almost hid the face of the rock and continued to the very top of the wall. The east side was not so steep; and the snow and ice found lodgment between rocky outcroppings and extended in places well down into the valley. It was at such a place, fortunately, that I had lost my footing and came sliding down.

At this point the valley was only a few rods wide. I could not see how long it was on account of the steam

obstructing my vision; but because of the size of the cloud I had seen, I knew that this valley or others like it must be quite extensive. A little stream of clear water trickled down the hill and disappeared in a crevice in the rocks.

I lay down and drank deeply. It was the first real water I had seen for a long time.

I now started along the bottom of the valley, and soon came to where the sun appeared over the top of the high bank and flooded everything with a pale, sickly glow.

I wondered how any vegetation could grow with so little light. It was, however, plain to be seen that there was no lack of heat.

By this time I was carrying my coat on my arm. I scanned the pale but abundant vegetation for anything edible, and soon found a few low bushes with buds that looked something like pussy-willows.

I picked some and ate them. I found them to be quite palatable.

A little further on I came upon some wild leeks growing on a jutting rock. The soil was thin and I had no trouble in pulling them up. They proved to be mild, and I ate quite a quantity of them. Then I searched along the valley for quite a distance without finding anything that looked at all fit to eat.

Steam was jetting from cracks and holes in the ground all about me. I had to be careful not to burn myself. I was about to turn back and retrace my steps to where I had found the leeks, when I came upon a seemingly different sort of soil, covering the whole bottom of the gorge.

Thinking this soil might give rise to a different kind of vegetation, I continued a little further, and was soon rewarded by finding a thick growth of mushrooms. I saw at once that they were of an edible variety.

So I gathered a quantity of them and ate them raw. They tasted far different from cooked mushrooms, and by no strength of the imagination could I call them good. But I knew they were wholesome and filling, and I was in no position to be finicky.

After I had eaten my fill, I sat down to rest on a little ledge of rock near an especially noisy jet of steam. I gave myself up to the consideration of my strange situation.

In the first place, after giving the matter some thought, I realized that it was not a very uncommon occurrence for natural steam to issue from the earth in quite large quantities. I knew of the location of several valleys in widely separated parts of the world that contained these so-called fumaroles or steam jets.

It so happened that only the year before I had joined the expedition my brother, who is an engineer, had been preparing an article on "Power Available from Natural Steam," and not being busy at the time, I had been drafted to do part of his research work.

In this way I had come upon some quite striking facts.

At Healdsburg Valley, in California, not far from San Francisco, there are a number of fumaroles where very hot steam pours out; and recently a number of deep wells have been drilled near by, with gratifying results.

In some of these wells, 12 inches in diameter, a pressure of over three hundred pounds has been developed; enough steam to drive tremendously heavy turbines and furnish almost unlimited heat and power.

The noise of escaping steam at one of these wells is so terrible that workmen and others are obliged to stop their ears with cotton before approaching it.

In the Yellowstone National Park there are a great number of geysers and fumaroles, where hot steam is liberated. In one locality the shriek of escaping steam can be heard for miles.

In far-off New Zealand there is a tract of thousands of square miles more or less thickly covered with active fumaroles and hot springs.

At Larderello, Italy, southwest of Florence, steam piped from a number of wells is used to operate a great factory, and numerous other wells within a radius of 80 miles of this mill are utilized for industrial purposes. It has been estimated that this steam comes from a region where the temperature is 3,200° F.

In Italy alone there has been developed three and one-half million horsepower from natural steam, and a great deal more is available.

At the city of Beppu, on an island of Japan, natural steam has been harnessed to drive a steam engine and operate a turbine and an electric generator.

Although I was entirely familiar with these facts, I had never before thought of the possibility of a fumarole valley in the land of eternal snow. But since the internal heat of the earth could be but little affected by surface weather, and since the heat of all fumaroles comes from the intense heat of the Great Magma, or molten mass of the remote interior of the earth, there seemed no logical reason for being surprised at finding a steam-heated valley in this latitude.

And now it occurred to me why I had seen the valley as a green patch from the air, but only as a cloud of mist from the surface of the ice field.

From the air I was able to see down into the valley and catch a glimpse of the green foliage, contrasting with the surrounding blue-white of the snow. However, none of this greenness was to be seen from the ground; and had it not been for the steam-cloud, I never should have mustered strength to travel so far.

I felt a great sense of relief at having escaped from the snow fields, and the full meal I had eaten gave me such a sense of well-being that I felt little concern about how I was to make my way back to civilization. That was to come later.

Soon the soft, mist-filtered rays of the sun, combined with the warmth given off by the steam, made me drowsy; so I removed my boots, in order to use them for a pillow, and composed myself for another comfortable sleep.

It was eight o'clock next morning when I awoke from a long and refreshing slumber.

The sun was not high enough to show above the rim of ice, and the whole valley was shrouded in deep gloom. While I waited for more light, with which to explore the valley and forage for food, I meditated on the possibility of developing power from all this ecaping steam, though I thought of what use could power be in such a place? I had no idea until later.

Finally the sun rose high enough to percolate into the depths of the gorge; and after eating a few more of the mushrooms, I continued my tour of exploration.

I had only progressed a little way when I found the valley was growing smaller, and presently it narrowed to a mere canyon. Evidently it was coming to an end. I was quite surprised at this, because I had judged from what was apparent from the air and from the steam cloud, that it must be several miles in extent. I had entered near the other end of it; and thus far I had not traversed over a mile and a half of its extent.

As the walls closed nearer together and became more precipitous, I approached a steam vent somewhat larger and noisier than any I had yet encountered. The escaping steam made a sort of high-pitched, angry whine that was strikingly like a protesting human voice. It was an unpleasant sound, and it rose and fell with a vibrating rhythm that was quite disconcerting.

At this point the wall on my left was quite perpendicular; but the one on the right was somewhat sloping, although very steep. The bottom of the valley was no more than a dozen feet wide.

To my surprise, I found the surface so hot when I approached the fumarole, that I was obliged to turn back. At first it seemed that I would not be able to go any further in that direction; but upon examining the slanting right bank, I discovered a narrow path that led up and beyond the heated area.

This discovery was somewhat of a surprise to me, for heretofore I had seen no signs of animal or human life. To be sure, the track was dim and indistinct, and might very possibly mark a rift in the underlying rock, or some old-time water course. I examined it for tracks. There were none discernible. I followed the course up the steep incline, passing the steam jet rather fearfully, thinking what an unpleasant experience it would be, if I should miss my footing and step into it.

As I had more than half expected, the path, if I could call it that, descended again to the canyon floor; and after looking carefully about for other signs of life, I continued on my way.

And now the gap commenced to widen, and I saw ahead of me a curve in the walls.

As I rounded this curve, I caught a glimpse of receding hillsides and the vista of a long, widening valley.

I hastened forward eagerly, coming suddenly upon a little puddle of mud; and while watching to make sure of my own footing, I noticed a track beside a flat stone. It was very evidently a fresh track. I paused to examine it.

It appeared to be the imprint of four or five large toes. I could not make sure which, because of the softness of the mud, and I made out the ball of a wide foot. The track was so close to the stone that I suspected a part of the great foot might have rested on it, with only the forward portion sunk in the ooze.

It might be the track of a bear, of some of the great cat family, or even of a giant human being!

Whatever it was, it must be of awe-inspiring size. I glanced fearfully about, but there was no living thing in sight.

I hurried on toward the wider valley. Suddenly as I rounded a boulder, I came face to face with two giant men.

They were of such extraordinary size and their appearance was so unexpected that I stopped dead in my tracks.

My first impulse was to turn and run back into the narrow canyon. But I saw that one of the men carried something like a long weapon. I was not sure that it might not be some kind of a gun with which to shoot me if I tried to escape. On second thought, I decided the wisest course would be to make no resistance and trust to their friendly instincts to preserve me. I had no weapon aside from my long hunting-knife, and besides I was a mere infant in size compared with them. So I stood watching their approach with as much calmness as I could muster.

Evidently the spirit of the chase was upon them, for without slackening their pace they pounced upon me, bearing me in a heap to the ground.

For a moment they held me fast, face downward.

Then I heard one of them speak. He was evidently convinced that there was no need of such drastic measures, and his tone was manifestly one of expostulation. His point of view apparently prevailed, for I was grasped by the shoulders and raised to my feet. And now, while they examined me and commented in a strange language, I had an opportunity to observe them more in detail.

The most striking thing about them was their extraordinary size. I judged they were at least ten feet tall and large in proportion.

Their skins were very light; in fact, they showed an unnatural pallor, like one who has lived too much indoors. Both had flaming red hair. They did not appear to be savages. I noted that their faces were shaven. Their hair was neatly trimmed and their meagre clothing revealed none of the crudeness of barbarism.

They were very scantily dressed, each having but a single garment: Short, trunk-like trousers, extending half way to the knee, but continued at the top and tapered to form a wide band that passed over the right shoulder. This was held from slipping off by a narrow strip around the chest, just below the arms.

Aside from their unhealthy pallor, both appeared to be in robust condition.

One of them continued to grasp me firmly by the upper arm with a great hand that seemed to take up the greater part of the space from the shoulder to the elbow.

I suppose I presented a very grotesque appearance, with several days' growth of beard on my face and my heavy winter clothing sadly disheveled from my recent vicissitudes.

I noticed with some feeling of reassurance that my captors were now grinning rather broadly as they discussed me with great heavy voices, that seemed well in keeping with their huge size. I now saw that what had at first appeared to be weapons were only a very long and very shiny sort of horn or trumpet.

One of the men addressed a question to me.

"I do not understand you," I said. At the sound of my voice they both laughed. The one bearing the trumpet raised it to his mouth and spoke a sentence into it.

To my surprise, it did not magnify or change his voice in any way that I could detect, and I was at a loss to understand the significance of the act.

Now my captors prepared to go. They placed me between them, and started back in the direction whence they came.

They walked with such long, rapid strides that I was forced to hurry at a brisk trot to keep up with them.

This larger valley that we were approaching now commenced to reveal itself in detail; and to my great surprise I caught sight of a number of buildings in the distance. Then, as we came out from the narrow canyon, I noticed that the whole valley as far as I could see was thickly studded with long, low buildings that resembled greenhouses; and as we approached the nearest of them, I saw that it was indeed a greenhouse, and that it was full of growing plants.

A little further on we came to a miniature lake, and shortly after this we passed what I took to be the mouth of a mine, where some ponderous machinery appeared to be bringing quantities of pulverized stone out of the workings, elevating it to the top of the hill and carrying

it away to be dumped, I imagined, in the eternal snows of the upper region.

There were men at work about this machinery and around the many greenhouses, all of the same giant stature as my captors.

I noticed that those who caught sight of us stopped to stare in apparent astonishment.

It seemed like hard luck to be so unceremoniously set upon and hurried away captive by a pair of giants. But since seeing so many evidences of civilization, I began to take heart; for there could be but little doubt that I was in the midst of a community not entirely uncultured.

The valley appeared to average about fifteen rods wide at this point. Scattered here and there over its bottom, and even part way up the steep sides, were innumerable jets of steam, some large and some small; some almost silent, others hissing noisily.

At length we came to a great stone arch, built in an almost perpendicular bluff that now formed one of the walls of the valley. I was hustled through the arch and hurried along an extensive, dimly lighted corridor. Finally turning aside, we entered a high, vaulted room and approached a man seated at a high desk.

This new giant looked me over carefully and listened with interest to what my captors had to say. Apparently they recapitulated the events of my capture. Later I was taken to a tiny apartment, not greatly differing from an ordinary jail cell, and was left to my own meditations.

All that had taken place seemed like an extraordinary performance. Everything I had seen, since entering the larger valley, was of a nature to indicate that these people were far from a state of savagery.

Then why had I, a perfect stranger from an unknown country, been treated with so little consideration, such absolute lack of all semblance of the courtesy ordinarily accorded the foreign stranger and traveler? I could not have been treated with less consideration if I had been a criminal.

Well, perhaps I was a criminal to these people. Perhaps I had unknowingly committed some crime against the laws of the community, and in that case I had naturally fallen into the hands of the police department.

Yes, on second thought, it all seemed like a typical action of a typical police department the world over; blundering, inefficient, bull-headed, discourteous and in no way representative of the community they serve.

I tried to visualize the conception of American civilization that a stranger might form, solely from contact with the police department of any of our modern cities.

The result of my meditation was to put me in a more hopeful frame of mind. I wound my watch and settled down to await developments with a feeling that my fate might easily have been worse.

They had taken away my knife and telescope, but had evidently overlooked my timepiece. At six o'clock some food was brought, and I ate with a good appetite. It consisted of a fragment of fish and a large bowl of some kind of porridge. The light in the compartment was so dim that I was unable to make out the ingredients of the dish; but it was very palatable, and I was in no mood to be squeamish.

Before going to sleep, I indulged in some entertaining air-castle building. In my mind's eye I constructed an inter-continental airplane service line across the short Arctic route, with a wonderful steam-heated and modern-equipped landing stage strategically located in this valley. Here could be had food and repairs and comfortable quarters for crew and passenger. Here, too, the blasé globe-trotter might even yet get a thrill of adventure in seeing the strange people and their unique little world. I believe I was considering the possibility of selling exhibit concessions when I fell asleep.

I slept well and in the morning felt quite recovered from my recent long journey. Just before noon one of the men who had brought me here came and led me forth to new adventures.

We passed out through the long hall, the same way we had entered, and although the light was still very dim, I now perceived that there were numerous doors on either side with curiously wrought inscriptions above them.

We emerged into the steam-saturated atmosphere of the valley and walked a little way up the street, if I might call the stone-paved walk along the base of the cliff a street, and came presently to another great arched opening in the hillside.

This arch was much loftier and grander than the one we had just left, and was beautifully carved with delicately wrought designs.

There were two statues of some strange and ponderous animals that I failed to recognize, one on each side of the portal, which was reached by a broad flight of steps, which were evidently carved from the natural rock.

I noticed that my captor and conductor wore sandals on his feet and had headgear bearing some sort of insignia of office.

I was not greatly surprised when, after traversing a long and spacious corridor, he ushered me into a large, well-lighted room, where a number of people were assembled in a way that suggested a court scene; and a court it proved to be.

Presently the judge entered and took his seat between two images of the steam god.

He was dressed in a costume not greatly unlike that of my captor and of others I had seen, except for the headdress, although the material seemed to be of a finer texture.

He wore an elaborate head-dress, decorated with a profusion of varicolored streamers that hung down over his vast shoulders, and I fancied detracted from rather than added to the dignity of his appearance.

For the first time since my arrival, it appeared that I had awakened some general interest.

The large room was soon filled with curious spectators, and every one showed an inclination to press forward for a closer view of me.

Knowing nothing of their language, I was of course ignorant of the meaning of all that was said in court. But later, when I came to know something of their speech, I learned the meaning of what took place and how it came about; and I will tell of it in the light of my later discoveries. But in order to make it all comprehensible, I must also tell a little of the history, customs and religion of the newly discovered race. Their origin is lost in the gloom of antiquity. They have, as practically all civilized races have, a mass of legends dealing with the creation of the earth and the origin of man.

The peculiar isolation of their position precludes all knowledge of the outside world and of any other people.

I imagine they sprang from a remnant of an ancient prehistoric people who inhabited quite a large section of the country when it was a semi-tropical region before the last ice age, that is to say, at the time when tropical and semi-tropical plants were growing to form the fossilized remains found in Spitzbergen and the Arctic regions.

Upon the coming of the ice age, it is reasonable to suppose that a few of them gathered in this warm valley to escape the unbearable cold, perhaps making their primitive homes in natural caves, close to the warmth-giving fumaroles. Then, as the tribe increased and the supply of natural food became scarce, they excavated new caves to provide larger and better homes and commenced to grow food under artificial conditions.

Their actual history goes back some eight thousand years and is inseparably bound up with the development of their written language, which has gone through several phases of development and is yet a somewhat cumbersome vehicle of expression. Regarding the reason for their gigantic size, I have as yet found but the vaguest of theories.

As to their religion, it is very simple and very stern. It has to do almost entirely with the relations between man and the Deity, and touches but slightly on the relations between man and man. They worship a Steam God, as one might naturally expect.

The theory is that there is a Great Spirit residing within the bowels of the earth, who controls the destiny of all living things.

The physical being of their deity is made up of an inconceivably great volume of living steam.

The steam jets issuing from the ground are the divine gift of warmth and life, generously given by the god to his creatures, from the ample proportions of his own body; and are a constant and ever-present manifestation of the divine spirit.

There is, at about the center of the valley—which is twelve miles long—a quiescent geyser.

This geyser is of much the same nature as many of those encountered by the tourist in Yellowstone Park; simply a large opening in the rock floor of the valley, perhaps twenty feet in diameter, and only the Steam God knows how deep. Steam and gas fumes constantly pour out; and if one is brave enough to approach sufficiently near to look down into the abyss, it is possible to discern a turbid mass of seething and boiling liquid far below; while sounds of the angry turmoil are dimly audible for some little distance in all directions.

This caldron is esteemed to be the chief manifestation of the holy spirit, and is dedicated as a temple to the worship of the god. And as a last relic of their former barbarism, they still persist in an old belief that the deity requires them to offer a human sacrifice of an adult person at this place once a year. The manner of the sacrifice is of course obvious.

Another phase of their religion is that the little valley which I first discovered is forbidden ground to all human beings and is reserved for the pleasure of the divine spirit alone. This tenet, I have no doubt, was suggested by the strange, protesting voice of the active fumarole that I passed in the narrow canyon between the two valleys.

However that may be, there is a deeply respected law that no one except an ordained priest may ever, under any circumstances, enter the valley, and even the priests are permitted to enter it only on certain feast days, and only for the purpose of communing with the Steam God. The penalty for disobedience to this law has always been death. And so I was a criminal of the deepest dye; and there could be no doubt that the Steam God was very angry. I was led before the judge, who inspected me long and gravely. I was then directed to take a seat in a giant chair directly before the bench.

A priest came forward and, upon being recognized by the judge, proceeded to speak. His clothes were not unlike the others, except that he wore a sombre-colored hood that continued down over and completely enveloped his shoulders. His bearing was very grave and sanctimonious.

He told how he had been sent the previous day, which happened to be a holy day, by the chief priest to commune with the deity in the sacred valley.

Midway in the narrow canyon he had heard sounds of my approach, and had only stayed long enough to catch a glimpse of me before he had hurried back, post-haste, to where he had been able to borrow a broadcasting trumpet, with which he had notified the police of my transgression. He went on to point out that no layman had ever desecrated the holy ground and been allowed to live, and that it was the duty of the community, through the medium of the court, to appease the wrath of the ruling spirit by putting me to death. Following the priest, the officer who had brought me to court, and who had helped to capture me, told of my arrest.

The judge questioned him at some length as to whether I had tried to escape and if I had offered any resistance or if I had spoken to him. He answered in the negative.

After this, he regarded me long and thoughtfully. Then he addressed me, asking whence I came. Not knowing what he said (being, as I said before, entirely ignorant of their language at that time), but comprehending from his inflection that it was a question, I replied in speech equally unintelligible to him that I did not understand his question.

Then an old man came forward and addressed the court.

He argued that while the drastic law was no doubt just and pleasing to the Great Spirit, it was not necessarily applicable to me.

In the first place, I was a creature from some unknown region, possibly from some other steam-heated valley, far out across the ice fields, who, knowing nothing of their laws or religion, had innocently come upon the forbidden valley. Then, too, it might be that I was a properly accredited priest in the community whence I came and so was especially privileged. Perhaps I was sent direct from the Great Spirit, in order to test the mercy and tolerance of his people.

The judge listened, but somewhat impatiently, and presently issued his verdict. The verdict was to the effect that I must be placed in confinement until next annual sacrifice day and then be thrown into the temple caldron, in lieu of the community sacrifice.

He added that if by any chance I should be an envoy of the Steam God, throwing me in the caldron would not injure me, because the Great Spirit had ample power to preserve his own.

And now a very studious-looking giant came forward and approached the magistrate. This was Chunen, an eminent chemist and scientist. He requested the court to deliver me to his keeping. He said that he desired me for purposes of scientific research and offered to be personally responsible for my custody and appearance when demanded by the law.

The judge assured him that he would take his petition under advisement and render an early decision.

I heard about all this later, when I had learned the language.

I had a feeling that all was not well and that this man was interceding in my behalf. So as he turned to pass

I found the greenhouses to be marvels of productivity

out, I took my watch out of my pocket and offered it to him.

He took it and looked at it very critically, caught the sound of its tick, placed it to his ear a moment and then returned it to me and hastened away.

I was returned to my cramped compartment in the dim light and left there again to my own devices, at that time still happily ignorant of what was in store for me.

The next day the scientist came for me, bearing a court order delivering me to his custody. He led me away, not unkindly, to his home and laboratory.

These were rooms similar to the public rooms I had already seen, except that they were much smaller and lower and, like the others, they were apparently excavated from the solid rock.

Here Chunen set to work to teach me to speak his language. Needless to say, I was very anxious to learn and proved myself to be a studious if not an apt pupil.

I was soon assigned odd jobs in the laboratory. These jobs I did very carefully and thoroughly.

I soon found that these people possessed no paper; but all books and pictures were printed on thin sheets of metal, very light and flexible and very tough.

Such pictures as were available helped me immensely in learning the language.

As soon as I was able to speak at all conversationally, the scientist commenced to question me eagerly about my home, country and the manner of my coming.

The story I told him, bit by bit, of the great world outside was unmistakably a great revelation to him.

As my vocabulary and descriptive ability increased, his amazement grew and his interest became more keen.

At length he practically abandoned his regular occupation, giving his entire time to teaching and questioning me. He took copious volumes of notes and never tired of trying to comprehend the crude drawings that I made of things I could not describe in words.

I was very anxious to go out to explore the rest of the strange valley inhabited by these remarkable people, but

Chunen would not let me leave his apartments alone.

"I will go with you," he said, "as soon as you are able to understand what I tell you about the things you see. But you cannot go alone, because you are a prisoner. I will tell you all in good time and why you are in custody."

He treated me very kindly, however, and a feeling of real fellowship grew up between us.

When at length we did go forth to see the sights, I found there were a great many things of interest.

In the first place, I found there were nearly a million of these people, living in artistically constructed and well appointed homes. Their dwellings, mines and other excavations reached back into the hills for miles.

Regular streets are laid out, with dwellings on either side, the same as in our cities. Houses are numbered from the entrance at the valley.

The streets are high arched tunnels, and the homes are for the most part suites of three or four rooms, separated by thick partitions of the original rock. Most rooms have arched ceilings.

The light green stone that seems to be everywhere present is fairly soft to cut.

Chemical analysis in Chunen's laboratory showed it to be limestone, colored by the presence of iron and other minerals. With their steam-driven mining machines they are able to carve out one of these homes in from two to three weeks. The floors and walls are smoothed with power-driven polishing machines, and mural artists put on the finishing touches with chiseled carvings and paintings.

In some districts there are two streets, one above the other, with intercommunicating stairs at short intervals.

Iron and a few other minerals are mined quite extensively, and one coal mine is in operation. There is, however, not much need for coal, except to smelt the minerals, since there is an abundance of steam for all heat and power purposes.

I learned that the food of these people consists largely of mushrooms, which are grown in long underground galleries, where the light is artificial and the only soil is that brought in from the erosion deposits in the valley.

The mushrooms, which grow in great abundance, are very large and wholesome.

Not only are these mushrooms used for human consumption, but large quantities of them are fed to the fish and the ganos, which are the only domestic animals these people possess. I shall return to describe them presently.

Owing to the fact that my friend (and jailor) was a bachelor and employed only male assistants and servants, I had seen very little of the women of this strange race, until I started on the personally conducted tours; but now I saw them nearly everywhere I went.

They were not so large and robust as the men, being on an average a foot shorter in stature. Even so, they seemed tremendously large to me. Like the men, they are all very light of skin; and all have red hair. For the most part they seem to bear themselves with a stateliness and dignity very much in keeping with their great size.

Like the men, they are clothed very scantily; but, unlike the men, they seem to have no uniformity to the cut of their garments.

I was reminded of what I once heard a lecturer say about our own manner of head-dress.

He said, "In the matter of a hat, a man must wear something of a conventional shape and recognized style, if he wishes to be well-dressed. But anything at all will do for a woman's hat. It can be any size, shape, color or material; and no one can say it is not a proper hat."

And so it is with these women. Some wear one kind of garment and some another; there is apparently no rhyme or reason to their manner of dress.

I asked Chunen if there were no established rules of society, governing what women ought or ought not to wear.

"Yes," he said, "there is a very definite rule in this matter; only the lighter colors are deemed suitable for feminine wear. For a woman to wear red, black or any of the dark colors is considered very immodest!"

I found the greenhouses to be marvels of productivity. They, of course, are supplied with an abundance of steam heat, while the pale light of the sun is supplemented with strong artificial light, which seems to create an abundant vegetable growth.

The greenhouses are largely given over to the raising of foodstuffs resembling celery, lettuce and such roughage. I saw but one plant that I recognized. That was maize, the common American Indian corn. They raise this largely for fodder, only maturing enough for seed. The young shoots are used extensively in various salads and for fish food, while the more mature stalks constitute the major item of feed for the domestic animals, the ganos.

Upon visiting the little lake I had formerly noticed, I found it stocked with large fish so numerous that the water seemed to be alive with them.

"We have a number of hatcheries," explained Chunen, "and the minnows are not put in here until they are nearly a year old. They are fed several times daily, so that they grow very rapidly. These fish are the property of the public, raised at government expense.

"You see, we have such meagre facilities for raising meat and fish, and such difficulty in providing the people with anything approaching a balanced ration, that the public health demands that we have as large a production and as fair distribution as possible.

"Once a week a certain number of fish are taken out of the pond and dressed by government employees.

"Then they are cut up in small pieces and a portion delivered free to every individual in the entire community.

"So, too, with meat. All animals are raised by government. Once a week a certain number are slaughtered and the flesh delivered to every home and public eating-place, according to the number of meals served.

"It is unlawful to sell or barter in any way in either of these products.

"In this way rich and poor alike are assured a fixed amount of fish and meat each week, enough at least to preserve health. It is presumed that mushrooms and vegetables are within the reach of all, and there is no restriction on their production and distribution.

"Tomorrow I will take you to see the domestic animals."

Ever since Chunen had first told me of the ganos, I had been impatient to see them. In the early morning I listened eagerly to my guide's discourse on the subject. I learned that the animals were quartered at the far end of the valley, beyond the farthest fumaroles. This part of the valley had formerly been enveloped in the ice, but because of the growing shortage of room, and because the animals seemed to flourish in a rather cool environment, the ice had been gradually melted away to make room for the ever-increasing herd. This end of the valley had been partitioned off to prevent the animal odor

from drifting up the valley and had been roofed over with glass, supported by cables stretched from cliff to cliff.

The roof was rigged with a network of steam pipes, capable of melting snow very rapidly, so that in case of a great blizzard the roof would not become so loaded with snow as to be crushed; and so that the glass might be kept free from frost, which would exclude the precious sunlight.

Upon entering this spacious structure, we found a group of the large animals immediately before the door.

Chunen had told me they were of great size, but I was not prepared to see anything so gigantic as these creatures proved to be. They were simply tremendous. They were taller than any elephant and several times as long! I could scarcely believe my eyes. It seemed absolutely impossible that there could be live animals of such colossal proportions.

They stood on four short legs. Their heads were long and ponderous, while their huge bodies tapered out in enormous tails that rested on the ground. In fact, their whole bodies scarcely cleared the ground as they moved ponderously about.

Their color was nearly black and they were covered all over with short, bristly hair.

An indefinable something about them suggested whales to my mind. I turned to question Chunen.

"Are these animals"—I was going to say mammals, but there was no word in his language with which I could express it—since they know of but one kind of animal they have no need of words to express classification.

He evidently sensed my predicament, for he smiled knowingly and led the way to another group of somewhat smaller animals.

"Are there no other kinds of animals in the valley?" I asked. "No little ones of any kind?"

"There is a legend that a very long time ago there were a great many kinds of animals, of all sizes and descriptions; but, so the legend goes, they ate the food the Steam God had provided for the people. This angered the Steam God, and he directed the priests to exterminate every kind of creature, except the ganos; which you see here.

"This legend, however, is quite generally believed to be only a fable; a figment of the imagination of some early story teller. Scientists have no definite proof that any other kind of animal ever lived here; unless you might call the ancestors of those ganos a different kind; for they have undergone quite noticeable changes within historic times. Careful selection and wise breeding have improved the stock, and are still improving it."

As we came up to the group of smaller animals, he continued:

"These, you will see, are young ones. They are, I should judge, about three years old. It takes them five years to reach a fair stage of maturity. That group over there is only a year old," pointing to another lot of very much smaller ones.

"The large ones that we saw over by the gate," he went on, "are to be butchered shortly. They will dress in the neighborhood of 79 gunitos apiece (Forty thousand pounds).

"We slaughter three of them a week. That provides something over one gito (an ounce) for each member of the community."

We came now to the breeding pens. One gigantic mother gano was suckling a litter of seven or eight great clumsy babies, that were scarcely a yard in length.

"So they are mammals," I thought as I listened to Chunen's comments. We passed through another huge gate in one of the massive fences.

"I want you to see how they feed the animals," he was saying. "I think they are commencing now to feed the ones in the lower pens. We will go and see."

We found several great, power-driven conveyances drawn up beside an empty enclosure. A gang of workmen were unloading huge baskets, and emptying their contents into a series of shallow, ponderous troughs.

"That is their food," explained Chunen. "You will see it is largely made up of chopped corn stalks and giant mushrooms; although practically any kind of vegetable that we have to spare is acceptable. We also add a certain amount of coal, pulverized lime and various chemicals that have been found to be beneficial and conducive to growth.

"Now they are opening the gate to let the animals in."

The great creatures came lumbering in with ungainly and ponderous haste. But I was surprised to see that they attacked the food almost daintily; turning it over with their huge snouts, and picking out choice tidbits; taking up only a few handsful at a bite.

"They cannot eat very rapidly," was the explanation. "Their throats are very small. Anyway, they don't have to be in a hurry. They have all the time there is. All they do is to eat.

"The community is put to tremendous expense to keep these animals," he went on. "We only get back one pound of meat for ten or a dozen pounds of feed. True, we use their droppings for fertilizer; but even so, it seems like a very unfair exchange. But we are almost forced to do it, because it seems that some meat is necessary to balance our rations. Several times our herd of ganos has been attacked by disease to such an extent that the meat supply was nearly cut off. At such times our death rate has risen to appalling proportions."

As I watched the ganos feeding, the suggestion of whales still persisted.

Then I remembered that naturalists believe that prehistoric whales lived on land, and fed on vegetable growths; and that they only took to the sea at a comparatively recent time, geologically speaking.

In fact it is quite generally known that nearly all whales still possess the bones of vestigial legs, buried deep within the flesh. The forelegs have bones that are closely analogous to the arm and hand bones of human kind. Whales are mammals. They breathe air. They have movable eyelids, and in various other ways, I reasoned, are not far dissimilar to these animals.

Might it not be that these gigantic beasts were of the original whale family?

It was conceivable that a herd of these prehistoric animals had been living in this vicinity when the climate was still tropical or subtropical; and that some gradual change in the elevation of the earth's crust had cut them off in some marshy place, far from the sea. And that not having access to deep water, they had failed to develop the aquatic habits of the rest of their kind.

In that case, it was not altogether unreasonable to suppose that they were of one and the same family as the hundred-foot whales of our nothern seas.

That evening after visiting the ganos, we sat by a steam radiator in the laboratory and talked of many things.

"Have you no natural steam in your own country?" asked Chunen.

With such language as I had at my command, I told him very haltingly, and I fear, very ungrammatically, of the various steam valleys and fumaroles that I knew of, and how they had been harnessed for power. And then I attempted, with my pitifully inadequate vocabulary, to depict some of the beauties and wonders of Yellowstone National Park: the wild animals, the geologic formations, the hot springs, the steam vents; and ended with a description of the great geysers.

I told how Old Faithful erupted with clocklike regularity, year in and year out; and how one at least of the larger geysers would erupt only when soap was dumped into the caldron. A forbidden process.

At this information Chunen evinced an excited interest.

"Tell me that again," he said, leaning forward eagerly. "Tell it again, and use more and better words!"

I told it again; cudgeling my brain for lucid words and descriptive phrases.

When I had finished, he leaped to his feet and towered over me like a Colossus. He gave me a mighty slap on the back with his great hand.

"That's the best thing you ever told me," he shouted in a jubilant voice that shook the frail instruments on the laboratory table.

"That secret is going to save your life!"

I was bewildered and dumfounded. I wondered how it could save my life. How was my life in danger?

He sat down opposite me again. "I will tell you all about it," he announced, becoming quite grave. "I would have told you before, but I knew you could not understand the details until you were somewhat familiar with the language; and besides, I was afraid that the knowledge would so distract you that it would interfere with your progress in learning to speak and write.

"For purely selfish reasons, as well as for the advancement of science, I desired to have you make all possible progress, in order to tell and write more fully of the extraordinary things of your world.

"But now I feel that the time is ripe and I will tell you all. If there is anything you do not understand, just interrupt and I will try to make it plain."

Then he told me of the peculiar religious beliefs of his people; explaining how I came to be a criminal; how I had been tried and condemned; how I had been sentenced to be thrown into the seething caldron of the temple geyser, on next sacrifice day.

I listened with mingled amazement and horror; interrupting often to make sure I understood correctly.

"But what has all this to do with the sleeping geyser that I have been telling you of?" I asked in some confusion.

"Yes, yes; I was coming to that," he replied. "This old caldron of ours has been known to erupt on rare occasions, throwing water and mud and steam high in the air. It is supposed that on such occasions the Steam God is angry with his people, and that this is his way of showing his displeasure.

"Now, I strongly suspect that the same treatment that causes your geyser to erupt, would excite this one to activity. And I will show you how such an event might react to your benefit.

"I have been trying to think of some way to outwit the priests, ever since your arrival; but heretofore I had not been able to hit on a plan."

"You do not share in the religious beliefs of your race, then?" I queried.

"I know them for what they are; a mass of superstition," he replied emphatically.

"In fact, all our scientists know where the steam comes from, and how it is produced by the interior heat of the earth. We all know that steam is not a god, any more than the sun, the moon or the snow is a god.

"But knowing these things and getting the people to know them are two widely different matters.

"It would not be safe for me to even hint that I doubt the Steam God.

"As it is, the clergy are very suspicious of the scientists; fearing that they will try to undermine all religion. And the only way the real scientist can hope to be tolerated at all is by seeming to conform to the established religion."

"Yes," I rejoined, "history teaches that it has been so with the scientists of all countries and all ages. It has been an age-long battle against religion and superstition."

"Our religion has been gradually losing some of its barbarism, as we have been developing in civilization, and for the past few years there has been a growing revulsion of feeling against the making of a human sacrifice each year. Various subterfuges have been employed to appease popular discontent and still keep up the old ceremony, so time-honored and dear to the clergy.

"Two years ago a hopeless cripple was elected for the sacrifice; and last year an insane girl, given up by the doctors, was deemed sufficient for the Steam God.

"I believe the church feels that if they give up this sacrificial custom, they will soon have to relinquish their hold on the sacred valley, which is sadly needed by our growing population, and which in the interests of progress and economy should have been made public property years ago.

"So the court was carrying water on both shoulders when it condemned you, a friendless criminal, to be the sacrifice. And he supposed he was making peace for another year between the clergy and the more advanced faction of our people.

"You being an unattached stranger, he reasoned that no one would object to your execution. At the same time, the clergy would feel that the law against visiting the sacred valley was being strictly enforced, and would be enabled to keep up their age-old custom of annual human sacrifice.

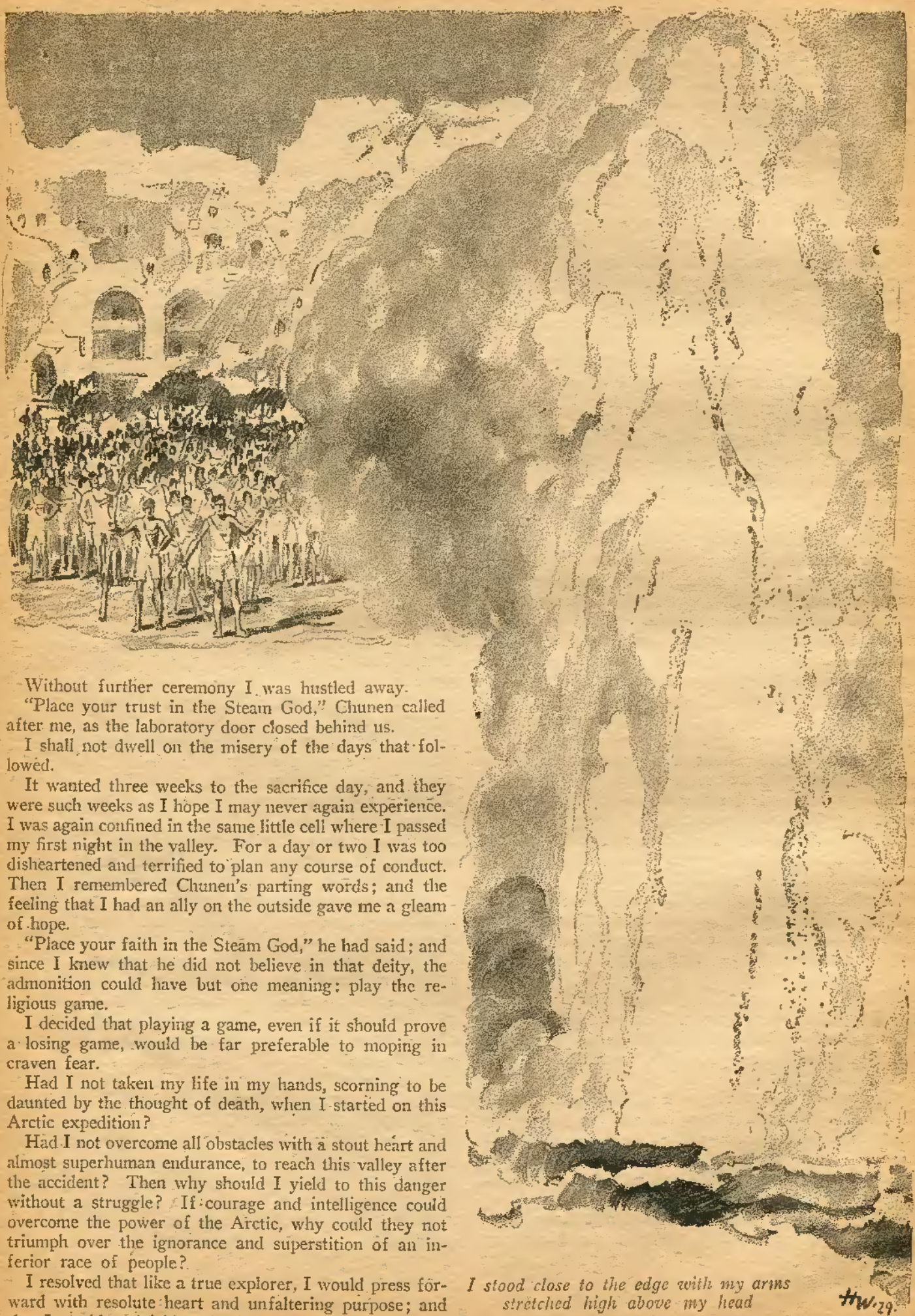
"But we shall see which is the more powerful, superstition or science. My plan is this: We will try to make some soap here in the laboratory, such as you use in your country. We will test it out, and see if it will excite the Steam God. If we are successful, you will become religious. You can now talk a little to the priests and the people."

"Yes," I interjected; "a few weeks ago, I could have easily worshiped the Steam God!"

Chunen smiled and continued: "You will become converted to our religion, and wax very devout. Then——"

At that moment a squad of police entered the laboratory, much to our surprise and consternation. The officer in charge announced that it was the order of the court that I be delivered immediately to the jail, there to await execution.

He read an opinion of the judge, stating that the court was satisfied that my custodian was allowing me more liberty than was prudent in the case of one condemned to death.



I stood close to the edge with my arms stretched high above my head

Without further ceremony I was hustled away.

"Place your trust in the Steam God," Chunen called after me, as the laboratory door closed behind us.

I shall not dwell on the misery of the days that followed.

It wanted three weeks to the sacrifice day, and they were such weeks as I hope I may never again experience. I was again confined in the same little cell where I passed my first night in the valley. For a day or two I was too disheartened and terrified to plan any course of conduct. Then I remembered Chunen's parting words; and the feeling that I had an ally on the outside gave me a gleam of hope.

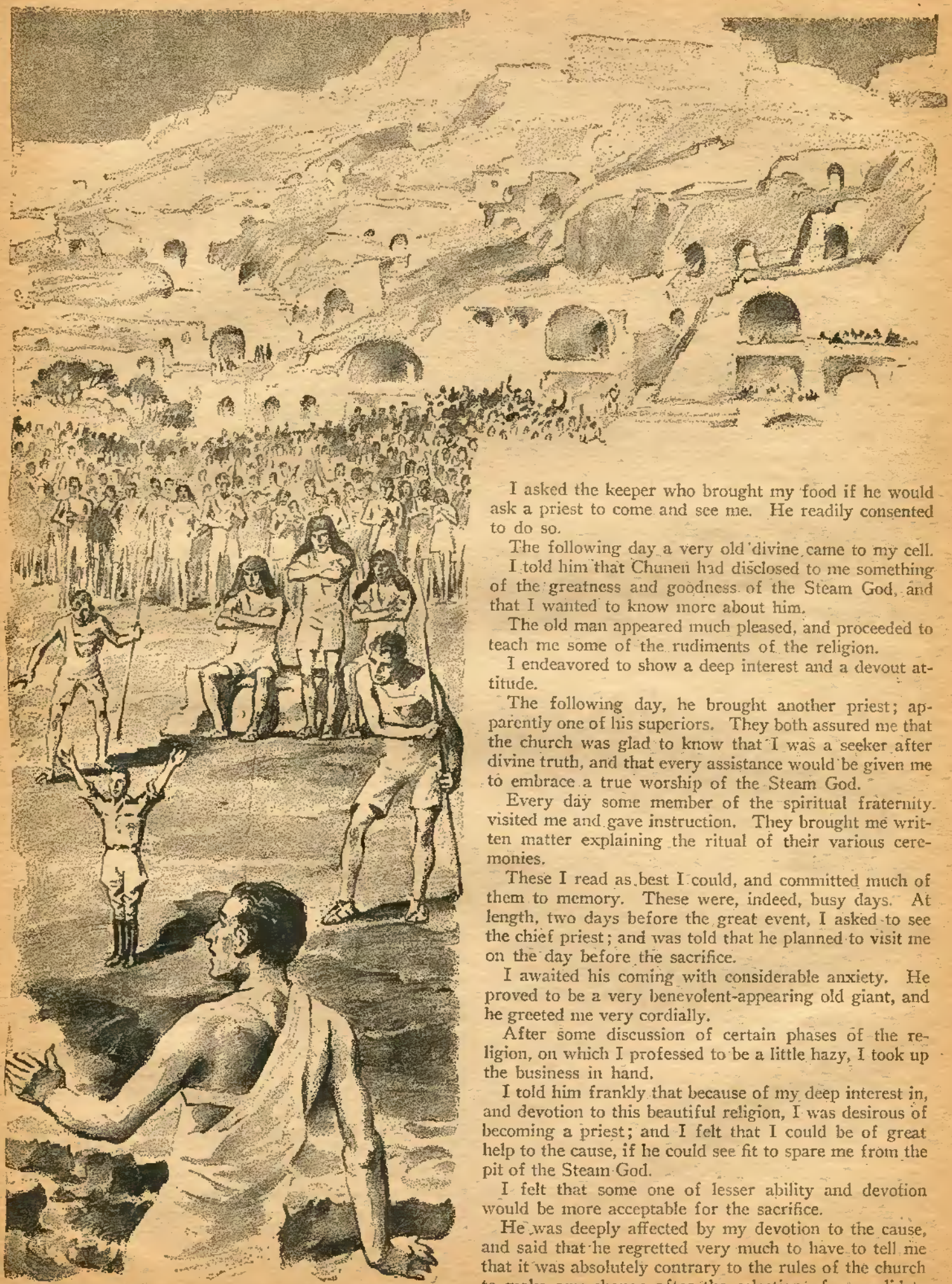
"Place your faith in the Steam God," he had said; and since I knew that he did not believe in that deity, the admonition could have but one meaning: play the religious game.

I decided that playing a game, even if it should prove a losing game, would be far preferable to moping in craven fear.

Had I not taken my life in my hands, scorning to be daunted by the thought of death, when I started on this Arctic expedition?

Had I not overcome all obstacles with a stout heart and almost superhuman endurance, to reach this valley after the accident? Then why should I yield to this danger without a struggle? If courage and intelligence could overcome the power of the Arctic, why could they not triumph over the ignorance and superstition of an inferior race of people?

I resolved that like a true explorer, I would press forward with resolute heart and unfaltering purpose; and that I would not yield to the forces of adversity, as long as there was a single possibility of winning through.



I asked the keeper who brought my food if he would ask a priest to come and see me. He readily consented to do so.

The following day a very old divine came to my cell. I told him that Chunen had disclosed to me something of the greatness and goodness of the Steam God, and that I wanted to know more about him.

The old man appeared much pleased, and proceeded to teach me some of the rudiments of the religion.

I endeavored to show a deep interest and a devout attitude.

The following day, he brought another priest; apparently one of his superiors. They both assured me that the church was glad to know that I was a seeker after divine truth, and that every assistance would be given me to embrace a true worship of the Steam God.

Every day some member of the spiritual fraternity visited me and gave instruction. They brought me written matter explaining the ritual of their various ceremonies.

These I read as best I could, and committed much of them to memory. These were, indeed, busy days. At length, two days before the great event, I asked to see the chief priest; and was told that he planned to visit me on the day before the sacrifice.

I awaited his coming with considerable anxiety. He proved to be a very benevolent-appearing old giant, and he greeted me very cordially.

After some discussion of certain phases of the religion, on which I professed to be a little hazy, I took up the business in hand.

I told him frankly that because of my deep interest in, and devotion to this beautiful religion, I was desirous of becoming a priest; and I felt that I could be of great help to the cause, if he could see fit to spare me from the pit of the Steam God.

I felt that some one of lesser ability and devotion would be more acceptable for the sacrifice.

He was deeply affected by my devotion to the cause, and said that he regretted very much to have to tell me that it was absolutely contrary to the rules of the church to make any change after the selection of a candidate had been announced.

I argued, but he was adamant. I then declared that I felt I had been in actual communication with the god; and I felt sure that some very pronounced evidence of the deity's displeasure would be evinced, in case they persisted in casting me into the caldron.

He assured me that he would be on the alert for any such manifestation.

As he prepared to leave me, I sought one last favor from him.

I asked that I might have the opportunity to address a few words to the people assembled to witness the ceremony. I explained that I wished to affirm my faith in the Steam God, and to exhort them to hold fast to the faith of their fathers.

He consented to this very readily, and took his departure.

The morning of the sacrifice day arrived, and I had received no word from Chunen. I was deeply disappointed; for I feared that he had been arrested and thrown into prison. In that case I could hope for no help from him.

However, I knew that he was very prudent, and might suspect that the authorities were watching him and therefore had refrained from sending any message.

Two priests and two civil officers came at ten o'clock to take me to the temple caldron.

The climax of the ceremony was to be at high noon.

As we approached the holy place, I saw that a great crowd had already assembled, and were grouped about the quietly simmering caldron. At one side of the orifice, a place had been kept clear for the scene of the ceremonies. Into this clearing we made our way, and took seats on a stone bench, facing another similar bench on which were seated several dignitaries of the church, and also the judge who had sentenced me.

The seat being the proper height for these people of great stature, was so lofty that I had to hoist myself up to it; and as I sat there my feet dangled in the air, while my escorts towered high on either side of me.

This circumstance, together with seeing hundreds of huge people all around me, gave me such a feeling of littleness and helplessness, that my courage descended to a very low ebb.

The chief priest now approached the center of the cleared space, and addressed the people. He was dressed in full regalia, and made a very impressive appearance.

After a brief address, he read several documents, the language of which was mostly above my head.

Then several boys appeared, bearing a small table and some articles of religious paraphernalia.

With the assistance of these, the priest proceeded to perform some rather weird incantations that to me seemed quite meaningless.

Meanwhile I scanned the faces of the crowd, hoping to see Chunen.

Presently I saw him, standing in the very front rank of the spectators that lined the opposite side of the caldron. Although he appeared to be looking directly at me, he failed to return my salute.

I noticed, however, that he carried a small parcel tucked under his arm. My attention was recalled to the master of ceremonies.

He sent away the boys with the table and other things, and four men appeared, bearing by its four corners a large blanket. Evidently I was to be tossed from the blanket into the abyss. With the blanket stretched tight, they took their stand beside the cavity.

Then the priest told briefly how I had manifested a great interest in religious matters, and said I had asked to be allowed to say a few words of parting to the public, and that I was now granted that privilege.

I scrambled down from my high seat, and assuming as much dignity as I could command, moved to the center of the arena.

Turning first, as a matter of courtesy, to address the dignitaries, I stole a glance at Chunen.

At that moment, he let the parcel slip from under his arm, and fall on the brink of the great bowl.

He made a quick movement, as if to recover it; and knocked it into the hole.

Although it was a very solemn occasion, those around him indulged in a bit of mild merriment at the mishap.

As I proceeded to speak, my voice seemed puny and thin as compared with that of the great priest who had just finished.

I said that on account of my lack of familiarity with the language, it would be possible for me to say but few words. I professed to be glad to serve the Steam God; and said that while I slept last night I had been in communication with him, and he had told me he did not desire that I be cast into the temple caldron; and that he was very much displeased with the ungrateful attitude of his people in offering a friendless stranger, instead of one of their own loved ones.

I paused impressively; and in the silence I heard a pronounced gurgle from the depths of the well!

"I have spoken," I concluded, very slowly and gravely.

"The Steam God will now speak to his people!" So saying, I turned about and approached the brink. By this time a cloud-like column of steam was arising; and an angry turmoil was plainly audible far below.

Standing close to the edge, with my arms stretched high above my head, I shouted frantically to the Steam God to speak louder.

A jet of steam and water leaped high in air. I turned and shouted to the people to retire to a safe distance, and motioned them to fall back.

In awe-struck silence they did so. And a moment later a vast column of water gushed from the earth and sprang skyward. A noise like the roll of thunder shook the narrow valley.

Having satisfied myself that all the crowd were at a safe distance, I turned to view the spectacle.

As I stood gazing at the grand upheaval, the surroundings faded from my consciousness; and I was standing once more, a callow youth, amid a group of gay tourists, watching Old Faithful do his stuff. . . .

Many of the onlookers became panic-stricken and ran. But the priests and high officials stood their ground with calm dignity.

In a few minutes the disturbance subsided for the most part, and I again approached the still steaming hole.

With some hesitation the people, encouraged by the example of the priests and officials, returned.

The chief priest announced that the church would heed the protest of the god; and that on behalf of the clergy and the civil authorities, he took pleasure in extending to me the freedom of the valley.

Chunen came forward with beaming face and invited me to rejoin him at his home and laboratory.

THIS was in the month of March of the present year; I will touch but lightly on the months that have followed.

Suffice it to say that with the help of Chunen and a number of scientific societies, I succeeded in interesting the government in the wrecked airplane, in which I and the ill-fated Hadley had made our disastrous flight.

An expedition was organized and sent to bring in the wreck. After a great deal of difficulty this was accomplished.

With the assistance of mechanics and scientists, I set to work to duplicate the machine, and to produce a substitute for gasoline.

How well we succeeded in this may perhaps be best revealed by quoting the following extract from the *Tribune:*

"LOST EXPLORER RETURNS

"Member of Arctic Expedition Emerges from Frozen Wastes.

"An Associated Press dispatch from Prince Edward Island announced late yesterday that Arthur Allen landed near the north coast of the island with his monoplane, from the Far North.

"Mr. Allen is the Photographer of the Kingsford Arctic Expedition. He left the base camp by plane in company with N. C. Hadley, on June 11, 1927. The plane was never heard from, and the fliers were given up as lost.

"Mr. Allen reports that the plane took fire early on the return trip. In the forced landing his companion was killed.

"The explorer then made his way on foot to a narrow valley in the midst of the ice fields, that was heated by natural steam issuing from a large number of fumaroles.

"Here he found a race of very large people, developing an isolated civilization.

"As proof of his statements, the intrepid explorer has brought back one of the giants with him.

"This robust specimen, who speaks no English and who dresses in a strikingly abbreviated costume, is over nine feet tall.

"Mr. Allen announced that he will make an extended report of his experiences on reaching New York."

THE END.

Death from the Skies

By A. Hyatt Verrill

(*Continued from page* 611)

meaning, and salt was a long way from being metallic sodium.

Now that he had the required finder, Henderson very quickly completed his new apparatus. It was very compact and easily portable, and he demonstrated its efficiency in locating the material to Fothergill and myself by a laboratory test. Burying one of his specimens of the stuff under a pile of sand in one end of the room, he placed his apparatus on a movable table at the other end. Telling us to watch the tiny sodium plate in its glass-covered recess, he pushed the table forward. Before he had gone ten feet the plate became pink, it deepened rapidly to red as he advanced, and it was a deep carmine by the time the table was within six feet of the concealed fragment of the Martian projectile.

"I don't know how far away it would detect a large lump," said Henderson, "but I intend to give the whole apparatus a practical test tomorrow. As you know, they haven't finished clearing up Scranton. They've had a lot of trouble there. They thought they'd got rid of the projectile that struck the city, but over a dozen men have been prostrated and two have died. There's a lot more of the stuff hidden in the ruins there somewhere, and I've asked the authorities to let it alone until I could try my new device there. It's a fine chance to test it out. I'd like to have you both come along."

Naturally, both Fothergill and I were interested and glad of the chance, but I had to decline. I had an important engagement that could not be broken and, as it turned out, that engagement unquestionably saved my life.

THE terrible crushing news reached me the next afternoon. Henderson and Fothergill, with several officials and assistants, all equipped with their wave-proof garments, had pushed their way through the tumbled ruins of Scranton's once fine buildings, clambered over piles of shattered masonry, and reached the spot where the projectile had been found. Then Henderson had set up his instruments and all had watched carefully as he moved about, his eyes fixed on the sodium plate. Almost immediately it had indicated the presence of a mass of the material from Mars, and after a short time Henderson had announced that the piece lay buried under the ruins of the armory or very near it. He had declared it was far beyond the reach of the current of the devices previously used and that it was an exceptional opportunity for testing the powers of the new apparatus. Moving a safe distance to one side, gauging this by the color of the plate, he had connected his electrical devices and turned the switch.

No one will ever know exactly what happened. Onlookers, who were watching from a distance, saw a cloud of dust and débris fly into the air. They saw a dark mass, like a huge cannon ball, hurled, screaming, into the sky. There was a terrific explosion; stones, timbers, bricks were flung in every direction, and then—silence.

Realizing something was wrong, several brave fellows —not stopping to consider their peril—dashed to the scene to find Henderson, Fothergill and their companions lying dead among the ruins. Within a few yards of where they had stood was a yawning hole that was found to open into a long-abandoned mine shaft. Whether explosives had been stored in the old shaft and had been ignited, or whether the explosion had been caused by powder or ammunition in the wrecked armory, has never been determined.

But Henderson was dead. Henderson who had saved the world, who had saved mankind, had been sacrificed in the cause of humanity. The entire world was shocked at the terrible news of his death. Every nation went into mourning and rendered every honor to one to whom every individual on earth owed his life. No man in all the world's history had ever been so widely, deeply, sincerely mourned. Kings, emperors and presidents attended his funeral and walked bareheaded behind his flower-hidden coffin draped with the flags of fifty nations. His loss was irreparable, his untimely death meant more to the world than the destruction of thousands of lives in the terrible crisis that—thanks to him—had now passed forever.

But Henderson had not sacrificed his life in vain. Strangely enough the device he had been testing when death came to him was uninjured. Others like it were made, and thanks to Henderson's last invention, every vestige of the deadly Martian projectiles was located and hurled back at the planet, that, battered and torn by the very things with which its inhabitants had tried to destroy the world, was soon as dead, cold, and lifeless as the moon itself.

THE END

The Secret Kingdom

By Allen S. Kline and Otis Adelbert Kline

(*Continued from page 627*)

much craning of necks and whispered conversation. The tall white man in the garb of a Curaca was, indeed, a great curiosity to these isolated folks.

They came presently to the outskirts of the city, and Bell noticed that the houses were not only much larger and further apart, but that each was surrounded by a sizable tract of land. All about him were irrigated vineyards, orchards and gardens, carefully cultivated by slaves. He noted that llamas were used as beasts of burden and burros only as saddle animals.

On their arrival at a large stone mansion, considerably more imposing in appearance than any of the others in the immediate vicinity, the amauta said, "This is the place, my lord."

They turned up a graveled walk, edged with a profusion of flowers and shrubs. As they did so, a multitude of people emerged from the house and strewed blossoms in their path.

Bell could not understand the accompanying shouts, which were uttered in unison in the Inca tongue. Their general tone, however, he interpreted as a combination of servility and good-will. The considerate amauta, translated for him thus: "Welcome, noble Curaca. We, your servants, retainers and slaves welcome you who are to rule over us."

"I shall give to each of them a piece of gold and a half holiday," commented the scientist, who was more deeply moved than his words indicated.

"It will do no good to give them gold," answered the amauta, "for none but the nobles are allowed to have or to use money and precious stones."

"Well, what can I do, then?" asked Bell.

"I would suggest a measure of wine for each, and a half holiday for all, as suitable and most likely to please them," replied Quizta.

They had now reached the steps. Turning, Bell requested the amauta to make the announcement in accordance with his suggestion. It was greeted with demonstrations of joy and the oft-repeated cry, "Long live the noble Curaca. Blessed be our generous lord and master."

END OF PART I

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.

NOTES ON VARIOUS STORIES

Editor, AMAZING STORIES:

I got my July copy of AMAZING STORIES the day it came out, and soon read it through. You had some good stories in this number, and also some bad ones. Among the good ones are "The Superperfect Bride," by Bob Olsen; "The Flying Fool," by David H. Keller, M.D.; "The Desert of Ice," by Jules Verne; and "Danger," by Irving Lester and Fletcher Pratt. "The Superperfect Bride" was a good story all the way through, and the surprise ending made it better. "The Flying Fool," was a good story, with just enough humor to make it good reading. I was just getting ready to see what kind of a success he would make in his flying machine, and suddenly he was still a salesman. All of Jules Verne's stories are fine, and I wish you would publish more. "Danger" was on an entirely different subject, I think, and this was one thing that made it good. I have just completed a year's study of biology in school, and I studied protozoans. Hence I was able to understand it more fully. Here's hoping you publish more of those co-authors' stories.

The stories I do not care so much about are "The Book of Worlds," "Futility," "The Space Hermit," and "The Purple Death." The reason I didn't like "The Book of Worlds" was because I don't like stories of the fourth dimension. I guess this makes me an exception. "Futility" in my opinion, was far too fantastic, as I can't see how the machine could make him understand how he was to die and that he would suffer. "The Space Hermit" was all right, except that I don't believe there could be a transparent steel. This may be invented, but at this time I don't believe it ever will. Please tell me if I am wrong.

Your "What Do You Know?" is very helpful, as it helps us to sort of check up on ourselves and see if we are getting any knowledge out of the stories. I read the "Discussions" with interest, as the writers have some helpful, and sometimes astounding ideas, that one might not ever think of himself.

I have read AMAZING STORIES QUARTERLY, and while I am writing, I would like to say a word on it. "After 12,000 Years," by Stanton A. Coblentz is very good. He has a good imagination, and he used it well this time, I think. He shows clearly what a terrible war could really do, though it needn't be as terrible in its effect as the one he depicts. The wolf-heads and large-heads certainly had a funny way to reduce one's personality!

"Locked Worlds," by Edmond Hamilton, was a good story, but why was it that the bird people should take human form? If birds did this, why did not the spiders? Furthermore, I don't believe man came from monkeys, and I don't believe birds and spiders would ever get enough intelligence to build the cities and things they did.

I read "The Beast Men of Ceres" in a former issue of AMAZING STORIES, and its sequel, "The Cry From the Ether," was just as good as it, though I don't believe Jupiter is inhabitable.

I don't believe man will ever reach an Utopia, and "The City of Eric" was a city that was too perfect. It may be all right to imagine a city where all wealth is equally distributed, but I don't believe human nature would stand for it. I mean by this that the nature of a person is to amass property, and were it equally distributed, his nature might rebel. Experiments have been tried at different times and places where all wealth and property was equally distributed and they ended in failure. Man might, after many years of this kind of rule, live in this way, but I believe that he would be like the small-heads in Mr. Coblentz's story. Hasn't the telescope proved that Saturn, Jupiter, and probably Mercury are uninhabitable? Isn't it also probable that the planets farther from the sun than Saturn are probably uninhabitable?—Please tell me if I happen to be wrong.

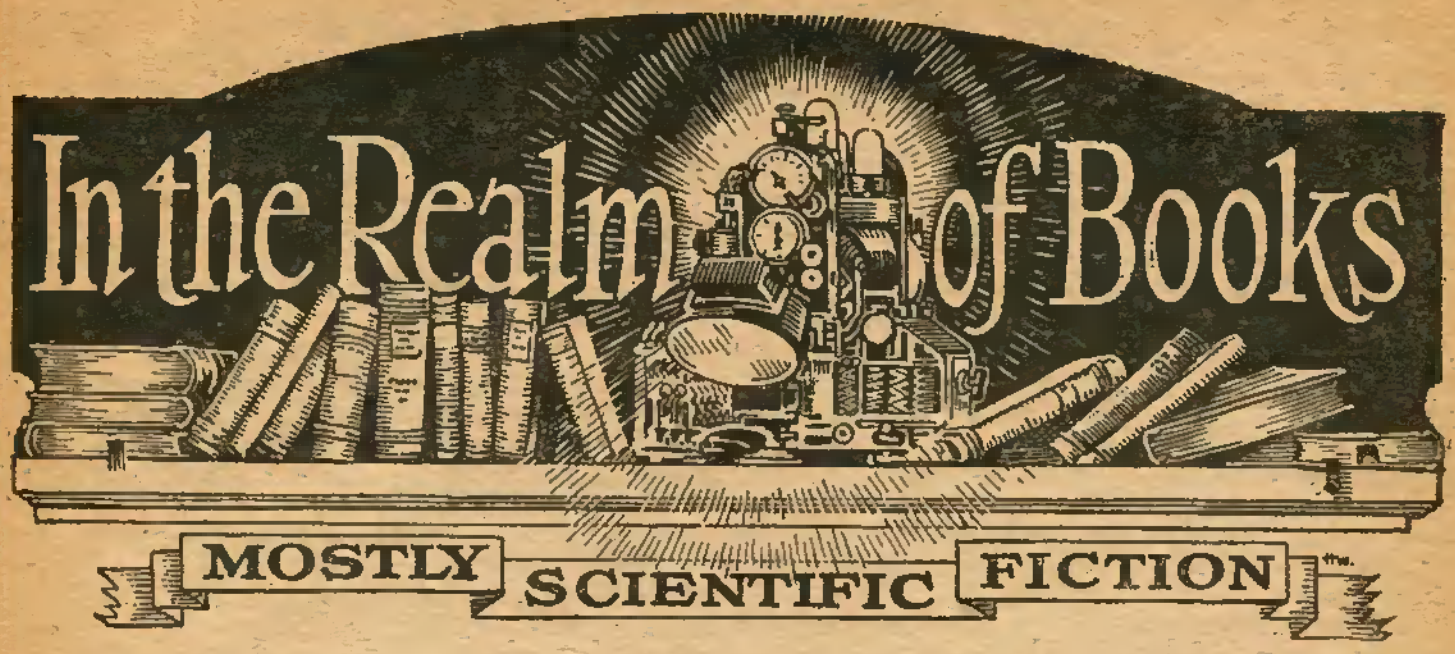
Do you also publish a semi-annual and an annual issue of AMAZING STORIES? I have heard that you do, but never knew for sure.

This seems like a lengthy letter, but I had to get its contents off my chest, and thought I might as well do so in one letter.

Jack Stonecipher,
Atlanta, Ga.

("The Flying Fool" is quite a clever presentation of the wild type of inventor and a bit sad at the end where the hero of the tale has to return to the ribbon counter. Dr. Keller is a student of psychology and gave an excellent presentation of a phase of that science in this would-be inventor-salesman. We are very glad that you like Jules Verne and in his story of the Arctic regions, which we have just published, there is an immense fund of science.

In the last century, about the '70's, there was a definite theory that the North Pole was an open unfrozen sea, and that if anybody got there they could navigate it as if it were a lake. The writer has done a great deal of reading and study on the subject of Iceland, and Jules Verne's short description of his journey along the shores of Iceland in his voyage of "The Trip to the Center of the Earth" gives a wonderfully impressive picture of the country and of the character of its inhabitants all in perfect accord with the literature of the subject. In "Futility" there is a nice touch of psychology, and the way in which it brought out the impossibility of the evading of fate was very skilfully done. The discussions are a great favorite with the editors, and our correspondents write letters which are greatly appreciated by our readers. It certainly is highly improbable that Jupiter can be inhabited, though why there should not be organisms which can exist in high temperatures, is an open question. Fish live in water and it is a good deal of a mystery how they do it. They do not decompose water, so where do they get their oxygen? As regards Utopia it is hard to believe that the world was ever ripe for it. All writers from Plato to



"The Light in the Sky"

"The Light in the Sky," by Herbert Clock and Eric Boetzel. *Published by Coward-McCann, New York.* $2.00.

IF the basis of this story is slight, so also are its possibilities. A. Merritt, in his "The Moon Pool," which won so much appreciation from the readers of AMAZING STORIES, in which it was reprinted some months ago, utilized this theme to excellent advantage. Perhaps because of the many details which were so true to life in the Pacific archipelagos, the story seemed plausible. Though plausibility is not an outstanding feature of "The Light in the Sky," it is, nevertheless, interesting reading.

However, readers of this type of fiction are willing to put a severe strain on their imagination. And this story will tax its readers' credulity to the utmost. The hero of the story is transferred from the battlefields of France to an underground empire in an enormous cave, in the Western Hemisphere, where he discovers a civilization created by the wisdom and knowledge of light of Tizoc, who was high priest of the Aztecs under Montezuma. Tizoc had fled from the wrath of the Spaniards and had created this underground kingdom as a replica of the old Aztec civilization, solely from his knowledge of light and its properties and possibilities. His discoveries have prevented old age and decay and eternal youth prevails in the cave. Because the blood of the Corez flows in his veins, the hero is used by Tizoc in an experiment to establish contact between Mars and Earth, the purpose of which the author fails to explain.

What happens as a result of the experiment and the further adventures of the hero and his lady charming are what constitute the story, so we must stop here. Despite its vagueness, "The Light in the Sky" is told vividly and proves to be entertaining—what else can be asked for in a story of this kind?—C. A. B.

READERS' VOTE OF PREFERENCE

Stories I like:	Stories I do not like:
1.....	1.....
2.....	2.....
3.....	3.....
4.....	4.....
Why:	Why:
.....	.....
.....	.....

This is YOUR magazine. Only by knowing what stories you like, can we please you. Fill out this coupon, or copy it and mail it to AMAZING STORIES, 381 Fourth Avenue, New York City, telling us what type of story—interplanetary, biological, psychological, archeological or other kind—you prefer.

Also, we are very much interested in knowing how you like our new dress and make-up. We are trying to make AMAZING STORIES a *real* magazine, but we need your help.

I prefer.....

Name..... City.....

Address..... State.....

Thomas More and down to the present time, who have attempted to depict it, make it a question of excessive government. In this country in former days there was a theory expressed proverbially that the best governed people are the least governed. There was another theory that for America church and state should be entirely separate. Both these theories are now departed from. We publish no semi-annual and no annual.—EDITOR.)

LONG STORIES AND SHORT STORIES

Editor, AMAZING STORIES:

I am only a junior in High School, but old enough, I think, to appreciate good literature, having been a devoted reader of AMAZING STORIES for some time. I find stories published by your firm to be good clean literature dealing with Scientifiction.

I like stories written by H. G. Wells, Jules Verne, L. C. Kellenberger and others too numerous to mention.

I, too, am a reader of Edgar Rice Burroughs' novels, among which I find his Martian stories very interesting. Could you tell me the author of, "The Master Mind of Mars"? I thought Burroughs was, but I believe I am mistaken. If you have published this story previously, I would like to have a copy.

I have no criticism to make, only this, I like your long stories more than I do your short stories, because in your long stories the interest is kept for a long time before the climax is revealed. In your short stories, the interest is hardly aroused when the story ends. I like something that keeps one in suspense for a long time.

As for Paul, I think there is no equal to his drawings on the cover each month.

G. Adkins,
16 Dwight Avenue, Alabama City, Alabama

(We quite agree with you personally in your views regarding long and short stories, but the functions of an editor include subordinating his views to those of his readers, and we are sure that many of our readers like short stories and we are still more certain that they like variety in a magazine, which can only be given by avoiding too long articles. The author of "The Master Mind of Mars," is Edgar Rice Burroughs. We published this story in the Annual of 1927. We now have a staff of highly competent artists, and we are sure that you are going to like their work. We are giving special attention to the cover pages.—EDITOR.)

OUR AUTHORS COMPLIMENTED BY A VERY FRIENDLY CRITIC

Editor, AMAZING STORIES:

I have just finished the May issue of AMAZING STORIES. So far there does not seem to be a great change under the new editorship, but I hope there will be in the future. For instance. Hold the magazine together with two staples; put more stories in and use better paper. The kind you are using now is much better than what you employed previously.

I am glad to hear that there is to be a sequel to "The Skylark of Space." I consider the latter to be the best serial I have ever read. With such authors as Edmond Hamilton, Dr. Edward B. Smith, Frederick Arthur Hodge, Earl L. Bell, Mrs. Clare Winger Harris, Harl Vincent and your medical authors, AMAZING STORIES is sure to succeed.

I consider "The Moon Strollers," by J. Rogers Ullrich, the best story in the May issue of AMAZING STORIES. Jules Verne's serial, second place, "The Invisible Finite," third, "The Gas Weed," fourth, "The Diabolical Drug," fifth, and "The Posterity Fund," sixth.

Jack Darrow,
6023 North Austin Avenue,
Chicago, Illinois.

(Your letter about our authors makes us feel like exchanging the trade of editor for that of fiction writer. We admit that we are a little proud of our authors and you omit some of the very best of them. And the satisfactory thing is that our authors stick to us, so that, as some of our very kind correspondents call AMAZING STORIES, "Our Magazine," we are inclined to use the term "Our Authors," for such writers as you name and for A. Hyatt Verrill, Stanton A. Coblentz, Captain S. P. Meek, Otis Adelbert Kline, Bob Olsen, Aladra Septama and Cyril D. Wates.—EDITOR.)

AN APPRECIATIVE CRITIC

Editor, AMAZING STORIES:

I have been a reader of your magazine since April, 1927. I have practically all of the copies since then.

The stories I have enjoyed are as follows: "The Land that Time Forgot," "The War of the Worlds," "Four Dimensional Robbery," "The Octopus Cycle," "The Blue Dimension," "The Golden Girl of Munan," "Four Dimensional Surgery," "The Space Bender," "The World at Bay," "Cauphul, the City Under the Sea," "The Posterity Fund," "Mernos," "The Radio Telescope," and best of all, "The Skylark of Space."

"The Skylark of Space" is the best story I have read yet, because it has a villain, and such as there usually is in modern fiction. This idea with scientific touches makes a swell story. I would surely enjoy a sequel to it. Tell Edward Elmer Smith to hurry and get it out soon.

I enjoy those four-dimensional stories very much. I have always been interested in mathematics. In fact, that is what I am majoring in at college. I have read many of your articles about the "fourth dimension in SCIENCE AND INVENTION. I have also read many other articles about this subject. Some say that the fourth dimension is "time," while others say that it is a place for "parted spirits." While there are many ideas, no one has been able to find out what it really is, but it serves as a good basis for stories, and I want many more stories based on it.

I hope you will have more interplanetary stories. Some readers many call them nonsense, but I think they make very interesting reading, even though such flights are impossible. They strengthen your imagination. How would science come about, if there were no imagination? Newton would never have worked out his law of gravity if he did not believe it, and in order for him to believe it he would have to use his imagination. We never would have known about the radio if its inventor had no imagination. All science is first built up on imagination or theory, then after experimentation it is fact, if proven.

I read an article in a local newspaper about a flight to Mars. It makes me think that this scientist is an AMAZING STORIES reader, as the way he describes the movements of the space-flyer sounds just like the one described in "The Skylark of Space," releasing atomic energy, for instance.

In regard to the quality of the paper and cover of your magazine, the May issue was the best I have ever seen. It is hard for me to keep a cover on, as I am continuously using the book. Usually, after the first week, the cover is all torn off, but nevertheless the quality of it is not going to stop me from getting it.

I am a student in the University of Utah, and am 21 years of age.

R. W. Kingsbury,
738 Gudgell Court,
Salt Lake City, Utah.

(You ask for a sequel. We have any quantity of very fine stories now on our desk and we can promise you that even without a sequel you are going to get good material in the coming months in AMAZING STORIES. However, Dr. Smith has promised us one before the end of the year. The fourth dimension certainly has been a basis for some clever stories, and you, like many others, are fond of interplanetary stories. A lot of these are forthcoming.—EDITOR.)

A CRITIC CRITICIZED

Editor, AMAZING STORIES:

As a personal favor to the undersigned, kindly do not permit any criticism by immature youthful progenies to appear in "Discussions" column of AMAZING STORIES. I am referring to such a remarkable thesis, as written by J. W. Saunders, in this month's issue.

I trust that this wonderful magazine is not published for the sole benefit of young boys and girls. Thousands of your readers, like myself, have reached the age of discretion, and surely feel humiliated to be flayed by "kids"—yes, I appreciate unfavorable as well as favorable comments, but not in such sarcastic vein. I believe such remarks to be an insult to your adult readers' intelligence. High vocabulary and wise cracks do not indicate great minds, nor extraordinary sound judgment—a boy of seventeen cannot judge matters equally as well as an intelligent person aged forty.

There are too many letters sent in by youngsters giving an impression that the magazine is a grammar or high school periodical.

"Little children should be seen, but not heard."

As a reader of AMAZING STORIES since its first issue, I find it to be A-1, in every respect, and am not striving to locate faults with its stories, drawings, etc., but the "Discussions" columns get my proverbial "goat" because of the aforesaid reasons.

Joseph A. Vernon,
P. O. Box 49, Hartford, Connecticut

(When AMAZING STORIES was started over three yeas ago, there was no idea of making it anything but a serious magazine for adult readers. Of course, we publish a small number of the quantity of letters which we receive, as there is no space for all. It is fair to say that almost all of them are from our older readers. It certainly is interesting, as a matter of psychology, to see what a criticism by a boy of seventeen can be. And there is another issue involved. We have always claimed that we publish brickbats as well as bouquets. It is almost a dread that obsesses us to the effect that we may be thought to publish the "Discussions" simply to show how much our readers appreciate our work. So that was in itself a reason for giving this long letter from a very youthful and unfavorable critic. Your very nice letter we may term a real bouquet. Our editorial staff does not wish to be throwing these bouquets at itself, but the staff tries to be pretty well up on science and literature and art and the very many other topics that enter into our particular type of stories. We not only thank you for your appreciation, but feel almost as though we should apologize for publishing such a complimentary letter.—EDITOR.)

A YOUNG CRITIC AND A FAVORABLE ONE

Editor, AMAZING STORIES:

Although I am only twelve years old, I am an ardent reader of your magazine (that is, the "Monthly," as I have never yet read an issue of the "Quarterly").

I have noticed lately that instead of the usual practice of the writers in "Discussions" slamming you all around the place, there have been a number of letters slamming the aforesaid writers. As a matter of fact, I think the stories are all right, except for one or two: "Into the Green Prism" was a little too long drawn out, and said the same thing in almost every paragraph. Also, the writer at first states that no organic matter could be seen through the prism, and then goes on to discover a race of minute people. On the other hand, "Clouds of Death" was a little too compressed; I think that it would have made a good two-part story.

Most of your readers specify different authors that they like and don't like; I usually don't think about the authors much, though, although I must say that I haven't seen much of H. G. Wells lately.

I'd like to see more stories on the style of "Armaggeddon" and a few more of those four-dimensional stories (concerning the hyperforceps).

I noticed that one of your readers thought you should cut down your "Discussions" column. I think that this is a very good idea, as you could use the extra space for more pictures, which would make the stories more interesting.

By all means keep those covers! When I want to buy AMAZING STORIES (and I do very frequently) I often have to help the newsdealer hunt around for the copies of the magazine, and if it wasn't for the flashy covers on display, I would probably forget all about it. (No reflections on your magazine!)

As to your emblem, you can do what you want with it; as one of your readers so very ably stated: "I don't have to wear it!"

Hoping for the same quality of stories as in the past and for more illustrations, I remain your devoted reader,

S. A. Mayper.
(No address given.)

(One of the features of the present day life is the mature habit of thought which young people now indulge in. As regards the length of stories: a condensed story is very rarely much to be admired. What is termed "atmosphere" in a story is given by many trivial circumstances and inevitably leads to length. It is interesting to note that you want more pictures. It so happens that we are giving more now, which will please you, but you will observe that one of our correspondents is opposed to pictures. We do not want to give up the "Discussions" columns. Many readers enjoy them as much as any other part of the magazine.—EDITOR.)

SOME GOOD WORDS FOR AUTHORS OF "AMAZING STORIES"

Editor, AMAZING STORIES:

I have read AMAZING STORIES since it came out. So far I have refrained from writing to the "Discussions" Department for the reason that —I consider myself and my vocabulary inadequate to express my thoughts of the stories.

I enjoy each and every one of them. To me, they seem real (except in some cases), because I have a very active imagination. At first I wished to name the authors I enjoyed most, but on looking at the list I was astounded to see that it was too large and therefore I omitted it.

I am writing this primarily for proving to those that think all stories in the AMAZING STORIES, fiction, that they are once again in the wrong.

In the *Evening Journal* of February 9, 1929, I saw an item dealing with "killing by the vibration of sound." Immediately I recalled having read a similar story in AMAZING STORIES. I then went down to my file and looked it up. It is in your May issue of 1927, Volume No. 2, No. 2. It is called "The Singing Weapon" and is by Bent Prout. In it a weapon rather like a violin was used to produce vibrations to kill the Japanese. The time the author has, is the "Asiatic invasion of 1945." In your last sentence in the comment you have "That such a machine will come about at a not-too-distant time may be reasonably expected."

Now if the above item is true, once again is your magazine vindicated.

H. Chartock,
729 Empire Boulevard, Brooklyn, New York

(You flatter our authors by saying that the list of those you enjoy is too large for publication. We can only assure you that we have tried hard to make the magazine what it is. We are more anxious than ever to improve it and we believe that in a very short time we will be taking steps in the direction of specific advance.

As regards killing by sound waves, it seems improbable that this can be done, yet we know what effects can be produced by them. By properly working with the longer pipes of an organ, heterodyning can be produced so as to give an extremely low vibration of the air; what may be termed an inaudible sound; and everyone has noticed, when the organ gives its low notes, perhaps quite within the range of its pipes, how the human system is affected. There is a curious old couplet to the effect that "music hath charms to sooth the savage breast, to soften rocks, or bend a knotted oak." If the notes were of low enough pitch, perhaps the savage would no longer be soothed.—EDITOR.)

AN APPRECIATION OF OUR WORK

Editor, AMAZING STORIES:

Why I should take the trouble to write to *you*, who do not take sufficient interest in *me*, to publish any of the numerous letters I have sent you, is a mystery to me.

Perhaps it is because of a desire to satisfy my innate egotism, or perhaps merely because of a desire to express my thoughts and reactions to someone.

Well, from whatever cause, I am writing again, like the ass that I am. Hope you will at least take the trouble to read this letter through to the bitter end. Here goes: I wish to compliment you on the publication of "The Air Lords of Han." Not since "The Moon Pool" has a story pleased me as much as this one. I cannot find adequate verbal expression of my appreciation for it; it can be felt, but not expressed.

Philip Francis Nowlan is an author after my own heart. Truly, he ranks with A. Merritt. He is one of your very few authors who can get away from the mechanical, stereotyped form of scientifiction. Like mining for diamonds, one has to go through a great deal of dross, in reading scientifiction, before one finds the gem. Reading such stories as the above-mentioned is like looking through a magic crystal into the wells of Truth and Knowledge. One gains an inexplicable, mysterious and energizing sense of mental exhilaration and exaltation.

An original idea is the most stimulating thing possible to a keen analytical mind capable of grasping and comprehending the possibilities of abstract theories. It is also about the rarest and hardest-to-discover thing in the common-place world. When one discovers a truly original idea, within the confines of your praiseworthy magazine, one is elated beyond bounds by its latent possibilities and unguessed potencies—exhilarated and mentally stimulated. Then, one's patient

search is well rewarded. I have a passionate love for genuinely original ideas, and new, worthwhile knowledge. Such is so extremely rare that when I do discover it, I feel very much like the man who traverses unexplored space, in his dreams, and makes glorious discoveries which he remembers after waking—rather too wonderful to be true, but wholly enjoyable, and thrilling to contemplate.

One feels the enchanting grip of a powerful, thrilling and original scientifiction story long after his perusal has come to an end. And yet, one is never satiated, nor even satisfied: one must go on and read more, in an unending but hopeful search for original and pleasing material. It is infinitely better to stimulate the mind than the body, and that is the true function of scientifiction—mind stimulation.

In this, I wish you ever-increasing success.

C. H. Osbourne,
923 Homes Street, Kansas City, Missouri

(It is a common thing to say that we are doing our best, but really it is doubtful if we are, because there is always something ahead which probably one has not attained. But your well thought-out letter, complimentary as it is, makes us feel that we are doing well at least, even if we have not reached the milestone of "the best" as yet. In the peculiar field of work of the editor, encouragement is not only welcome, it is almost necessary. And encouragement not based on thought and intelligent criticism, is worth little. AMAZING STORIES will go smoothly on its way with the editorial staff greatly encouraged by your letter.—EDITOR.)

A MOST AMUSING LETTER FROM A GOOD FRIEND

Editor, AMAZING STORIES:

Oh! I'm all right. It's the world that's wrong. . . . Some of your readers' intellectual contributions to "Discussions" are really amusing. . . . The covers seem to be nerve-shattering—the colors soul-searing—the name "Amazing" not typical (Well! Well! Well! Well!)—the illustrations unbearable—the binding weak—the emblem rotten—the paper cheap—two typographical errors in the last issue—a misspelled word here—the magazine, as a whole, degenerating—and of course the authors don't know anything about anything. . . . Yes, it is all very amusing, but soon becomes monotonous.

Listen, my "well-meaning" iconoclasts! AMAZING STORIES has a fairly good circulation and any attempt to change its title, cover, or contents would, I venture to say, bring negative results. . . . "Scientifiction" is too hard to say and is not peppy. . . . Anyway, the stories *are* amazing and the covers portray *exactly* what is inside, contrary to some persons' viewpoint. . . . Take into consideration the majority who do not write letters to, or even read "Discussions". . . . It will be found that they prefer the magazine "as is," which is perfectly natural.

My sincerest sympathy goes to the Messrs. J. W. Saunders, J. J. Kelly, Jr., and others who, somehow or other, always seem to be in a state of extreme mortification. . . . Please note that in the March issue three ladies agree that the covers are O. K. . . . I agree with the ladies for once.

It is also noticed that many of your readers have a disagreeable habit of knocking things that have no connection with AMAZING STORIES. . . . While, personally, I don't read any other fiction magazine (except *Weird Tales*), I don't think that everything else on the newsstands is "trashy" and "putrid" as some persons will have it. . . . It's all a matter of taste, and what you don't like and label "bunk," the next fellow may enjoy.

J. Gibson, the Canadian news-dealer, said in the March issue that AMAZING STORIES is "distinctive and original". . . . Keep it that way.

Lester Anderson
271 Peralta St., Hayward, Calif.

(We take great pleasure in inserting this letter in our Discussions Column. It is only human nature to be pleased when your work is appreciated, and Mr. Anderson certainly has the art of putting his ideas in a most sprightly way. But the letter is interesting because our correspondent opposes any change of name. So many people know us and evidently like us with the name, AMAZING STORIES, that any change must be brought about very slowly, and feeling as we do in this matter, it is a comfort to find a correspondent who realizes the conditions we are up against.—EDITOR.)

A LETTER OF FRIENDLY CRITICISM

Editor, AMAZING STORIES:

I think AMAZING STORIES is the most enjoyable magazine on the bookstands. The best stories so far were: "War of the Worlds," "Skylark of Space," "Armageddon 2419, A. D.," and "Airlords of Han."

The "Skylark of Space" disappointed me when the "Karlon" was left unsolved. Seaton should have taken the beast out into space and left it there until it either froze to death or died from want of air, water and food. How could the "Skylark" heat up from friction with the air when its repeller was strong enough to ward it off a planet. It repelled the air in the battle with Mardonale, so why not when it was speeding in the earth's atmosphere?

This new version of atomic power is the first to give me any idea of how it might be released. The disintegrator ray of Armageddon conflicts with the atomic explosions of the rockets. In one case the ray disintegrates tons of rock, getting thinner and thinner. I hope you will give us a little more. Is it quite right, after waiting impatiently all month, that I just get one good story like the "Airlords of Han"? "The Worm" was simply a dry narrative about the worries of a worried farmer, or a miller, which amounts to the same thing, about an impossible worm. I want less uninteresting and more interesting stories, and a thicker magazine. I read this issue in two hours and I am a slow reader.

I read the "Skylark of Space" over so many times that I lost count!

Charles Schneeman,
1461 East 63rd Street, Brooklyn, New York

(It is a sad fact that one always needs criticism. But back of your criticism we can see what our difficulty is. Not only do we personally disagree with much of it, but the stories you do not care for are quite popular. Atomic power is one of the dreams of the future but how it will be carried out is so uncertain that it prevents anything like true criticism based upon it. "The Worm," which impressed you so unfavorably, seemed to us quite a powerful picture. At any rate "The Skylark of Space" kept you much interested. Perhaps in his sequel, Dr. Smith will remove your one objection to that story. If we treat the repeller of the "Skylark" as an appliance for overcoming gravitation, it would not necessarily create a vacuum. We hope you will re-read the sequel to "The Skylark of Space," which we expect to receive soon.—EDITOR.)

REPRINTS OF OUR STORIES IN LIBRARY SIZE AS BOOKLETS

Editor, AMAZING STORIES:

I have been an interested reader of your magazine for a number of years and have not found its equal so far. I have just finished reading "Barton's Island" and I think it is the best story in the August issue.

While reading the Discussions, I often wondered why you would not reprint any story. While I do not desire to have reprints in the magazine itself, I would like to have them in small booklets. Then the readers who have already read them could not complain and those who have not would have a chance to buy them. "Tarrano the Conqueror" has always fascinated me. This story, you will remember, appeared in SCIENCE AND INVENTION as a serial; the tenth instalment was the only part I read. You have many readers who missed these superb stories.

You published a story in the booklet form not long ago "Vanguards of Venus." That is the form I mean.

"The Moon Pool," "The Time Machine," "Around the Universe," "The Trip to the Center of the Earth" are ones I would like to see in booklets.

By the way, I am looking for readers who are willing to sell their issues of the first two years of AMAZING STORIES. If this letter finds its way into the Discussions Department, I sincerely hope they will send their names and addresses to me and tell me what they have.

Herbert Cloyd,
314 Jackson Street, Macon, Mo.

(We reprint many stories, but our staff of writers increases and we get so many good ones which are quite new, that it rather blocks out reprints. This refers to what we put into the magazine. Now as regards reprinting our stories. This we have in mind, and it is not at all impossible that we will do this in the future. You will find immediately below this letter one from a correspondent who has a number of copies for sale.

We would suggest that you write to him and also that you write to our Subscription Department, 381 Fourth Avenue, New York City. This letter may elicit answers from other correspondents who have back numbers which they are waiting to dispose of. The letter printed next may interest you.—EDITOR.)

BACK NUMBERS OF AMAZING STORIES

Editor, AMAZING STORIES:

I have some of the first issues of AMAZING STORIES which I am willing to sell. I will send my list with the condition of each to anyone desiring it.

Rothouse,
4713 North 9th St., Philadelphia, Pa.

GOOD AND BAD POINTS IN AMAZING STORIES

Editor, AMAZING STORIES:

Upon careful perusal of your February and March issues of your very estimable magazine, I am driven by a prodding conscience to write you and let you know my views on the many good and bad points in AMAZING STORIES.

I consider that your March cover was the most conservative that has as yet been printed. It didn't frighten your ultra-conservative buyers away as some of them do.

I wish that AMAZING STORIES would have the same paper that her sister magazine SCIENCE AND INVENTION has. I have a stack of your magazine and they take up considerable room which could better be used for other things. They are inclined to be clumsy when traveling, and as I travel to a very great extent, it would be more convenient to have thinner paper.

Please have less pictures, as they are inclined to cheapen your otherwise highly educational magazine.

In your February issue you printed H. G. Wells' "The Lord of the Dynamos." Why? To me that story never could and never can belong in a magazine professing to edit scientifiction. In your March issue you printed "The Face of Isis," by Cyril G. Wates. The thing I cannot understand is: If the anti-gravitational properties of the metal discovered by Courtland and Professor Wadsworth would free the space-flyer from the earth (that is provided that they succeeded) what was to make them land on the moon? How, if it forced them off of the earth, would it not also stop them from nearing any solid mass having gravitational attraction?

I have read AMAZING STORIES from its infancy and I watch its growth with unadulterated interest.

Please print some more stories by Harl Vincent, Henry James, A. Hyatt Verrill, E. R. Burroughs, and H. M. Colter.

I await your next issues with interest to its contents, and so try to think of me as one of many of AMAZING STORIES many admirers.

H. Milton Barrington,
Newark, New Jersey.

(We are always delighted to get good critical opinions. Nothing is more flattering than well-thought-out criticism, whether complimentary or the reverse. One of our troubles is, that we have a great quantity of readers to please and we have found that they like the pictures we give them. We would not like to cut them out and we do not understand how they can cheapen our magazine. H. G. Wells has made his reputation as a writer of stories based on science. Psychology is a science and that certainly appears in the "Lord of the Dynamos," which, by the way, was quite reminiscent of O'Neill's celebrated play, called "Dynamo." Your criticism on "The Face of Isis" is very well put, and it is only fair to say that it never occurred to the editor. You are going to get lots of stories by your favorite authors.—EDITOR.)

A TRIBUTE TO DR. DAVID H. KELLER

Editor, AMAZING STORIES:

I bought my first copy of your magazine several years ago, and have not missed a copy since. I found myself once arriving several hours early for a basketball game, and decided to buy a magazine to help pass away the time. Scanning the different magazines at a newsstand, I happened to notice the name Edgar Rice Burroughs appearing on the cover of AMAZING STORIES. Although I had already read "The Land That Time Forgot," I reasoned that a magazine which had that story would have others equally good, and bought my first copy of AMAZING STORIES. I have not been disappointed in a single issue since.

David H. Keller is my favorite author. His stories have literary as well as scientific quality.

Among his stories which I remember particularly are "The Menace," "The Biological Experiment," "The Revolt of the Pedestrians," and his remarkable story in the last issue, "The Eternal Professors." Other stories I liked particularly were "The Master-Mind of Mars," "The Skylark of Space," "Out of the Sub-Universe," and "The Moon Pool." I believe with several other readers that Jules Verne has no place in your magazine.

I can see no advantage in changing the name or the cover; they suit me just as they are. It's what is inside the covers that counts, and as long as you maintain your high standard of stories, I will remain your reader.

George Barbour,
Oklahoma City, Okla.

(It always interests us to know how acquaintance was made with our magazine. So many write that they took it up by accident, read it and continued reading future issues. We are doing our best, we can assure you, not to disappoint our readers, and we hope to keep them with us. Dr. Keller is giving more and more time to fictional writing. He has the advantage of being a professional man, so that he is able to give the touch of true science to what he writes. Besides that he is a very good student of human nature and in these times when too arid a view is often taken of the ways of humanity, he gives a touch of real kindliness to his stories which has impressed us greatly. We are glad you do not want us to change the name or cover.—EDITOR.)

IMPOSSIBILITIES IN STORIES OF THE SCIENTIFIC BASIS

Editor, AMAZING STORIES:

I have been an intermittent reader of AMAZING STORIES since the magazine first appeared under that title. I have been interested in every story even though some of them were rather improbable.

However, I can truthfully say that every story has given me a little more information and a whole lot to think about.

I do not pretend to be learned in science, though I am a college student. I can understand how an author might put a great deal in a story which, though it might be scientifically without basis, would still be highly interesting to his readers.

I have in mind a machine with which Harl Vincent in "Barton's Island" had the characters project their light images upon a platform. I cannot understand how that could possibly be. Unless there is something to intercept the rays and reflect them, they cannot be seen. And surely a number of rays would make no difference. The same is true with the crystal which he used to hypnotize the men with. I can conceive how these might be thrown upon a screen, but not on air.

Let us have more stories like "Barton's Island," "The Wand of Creation," and "The Eternal Professors."

Durant M. Friday.

(If we restricted our authors to what are known to be possibilities in science, and refused to let them draw upon their imagination, our readers would miss a great deal. And furthermore, remember, that many things which we are inclined to regard as impossible and absurd, may in the not very distant future prove to be quite true. What would have been said only a few years ago of the possibility of a man soaring about in the air for a day? Yet this has been done. And it was done without any motor and without muscular effort. "Barton's Island" certainly seems to be full of impossibilities. But as readers of our magazine know, our opinion is that it is not a safe thing to indulge too much in the assertion of impossibility. The future is going to show some developments more amazing even than those in the last fifty years.—EDITOR.)

A QUESTION IN GRAVITATION FROM A VERY YOUNG AND APPRECIATIVE READER

Editor, AMAZING STORIES:

I have just finished the August issue of AMAZING STORIES.

As I was going through "Discussions" I saw a letter sent by one Harmon Ladig. He asked a question—in one story the author tells us that in a space-flyer a person has no weight, while in another story the author says they retain their normal weight. Which is right?

I think the first version is right, although if the men in the space-flyer wore steel-bottomed shoes with magnets under the floor, they would stay on the latter.

I am twelve years old and read the magazine with a thought that I will gain in scientific knowledge.

Whitfield Potter,
Newark, N. J.

(Both versions are correct and in a sense are right. A space-flyer would be variously affected by gravity of the different celestial spheres according to his distance from them and often, or even usually, they would act partly against each other. If he got in a position in space where he was accurately balanced as regard the attraction of the different celestial bodies, he might be said to have no weight. The point is that weight is the measure of the attraction of gravitation. Practically, it is generally used for the attraction of the earth for bodies on its surface and even on the earth it varies in its net amount, being counteracted to an extent by centrifugal force, at all points except at the poles. So you see we can imagine all sorts of gravitational attractions acting upon a space-flyer.—EDITOR.)

A CRITICISM OF TWO OF OUR ARTISTS

Editor, AMAZING STORIES:

This is my first letter to this magazine, although I have bought every issue but the first two. This letter is written to tell you how poor the illustrations are in the Summer edition of the QUARTERLY. The stories are all excellent, but the pictures tend to spoil the magazine. I don't comment on the change of editors, but I wish to complain of the change of staff artists. It was a good move to get rid of R. E. Lawler, but it was too bad to lose Paul. If it is impossible to get Paul back, you should certainly be able to get better artists for our magazine.

I have just finished reading "Rays and Men" by Miles Breuer in the QUARTERLY and consider it excellent. *Don't* turn down any of his stuff. D. H. Keller is another of my favorites along with A. H. Verrill. "The Land of the Giant Ants" was one of the best of the latter author. There are some stories that do not just fit my fancy, but shall not comment, for there are others who like them.

This letter was written just to criticize the illustrations, so I'll close now with best wishes for future financial success.

Joseph A. Houghton,
9 Prospect St., Charlestown, Mass.

(We think you will find a constant improvement now in AMAZING STORIES. It never had so much effort expended on its improvement as is now being given to it. And we cannot but believe that intelligent study of the subject will make it better and better. We are getting together a very fine staff of artists and are in the way of improving the art department greatly. Our authors are with us still and nothing is being spared in the way of making our magazine better and better.—EDITOR.)

A BREEZY APPRECIATION OF OUR EFFORTS

Editor, AMAZING STORIES:

I've been a reader and admirer of AMAZING STORIES ever since it was first put out on the newsstands. I have also taken SCIENCE AND INVENTION, PRACTICAL ELECTRICS and the ELECTRICAL EXPERIMENTER. By the way, can you tell me where I can secure the back issues of the Practical Electrics and Electrical Experimenter? Those two were dandy magazines, differing from the late issues of SCIENCE AND INVENTION, in that those two had more articles on experimental electricity, physics, chemistry and radio. I wish you'd put out another magazine more like these two.

I notice many readers complain about the name AMAZING STORIES—I think it is all right, and don't think that it should be changed. A lot of complaints have come in, too, about the bright covers—well, I think that with the exception of the July and August covers, they are just the right type. I don't know why it is, but there is something lacking in the July and August covers. They lack the brightness, the color, the personality that the other covers have. I think that the December and November, 1928, covers are two of the very best. AMAZING STORIES is too fine a magazine to be hidden beneath such drab covers as the last two. Let's have more covers like the others.

I hope that you have some more A. Merritt stories. He sure is splendid. "The Moon Pool" is unforgettable, and can't be beat. Give us more like it, even if some of the readers complain about it being a lot of fanciful drivel. I think it was one of the most beautiful descriptive stories I've ever read. A. Hyatt Verrill is another favorite—"Into the Green Prism" was another wonderful story. I hope he writes a sequel to it. Somehow, there ought to be something more. Please give us more stories on ancient civilizations, fourth dimension, interplanetary travel, atoms, tales of space, and time. There is a lot of valuable science to be gleaned from some of these stories. However, I read these stories for pleasure, and if it's interesting, no matter how impossible as to science it may be, I'm for it. If I want a lot of facts, I can go to any text-book and get it; although I think it's a dandy way to present science—sugar-coated, so to speak. Why not publish some of George Allen England's stories—"The Afterglow," "Darkness and Dawn," "Into the Great Oblivion"—dealing with the future many thousands of years hence, when the city of New York is destroyed.

I very much object to read letters from readers—slurring other magazines, such as *Weird Tales* and *Argosy*, inasmuch as they have the same type of stories, in most cases, as AMAZING STORIES. A. Merritt, Ray Cummings, Garret Smith, Edmond Hamilton, Ralph M. Farley and many other fine scientific writers have written and are still writing in these magazines. They certainly have

no right to slur a magazine they know nothing about—it is evident they don't, or they wouldn't write as they do. I take and always will take AMAZING STORIES, but I also take other scientifiction magazines, which have practically, and in many cases, the same type of stories.

I am proud to hold my AMAZING STORIES where everyone can see it—bright cover, title and all. I rather pity people who do not have the opportunity to read it, or the knowledge of what a wonderful, magnificent magazine it is. Why worry what people think about it? If you *know* it's a good magazine, that's all that matters.

This subject of time is a puzzle. A man who has to travel in the past, if he could do this, would have no effect on the people living then. Say, if he were to go back to the year of 1600—he might do this, but he couldn't make a thing take place that hadn't taken place at that time. He might be able to see what they were doing, but he'd be invisible himself. But many writers make this man go back to 1600, say, and make him do things that never happened then. That's poetic license, I suppose—and it makes it that much more interesting—but could one person going back into the past have any effect on those living at that time? I declare, some of these writers make their stories so realistic, that I'm beginning to wonder whether I'm living in the past, present or future! One thing—AMAZING STORIES makes one THINK, too. We all need that. Do you think space is finite, or infinite? I'm for thinking of it as infinite. If there is an end to all space, what is beyond the end then? More space! That would make it infinite. Which makes space unending, with no beginning and no ending. And who knows what lies beyond our universe—other worlds—other civilizations. Let's have stories on that. After reading AMAZING STORIES, and thinking of the infiniteness of things, it certainly makes a human being seem small. Here's for AMAZING STORIES, the best of luck.

G. Setel,
Alhambra, Calif.

(For back numbers address our subscription department. "The Moon Pool"—to which you refer—was really a beautiful story for one of its type; it had considerable science in it and the portrayal of character in it was quite striking and almost deserves to be called science. Mr. Verrill is going to write a good deal more for us in the future, but we have to secure a variety among our authors, as well as among our stories. Interplanetary travel stories are great favorites. Any amount of science can be put into them, but inevitably a lot of the impossible must be there too. We are glad that you object to letters slurring other magazines. We appreciate the merit of our contemporaries and want to live by making AMAZING STORIES a good magazine and certainly not by running down others. We think that you are taking the right point of view. Certainly stories about travel in time involve very confusing problems such as you cite. As regards space, our recommendation to you is not to think about it or you will be like the angels in "Paradise Lost" (and not good angels either) who, in their discussions, "found no end in wandering mazes lost." You are not the only person affected as you describe in your last sentences by contemplation of the world we live in.—EDITOR.)

A FINE TRIBUTE TO "OUT OF THE VOID"

Editor, AMAZING STORIES:

I have been reading your magazine for some time and while I have enjoyed most of the stories published in same I have never enjoyed one quite so well as "Out of the Void" by Leslie F. Stone. The only fault I find with it is, that I have to wait until the next issue to be able to finish this most fascinating tale. Interplanetary stories have always been my favorite type of fiction and this story is so well written as to seem possible.

As long as you publish stories like "Out of the Void" I will always be an AMAZING STORIES Fan.

Please give us more stories by Leslie F. Stone. I am for him every time. . . .

John Matthews, M. D.,
Shadowlawn, Miami, Fla.

(We are very glad that you like the story "Out of the Void." It impressed us very favorably and we are glad to have our good impressions confirmed, and a criticism from a professional man is always of special interest and value. Leslie F. Stone happens to be "Miss Stone."—EDITOR.)

BRICKBATS AND WREATHS. THE BRICKBATS ARE VERY WELL PADDED HOWEVER

Editor, AMAZING STORIES:

At last I am doing what I have wantod to do for the last six months, namely, write you a letter. As is usual, I will tell how I first got acquainted with AMAZING STORIES. Six months ago, my whole family all went to my cousin's wedding. That is, the whole family except me. I was sick with scarlet fever and pneumonia. To while away the hours, my mother left the Winter QUARTERLY with me. Never did the hours pass so quickly. The stories were great. And now for the brickbats, the purpose for which this letter was primarily designed.

"The Golden Vapor" wasn't so good, but give us more stories like "The Moon of Doom," "When the Sleeper Wakes," etc. "A Modern Atlantis" somehow didn't appeal to me. All the other stories in the Spring QUARTERLY were very good. "The Nth Man," "The King of the Monkey Men," "The Vibrator of Death" and the "Second Swarm," "The Sunken World" was excellent. Mr. Coblentz always manages to give us new kinds of stories, all of them good.

And now for "The Menace." It was quite good. And I don't see what Gerald Adams is kicking about. He's raised an uproar about so-called race feeling, etc., about nothing. Here is the proof: My brother had questioned a mulatto youth, also an enthusiastic reader of "A. S.," what he thought about the "The Menace" and he said that he thought it was very good. Race-feeling?—*applestrudel*. "Ten Days to Live" was also very good. As to the October QUARTERLY, all the stories were very good, but there was not enough scientific detail in "The Gravity King."

I have just read your latest monthly, and would like to cast a few brickbats. "The Dimension Segregator" was wild, impossible and utterly fantastic. Segregating the third dimension! Impossible! "The Wand of Creation" was very good, which is to be expected of Mr. Coblentz. "Barton's Island" was good, also. "Out of the Void" just seems to be another interplanetary story, good only in spots.

And now, about a shadow being two-dimensional. I think that is absolutely wrong. Just like a very thin piece of gold-leaf. It must have some extension into the third dimension. It must have some material extension into the third dimension in order to exist; nor is it non-existent. It is more than a thing of our imagination.

I will close with a last final heave at "The Skylark of Space." Too wild, fantastic. Traveling at a billion miles a second for many hours, it should have crashed into some star, or comet. The author should have made it one hundred miles per second, and the planet Mars or Venus. However, you have one really good author with you, Stanton Coblentz. His "After 12,000 Years," "Wand of Creation," "Sunken World," etc., are among the best I have ever read.

The paper is O. K., binding perfect, stories good, cover excellent, so what's the big fuss being made about?

M. Miller,
1489 Southern Boulevard, New York.

P. S. What's become of Paul in the new monthly? The drawings don't look like his at all.

(This is a very charming letter. We like to think that our efforts made the hours pass quickly for an invalid. We often think that our readers do not realize the difficulty of editing such a magazine as this. It is restricted to stories that have a touch of science about them and these are not always easy to get of good quality from the standpoint of the narration. The author must have the ability of writing the short story and also must know something about science. All the stories, therefore, should be correct, and they are very carefully edited to detect and amend any scientific misstatements or even exaggerations. Like some of our readers, you speak of the impossibility of some of our stories. If an interplanetary story was written leaving out the impossible, we can assure you that the travelers would never get very far in their journey. And if the fourth dimension is to be written about it is not too much to say that if the author is not led into impossibilities he would be a very poor romancer. Of course, nothing with any thickness is two-dimensional, but it is perfectly fair to say that a piece of gold leaf is at least suggestive of that illusive two-dimensional object. Different readers are differently affected. "The Skylark of Space" which you do not seem to care for, has been met with almost universal favor.—EDITOR.)

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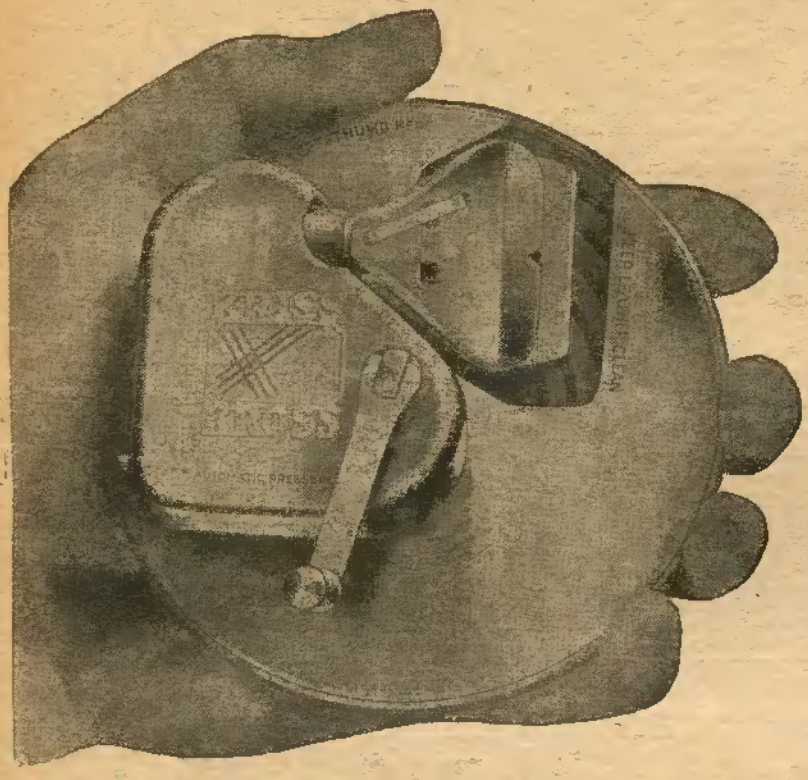

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Kriss-Kross Corporation
Dept. M-3104, 1418 Pendleton Ave.,
St. Louis, Mo.

Send me details of Kriss-Kross Stropper. Also send free sample of your new type razor blade for .....Razor.
(Fill in your make of razor.)

Name .....

Address .....

City ..... State .....

( ) Check here for agents' money-making plan, full time or spare hours.

Rhodes' KRISS KROSS

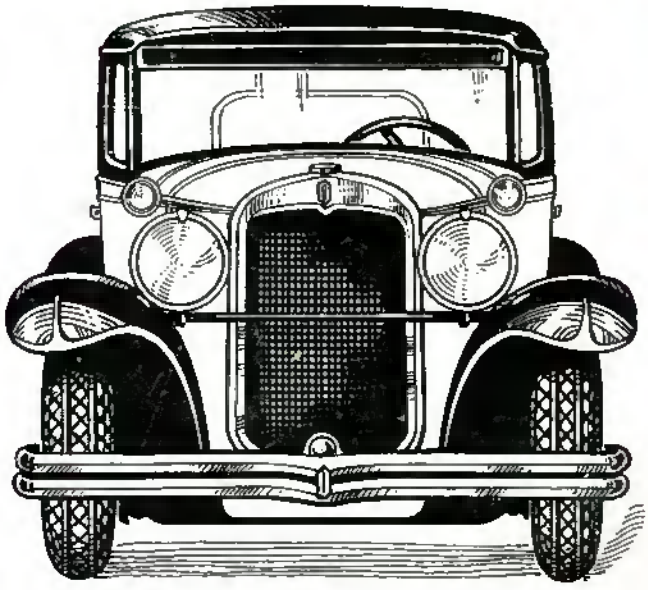
KRISS-KROSS CORP'N
Dept. M-3104, 1418 Pendleton Ave.
St. Louis, Mo.

Canadian Address:
CANADIAN KRISS-KROSS CO.
39 Wellington Street East
Toronto 2, Canada

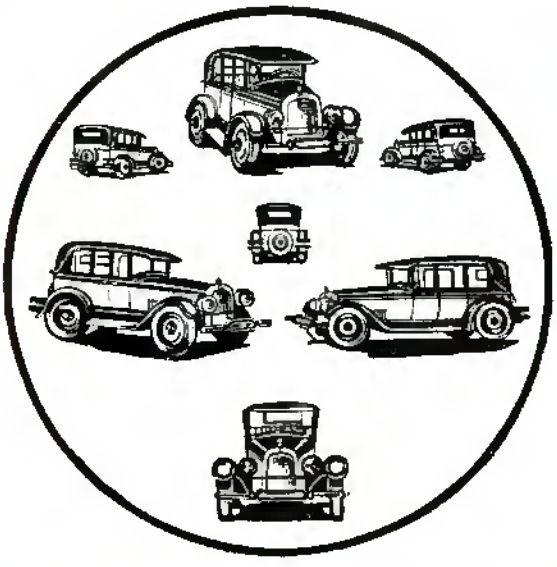
Win a Nash Sedan

or

$2,750.00 in Cash



Someone who answers this ad will receive, absolutely free, a fully equipped 7-Passenger, advanced Six Nash Sedan, or its full value in cash ($2,000.00). We are also giving away a Dodge Sedan, a Brunswick Phonograph and many other valuable prizes—besides Hundreds of Dollars in Cash. This offer is open to anyone living in the U. S. A. outside of Chicago.



Solve This Puzzle

There are 7 cars in the circle. By drawing 3 straight lines you can put each one in a space by itself. It may mean winning a prize if you send me your answer right away.

$750.00 for Promptness

In addition to the many valuable prizes and Hundreds of Dollars in Cash, we are also giving a Special Prize of $750.00 in Cash for Promptness. First prize winner will receive $2,750.00 in cash, or the Nash Sedan and $750.00 in cash. In case of ties duplicate prizes will be awarded each one tying. Solve the puzzle right away and send me your answer together with your name and address plainly written. $4,500.00 in prizes—EVERYBODY REWARDED.

John T. Adams, Mgr.

Dept. 1067 323 So. Peoria St. Chicago, Ill.

John T. Adams, Mgr., Dept. 1067
323 S. Peoria St., Chicago, Ill.

Here is my answer to the puzzle.

My Name_____

Address_____

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