

# AMAZING STORIES

OCTOBER

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**Space-Rocket Murders**  
by Edmond Hamilton

*Other Scientific Fiction by:*  
**Charles Cloukey**  
**R. I. Melhorn**





JULES VERNE'S TOMBSTONE AT AMIENS  
PORTRAYING HIS IMMORTALITY

# AMAZING STORIES

## Scientific Fiction

Vol. 7

October, 1932

No. 7

### In Our Next Issue

**CAPTAIN BRINK OF THE SPACE MARINES**, by Bob Olsen. We have learned from explorers of the depths of the ocean, for instance, that there is a form of life peculiarly adapted to the enormous pressure of the deep waters. In high altitudes other forms of life are found. Who can tell but that there are intelligent beings somewhere in the universe who are peculiarly adapted to the conditions surrounding other planets in our universe? Naturally, such life would be vastly different from anything we know, but Bob Olsen, of much fame, has some very definitely thought-out conceptions on the subject which he gives us in this excellent scientific yarn.

**WORLD OF THE LIVING DEAD**, by Ed. Earl Repp. (A Serial in two parts) Part I. Here we have a great earth bubble or cavern, where a subterranean race of beings is holding human beings of the surface in abject slavery for the mining of radium. Before we know what the denouement is, the reader will be worked up to a state of excitement. The effects of radium on the human system are strongly brought out.

**THE DOOM OF LUN-DHAG**, by William Lemkin, Ph.D. We are all more or less acquainted with fanatics—generally harmless fanatics—whom we humor a bit and let continue on their misguided path. But occasionally it would be wise to guard well some person or persons with brilliant scientific minds who begin to labor under gross delusions—as witness our friend—or enemy—in this story, which is one of Dr. Lemkin's best.

**THE MAN WHO LIVED TWICE**, by William Kober. There is no doubt that many experiments calculated to prove time as the fourth dimension or, in fact, to prove there is such a dimension, have gone on apace. Strange things are possible; and few things are stranger than that which is pictured by our new author in this absorbing tale.

And other unusual scientific fiction.

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### The Cover

this issue depicts a scene from the story entitled, "Space Rocket Murders," by Edmond Hamilton, in which is shown the graphic 12th hour rescue of our scientist friend, from embarking on a forced trip to a strange planet with strange beings.

Illustrations and Cover by Morey

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# The First Martian

By Eando Binder

*OUR continued experiments in radio and television may play a much more important part in the eventual realization of successful interplanetary travel than we can possibly conceive of right now. But if we stop a moment to think about it, the possibilities of such closely allied work between radio, television and rocket travel take on vast proportions—one phase of which is vividly portrayed in this short science fiction gem.*

Illustrated by MOREY

## Synthetic Platinum

**T**HE American people have never clamored for a true, detailed account of the arrival of the First Martian. Yet the event, unheralded and unprecedented though it was, was one of the most important occurrences in human history. His coming was a distinct shock to the whole world, despite the marvelous advances of science from its birth in 1896 to that date. The inconceivable distance to be traversed, the enormous energy required to transport a heavy machine from planet to planet, and the all-powerful force of gravity, seemed insurmountable objects to even the most broadminded and optimistic thinkers. Feeble attempts were made even in 1931 to leave this speck of the universe and soar to other worlds, but constant failures dulled the ardor of those who wished to connect our world with the others which acknowledge the same central sun. Hope flourished after the almost successful (perhaps indeed successful) attempt of four German scientists to soar from the hide-bound earth, who departed in their famous rocket in 1938, bound for the moon. The world is certain that they never returned, unless they landed in some very remote spot, unseen by human eyes; and it cannot be said where they are, whether lost in boundless space, alive or dead on the moon, or perhaps scattered in minute particles in the infinite. Again, five years later, the globular ship of two intrepid Americans vanished from the earth, never to be seen or heard from; and during the period just following the Martian signaling, several others were lost and many more crashed. Although the fatalities far exceeded these probable successes, the hope of interplanetary travel was still uppermost in our minds. We know now, that our failure can be attributed to the unfortunate lack of radioactive elements, and not to the lack of ingenuity or inventiveness. It was only too true,

as Professor Billings stated in 1945, that the only type of engine which could possibly transport a heavy machine from our earth to some planet, would have to be the atomic-energy engine, which, with a minimum of fuel and the very necessary radioactive element, could develop an unlimited amount of energy.

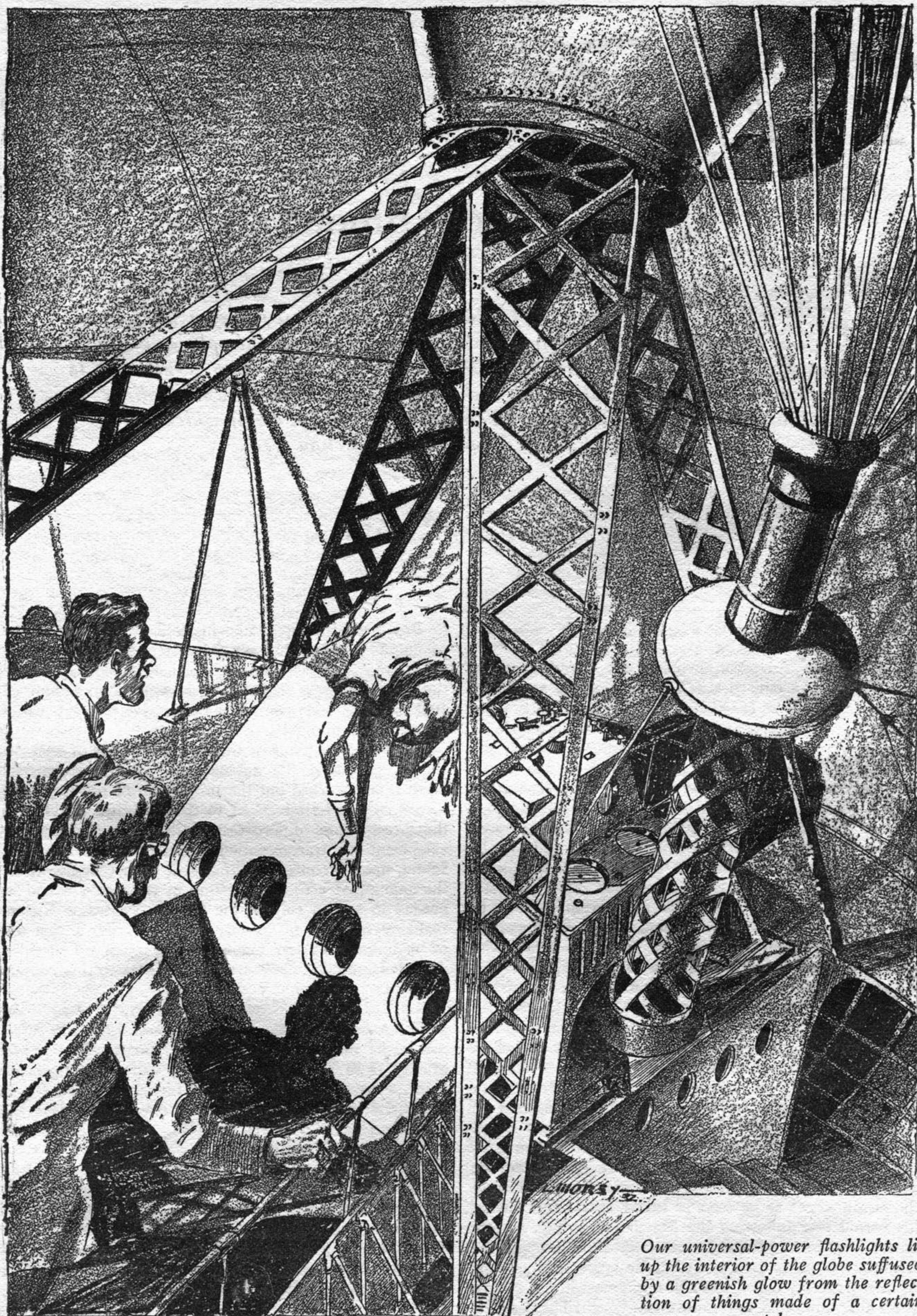
He even drew plans of the basic principles of such an engine, estimated the amount of radioactive material needed, and worked out the propulsion of the ship. The theory, which he advanced to the scientific world, was the direct cause of Professor Riehm's remarkable development of transmutation of elements, for it was found, upon investigation, that at least twenty-five times the amount of actinium existing in the world would be needed to send a ship to the moon. Professor Riehm, realizing that the probability of discovering a rich ore of actinium was too remote to be relied on, decided that transmutation alone was the keynote to this baffling problem.

His first great work was to break down the ordinary platinum of commerce to iso-platinum 192! In other words, he made a variety of platinum with a specific gravity of 21.021! It consequently had a lower melting point, a lower specific heat, and higher atomic volume! For a full understanding of this, one must review the past of science, a wonderful stairway of facts and truths, leading to Truth enthroned.

Prout, back in the days of the dawn of science, formulated the theory that elements were aggregates of the hydrogen atom, and hence every atomic weight should come out exactly and without fractions, or very nearly even. His contemporaries, all able men, examined carefully the then existing list of elements, and although a surprising number came out very close to whole numbers, a good many were halfway between.

Stas, a German, then proceeded to redetermine the atomic weights and came to the conclusion that Prout





*Our universal-power flashlights lit up the interior of the globe suffused by a greenish glow from the reflection of things made of a certain metal. . . .*



was wrong, for no matter how carefully done, chlorine always came out 35.5, and several others, too, showed an uneven atomic weight, with full allowance for experimental error. This marked the doom of Prout's hypothesis, and he died in the belief that he had failed to reveal to the world a great truth, because of the bigoted beliefs, and inaccurate work of Stas. As it chanced, both were right. Stas had done his work admirably well, and yet Prout's Theory was not a mere dream. For early in this century, a series of brilliant spectroscopic experiments proved that many, in fact most, of the elements, were mixtures of bodies, chemically alike, but *EACH HAVING A WHOLE NUMBER ATOMIC WEIGHT!*

For instance, Aston, the investigator, found that tin was composed of no less than eight isotopes, whose atomic weights are as follow: 116, 117, 118, 119, 120, 121, 122, 124. Each of these iso-elements is chemically identical with all the others; but possessed each of varying specific gravities. It will be noticed that two of the isotopes are actually greater in atomic weight than antimony (121.77), the element following tin. No doubt one or two of the isotopes of antimony (they have not yet been investigated thoroughly) are identical in atomic weight with one or two of tin!

The average of all the isotopic weights of any one element, with due regard to their relative proportions, gives the present value for the atomic weight. For as yet (beyond a very limited number) we have not been able to separate the isotopes of many elements.

We shall now, after this short digression, be able better to understand Professor Riehm's remarkable experiment whereby he made iso-platinum 192. Let us read from his account of the transmutation:

"—it was found that platinum was composed of the following isotopes: 192, 194, 195, and 198. Isotope 192 has a 4He (helium) proton; 194, a 4He—2H (hydrogen) proton; 195, a 4He—3H proton; and 198, a 4He—2H proton. The problem now resolved itself into this: to remove by a sufficiently powerful agency the excess hydrogen protons of isos 194, 195, and 198, leaving isos 192 and 196.

Ordinary chemical reactions have no effect on the proton, of course, so some more powerful agency was needed. We tried radium with no effect, nor even radon, radium emanation, which is hard to isolate, and hard to handle, but extremely more radioactive. Finally we used actinium, no. 89, with success.—

Our apparatus was merely a thick-walled cylinder of lead, ½ meter long, whose ends tapered to points, with openings at each point—a large one at one end, and a small one at the other. In the large end was placed, in a built-in receptacle, the specimen of platinum to be altered. In the other end we suspended a milligram of actinium, quite a powerful agency. In making the preparations, my assistants and myself wore lead-lined suits, and helmets with goggles of lead glass. Actinium is much more powerful than radium, and a milligram is decidedly deadly to a man if he works with it for any length of time while unprotected from its penetrating gamma rays.

Using a cube of platinum at first, we had no success. We bathed it in different ether rays while the gamma rays from the actinium acted upon it. No results—powdered platinum was the solution, known as platinum black. After the hour was up, we removed the platinum

black, no physical change being apparent; but, to our great joy, upon weighing it, a loss of weight showed that we had increased the proportion of isotope 192 by about 25%. Subsequent trials with refined apparatus and more exact methods of procedure yielded specimens of almost pure iso-platinum 192 and 196, which are easily separated by the difference of their melting points.\*

The announcement to the scientific world of this astounding feat aroused long controversy and numerous conjectures. The International Science Group of Paris asked for a specimen of Professor Riehm's iso-platinum 192 and upon examining it carefully, announced to the world that the great German had indeed produced the isotope of platinum of atomic weight 192 exactly! It was the spring of 1971. Already, at this time, several scientists suggested that the Law of Definite Proportions be declared null and void, but the actual act did not go into force till 1975, when Delande made five different chlorides of tin of the same formula!

### Transmutation

WE will skip the intervening years from 1971 to 1974, during which time several isotopes of different elements were isolated in small quantities by various investigators, and return to Professor Riehm in his Boston laboratory. A big American firm had induced him to work solely for them for an enormous compensation. He moved from Berlin to Boston and continued his experiments in one of the best-equipped laboratories ever built. Here it was that he and his assistants broke down a series of elements and iso-elements, including zinc, which was broken down into the non-metal sulphur! The process was kept a secret and all we know even today is that some powerful radioactive body other than actinium was used with, however, practically the same apparatus as that for the making of iso-Pt 192.

The decomposing (or, more modernly, the isoprotizing) of zinc into sulphur was of more interest to the scientific world than to the industrial world for which he labored, but the big men behind knew that sooner or later would come their chance. Sometime Professor Riehm would discover a process that would enrich them immensely. That was why they lured him away from Berlin, where he had been working in the interests of pure science, and business men seldom make a mistake. It came in a mild way, when out of barium, Professor Riehm made silver! The raw products were barium chloride, a very cheap salt, and certain radio-elements, and the final product was silver in the form of ingots, with hydrogen chloride gas as a valuable by-product. The big firm immediately began turning out electrical instruments with silver replacing the copper for a conducting medium, and inside of five years, copper as an electrical conductor was unheard of, silver being far superior to it in more ways than one.

Had this been done back in the early part of the century, when some countries were on a silver standard and all countries used it for currency, there would have been a world panic. But in 1974, when money was all paper based on real estate, no ill effects resulted.

Professor Riehm spent the rest of his active days in perfecting various processes for the giant concern

\* Actinium itself produces no radiation of any kind, but it suffers continual inter-protonic rearrangement, constantly forming actinium A (isotope of polonium) which immediately breaks down into actinium B (isotope of lead) which gives off very powerful gamma rays.



which owned him. It is indeed sad that such a brilliant mind became enmeshed in the tentacles of big business. No one knows what he might have done, what great advancement the world might have known, if he had followed the guiding-star of pure science in his Berlin laboratory. However, there were others of brilliant mind to carry on the great work.

Four years later, in 1978, Dr. Svens sprang into prominence by building up platinum or *synthesizing it*, from lower elements!

Professor Riehm had done two outstanding things: he had made possible the isolation of isotopes (which is a partial transmutation) and three years later he made transmutation a reality rather than a hypothetical word by isotropizing zinc. Transmutation, as Professor Riehm had left it, could be done only in the *breaking-down* way, and then only if the atom split exactly in two. (As iso-zinc 64 into two of iso-sulphur 32). But Dr. Svens introduced to science the process of synthesizing elements. This produced a stir in scientific circles equal to that produced when Perkins synthesized mauve, the first aniline dye, back in the early days of science.

Dr. Svens' notes are written in too technical a style for clarity to the average reader. Suffice it to say that three atoms of iso-iron 56 plus one atom of iso-aluminum 27 in protonic union gives one atom of iso-platinum 195. There are exactly enough hydrogen and helium protons and free electrons to make normal platinum of atomic weight 195 but thirteen free electrons had to be transferred from the outer shells or orbits to the nucleus! This was the task which Dr. Svens had taken upon himself. Working upon this principle that three parts by atomic-measure of iso-iron 56 (purified by Professor Riehm's process) plus one part of iso-aluminum 27 would give one part of iso-platinum 195, he subjected the correct proportions of the lower metals to various radioactive radiations, with no success whatsoever. The metals were finely ground and carefully mixed; every radioactive material procurable was tried, and still constant failure resulted. It was not until a small amount of iso-Pt 195 was mixed with the raw products that success came. The yield was, however, poor; after dissolving out of the fused mass the unchanged iron and aluminum by boiling hydrochloric acid, a small amount of iso-Pt 195 was found, running to .01% of the total weight!

Small as the yield was, the materials were cheap and several great chemical concerns took over Dr. Svens' process and put synthetic platinum on the market at one-third the price of natural platinum. This was a great boon to the chemists, who found it thus easier to procure the much-needed platinum.

Dr. Svens, in his laboratory up in northern Sweden, next attempted the production of artificial actinium! He had heard about Professor Billings and his famous atomic-engine theory and his estimation of the amount of actinium needed to run it. Imbued with the grand purpose of conquering space and establishing communication with Mars, which he knew was inhabited by reason of the Period of Signaling a decade before, and perhaps other planets, he began that series of famous experiments which culminated in the production of Svenium, the Wonder-Metal of today, a radioactive body at least 1000 times more powerful than any natural material. He reached the grand goal which Professor Riehm had set before himself, but never attained

But, as it chanced, before Dr. Svens perfected his process, the First Martian landed on earth, up in northern Michigan, near the shores of Lake Superior. This landing occurred three months after the making of iso-Pt 195 in 1978, and just about the time that Svens began his work on synthetic actinium. Undismayed by the crashing of his hopes of first conquering space, he labored on and in 1981 he announced success—success beyond his dreams. He not only made actinium but also element 87, an alkali metal, and so radioactive that its period (i.e. half its life) is three minutes! He was not able to isolate it, but found that when alloyed with actinium, it became much longer lived and still capable of producing enormous energy-products. He made by dint of much labor a large supply of the alloy, which subsequently became known as Svenium, or more popularly, the Wonder Metal, and offered it to the Mars Klan, of which he was a member.

In a short time the ship built by the Mars Klan and propelled by the Wonder Metal rose into the air, and, leaving behind the shouts and mad acclaim of admiring thousands, sped to Mars, equipped with powerful engines and staunchly built to withstand space conditions.

It was somewhat surprising that after the landing of the *Pioneer*, or the First Martian, no Martian ships immediately followed. The next one to arrive here came a week after Dr. Svens' ship had left Earth. In fact, as it later proved, the Martian ship had left Mars on the same day our ship, the *Tellurian*, had left Earth; but the *Tellurian* made the journey in less time than did the Martian ship! Hence the first official spaceship from Earth arrived on Mars before her first official (the *Pioneer* was a lone flyer, whose departure from Mars was witnessed by only one person) ship reached earth. And then, the handicaps we had to overcome! The Martians had abundant supplies of radioactive bodies and needed but to invent the atomic-energy engine, while we had to make our actinium after long years of intense research, the fruit of perhaps 85 years of scientific advance.

The principle of the atomic engine was discovered on earth before the fuel to run it was found. On Mars the fuel was there for the taking.

### Martian Superiority

**I**F this account reaches the eyes of Martians and may seem to them rather boastful and impertinent, I give them this reason: I have written spaceship, this in answer to Markin Lavlo's book, "Martian Superiority." It is merely a gentle reminder that beyond the remarkable flight of the First Martian, we Tellurians can claim to be the pioneers of space.

It must not be thought that we of earth in any way minimize the great and historical space flight of the *Pioneer*. Far from it. We are as quick in our homage to his dead body and everlasting spirit in the museum at the spot of landing as his fellow-Martians themselves.

The foregoing has prepared the reader for the story of the arrival of Kastory Impan, the First Martian, or the *Pioneer*, whose name is held today in reverence by the peoples of two great worlds.

There are numerous other accounts of the arrival, but none have gone back into the past to show the connection between scientific research in transmutation and interplanetary flight; a point, I think, directly connected



to the first space flight and subsequent establishment of commercial relationship. It is true, that without the flight of Dr. Sven's ship, the Earth would still be as far ahead; the Martians would still have come, but that does not detract from the honor and glory forever associated with the names of Professor Wilhelm Riehm, the founder of the science of transmutation, and Dr. Jarl Svens, who developed it. I challenge Martia, the super-race of Mars, to bring up a scientist to compare with either of these two:

And I may add that quite by accident I came across the little sub-plot which goes with story of the arrival of the First Martian. I'm certain no one ever heard of Gregory Stewart before.

### The Arrival

UPON the gently-sloping greensward in the shadow of the forested First Bluff, one of the myriads of peaks of the Porcupine Mountain Range, just a few miles outside of the small town of Bessemer in the year of 1978, a group of holiday picnickers were startled from their merrymakings to see descending near them, with sickening speed, a dull, green-hued sphere. Appearing high in the air as a balloon, it rapidly increased in size, and when about a hundred feet above the ground, stopped, wobbled uncertainly, and then crashed to the ground with a metallic, crackling sound. After swaying back and forth slightly, it finally came to a dead rest. So startling was this incident that it deprived the merry-makers of all action. In attitudes of astonishment, they gazed speechless at the strange object, hardly knowing what to expect next. With excited exclamations, the impetuous youths of the group ran towards it.

"I'll bet it's another of those crazy planetary ships," yelled one excitedly. "They try 'em by the dozens nowadays."

"Or else it's a new perpetual-motion air glider."

"Or maybe it's a new raiding plane from the Chinese," chimed in a third, breathless from running.

"Well, whatever it is," came from a fourth, "the inventor, or whoever runs it, is sure gone!"

Upon the heels of the racing youths, each eager to be first, followed the elders and the children, all thoughts of their tasty lunch, lying on the sward, forgotten. Surrounding the globe upon their approach, they did not know what to make of it, for it was such a strange-looking object. One of the boys, in his curiosity, advanced close and touched its metallic side, but quickly withdrew his hand with a cry of pain and sucked his scorched fingers. Being in diameter about ten feet, it looked like nothing more than a huge glass ball, tinted with a light green; of smooth, unseamed surface. No opening of any kind could be discerned in the area of the sphere's surface, except that the bottom side, on which it had landed, seemed to have been crushed and the jagged edge buried in the earth. No sound could be heard from the interior of the globe, and the excited picknickers chattered volubly, conjecturing and gesticulating, trying to make something out of the puzzle.

One of the older men voiced the opinion that it seemed to have been cast as a whole; and that seemed an impossibility to him.

"Why, look?" he cried, "if it's some sort of an airship, how could the driver get into it? I've just walked all around it and I can't see a door!"

"It must be on the underside," his companion, a younger man, replied. "Just our luck, too, or we could have entered and seen what's what. If there's anybody in there, and there surely must be, unless it's radio controlled, he'll die—if he isn't already dead."

"Here, Louie," he called to a boy, "run to the highway and see if you can find a motorcopper." He turned to the other man. "I guess that's all we can do till he comes, Mr. Boldt."

"It occurs to me," said Mr. Boldt to the other, whose name was Ramson, "that that metal doesn't look like metal! It looks more like glass! Of course, it can't be that, or it would be smashed to bits!"

"It landed with enough force to snap steel," said Ramson, "but this stuff seems to be intact, except where it struck the earth." He bent down and looked closely at the smashed portion of the huge globe. "In fact, the only place it did smash is where it landed on a large rock, which you can just see there," he pointed. "Over on the other side, it merely depressed the ground."

A third man joined them. "There is a door to the thing," he cried. "Come on; I'll show you." He led the way to the other side. "There, right above our heads, you can see the crack which separates it from the wall. It's flush with the surface and looks like a perfect fitting."

It was, indeed, the door, about four feet long and two feet wide, and indistinguishable, except for the fine cracks separating it from the main wall of the globe. It was evident that the sole means of opening it was from the inside—inside, where perhaps someone lay hurt or dead. It was the usual thing for unsuccessful rockets and spaceships to either smash to pieces on returning, or to land so lightly that the occupant, or occupants, escaped unscathed, and stepped smiling out of their temporarily-disabled ship.

At that moment a man came hurrying up, easily recognized as a farmer by the spotless white suit and wide-brimmed straw hat. He arrived, breathless.

"What in Heaven's name has happened here? What—whose?—why, hello, Mr. Ramson, I thought you'd be here," the farmer said as he spied his friend, "Did you bring this along?"

"Lord, no, Mr. Chaws, I had enough to do carrying lunch! It landed just as we were eating, too. I can't make it out. I figure it's some fellow's invention on its maiden voyage, and it was evidently built for space flight. My friends here——" he proceeded to introduce them.

Mr. Chaws was introduced as manager of Section D of the well-known Brinkley Farm, whose products always sold well in big-city markets. In extent about 500,000 acres, its various sections were scattered on both sides of the Porcupine Range. Section D bordered the other side of the woods near which the picnickers had started to eat lunch, and specialized in dairying more than grains. Mr. Chaws himself was one of the regular college-bred, scientific farmers, who are trained in our large agricultural institutes.

"I was just stepping out of the milking-room of Barn 3," began Mr. Chaws, all introductions over, "when, raising my eyes for some reason, I saw this—ship—as a rather large ball high in the air. Its peculiar color and apparent speed of descent made me watch it curiously as it drew nearer. It rapidly increased in size and at first I thought it was going to land near me, but instead,



it disappeared from my sight as it fell behind First Bluff. Determined to find out what it was, I jumped into my Cremsen and motored over here as fast as I could, through the woods. I parked the car over on the road. I fully expected to see a mass of broken metal here, instead of this——"

"Well, you see," broke in Mr. Boldt, "whoever runs the machine, succeeded in halting it about a hundred feet above ground, and then lost control again."

"It's all heated up," ejaculated Mr. Ramson, "at least on the outside. Even if the fall didn't kill the pilot of this—ship—then the heat will—or has."

"Isn't there some way of opening it and getting the fellow out!" asked Mr. Chaws.

"Doesn't seem to be," exclaimed Mr. Ramson, "Look, here's the door," and he pointed with meaning at the only evident means of egress and entrance.

"Hm—no chance there," spoke Mr. Chaws. "About all we can do is send for a motorcopper and let him worry."

"I've done that already," cried Mr. Ramson. "If there was one on the highway when the boy got there, he ought to be here now. But they're never where they're needed most." All the men smiled, for at that time the motorcoppers had very indefinite schedules, as compared with the present strict system.

"Of all the places to land, this is the worst," commented Mr. Chaws. "Three miles from a town, ten miles from the nearest airport, and confound it all—I think it's going to take a hydrotorch to open that thing!"

"When it cools enough to work near it," added Mr. Boldt significantly. In fact, all the people kept at a comfortable distance from the huge globe, which radiated quite an amount of heat.

"I pity the poor fellow in there if he's still alive. It's as bad as a miner, twenty feet from safety, pinned down by a rock across his leg," spoke Mr. Chaws quietly. "If we could only get a hose connected up and sprinkle it with water."

"To get his machine so heated up by atmospheric friction, he must have been speeding at a good fast clip, or perhaps he's been falling from away up," exclaimed Mr. Boldt.

"When that rocket-ship those three engineers navigated last year to 97 miles up came back as a freely-falling body, the remains of the ship were hardly as hot as this is. This fellow must have come from a good deal higher—and faster," said Mr. Ramson. "Only it would not get hot in empty space."

From the roadway that led through the woods appeared the figure of a motorcopper, resplendent in his blue uniform and leather leggings. He strode up, looking curiously at the globular, green-hued ship, unaware of the connection his name would have in the future with one of the most important events in earthly and Martian history.

Stopping a few yards away, he looked sharply at the object and whistled softly.

"Looks like the real thing," he said in a loud voice, "but why didn't it get there?" and he pointed to the moon. Every space-adventurer or group of them announced their destination as the moon to the admiring crowds before the take-off, and "reaching the moon" was a standing joke and likewise a proverb in those days.

"My name's Steelstrong," he exclaimed as he turned to Mr. Chaws and the others. "What's it all about?"

All the former picknickers had clustered together and one and all looked at Mr. Chaws as if appointing him speaker. In terse sentences Mr. Chaws told his part of the story. Mr. Ramson continued and emphasized the fact that it would take a hydrotorch to open the mysterious object and get in to rescue the pilot of the ship.

"Where's the door?" asked Mr. Steelstrong. It was pointed out to him and surveying it carefully, he turned to Mr. Ramson. "You're right. It's a space-built ship and the door is an air-tight affair. I wonder what kind of engine he could possibly have to lift a spherical ship off the ground—it doesn't look like a rocket-ship——"

"Hardly that. Maybe this fellow has perfected some sort of gravity-screen or nullifier," exclaimed Mr. Boldt.

"If so, he's done something that scientists have striven to do for a long time," said Mr. Chaws.

Mr. Ramson had been all the while examining the juncture of the ship and the ground. He straightened up. "I think it is a rocket-ship after all. Look—see that flange almost buried in the earth? I believe that's part of the circumference of his rocket-discharge tube."

"Quite possible," answered the motorcop. "But the shape of the craft is hardly that of a rocket-ship. They are usually elongated, with the discharge tube at one end. Of course, the shape of a rocket-ship does not matter in the least out in mid-space, as long as it has a weighted side."

Possessed of all details, the motorcop pulled out of his pocket the tiny, but efficient radio-transmitter, such as is in common use today, at that time used mainly by officials, policemen, motorcops and the like. In a few moments the little instrument, powered by universal-energy, made connections and the attendant at headquarters answered.

Mr. Steelstrong reported in a casual voice, little realizing how his words would be read by millions of eager people later——" There is a strange, metallic, glassy-like spherical ship or machine, piloted by some unknown person, which landed three miles northeast of Bessemer, some ways off the Bristow Highway, near First Bluff. It landed 16:10 (on the date so well remembered by the peoples of two worlds) according to some twenty eyewitnesses. No means are at hand to enter the ship to rescue the pilot, for not only is it too hot to approach, but the only door is locked from the inside, to all appearances. I advise sending a public-utilities crew over immediately with a hydrotorch to cut an entrance."

The motorcop snapped off the handy little transmitter and engaged in a calm talk with Mr. Chaws, Mr. Ramson, and Mr. Boldt, although all knew there might be a badly-bruised, possibly suffocating, perhaps dead person in the green, glass-like sphere, strangely out-of-place where it rested on the brown earth. And while the public-utilities crew is speeding with all possible haste in a universal power car to the scene of the landing of the *Pioneer*, all unconscious of their part in the making of history, let us turn our attention to a person intimately connected with all this and yet about whom very little is known.

### Signaling from Mars

AS early as 1960, people had reported strange, intelligent-sounding signals coming through on the carrier-waves of distant stations, especially on wave-lengths of around 10,000 meters. The signaling gradually be-



came more persistent and the public began complaining of the increasing disturbance, comparable to the one-time dreaded static. The government, slow to act as usual, did nothing about it until there was nothing left to do. It was voiced about gradually that some fanatic, with a grudge against the whole world, was bent on spoiling radio entertainment, the greatest means of uniting and educating people there was, and still is. Television remained undisturbed, but it was provoking, when listening to some foreign station on a high wave, to have an intermittent dot-dashing break in as a background to the singing and talking.

Considerable excitement was created when a world-renowned amateur, in experimenting with new hook-ups, devised one capable of receiving waves of as long as 20,000 meters, double the longest in common use. He reported the bothersome signals as very strong at 20,000 meters and said he planned to trace the waves to their source and possibly lead to the capture of the fiend who was creating them. As an outcome of this, a number of radio-experts got together for "the common good of all and for the sake of radio-science," and adopting the principle of the great amateur's circuit, built an efficient receiver capable of close to 30,000 meters' reception!

At first trial the set proved a success for the purpose for which it had been built. The signaling came in loud and distinct, and was found to be simply: dash—double dash—triple dash—etc. up to ten; then combinations such as: dot dash—dot dash dot—dot dash dash dot—etc.; and again: dot dash—double dot double dash—triple dot triple dash—etc. After a long series of such signaling, there would be a short pause and then the whole thing over again:

Really puzzled, the group of amateurs prepared a direction-finder attachment in the attempt to locate the diabolical fiend who tampered with the ether-rights of citizens of the world. The results of this showed the signals to be moving! actually moving! curiously, at a rate of speed equal to the earth's rotation! At times, the waves came from China, straight through the earth (the group had headquarters near New York City) and at other times, from straight above, as if reflected from the Heaviside Layer!

No progress was made till an enterprising young astronomer, of the group of experimenters, conceived the idea of listening to the signals and observing Mars in a telescope at the same time. He, his name lies shamefully in obscurity today, discovered the explanation of the periodic flashes on Mars: for the signals and the flashes corresponded down to the smallest detailed dot!

It was announced to the world that the Martians (for who or what else could it be?) were attempting to communicate with the earth by means of a powerful directional radio-wave and large, visible flashes. Today we know these flashing lights (which must have been enormous in area) to have been produced by a complicated apparatus whose vitals were radioactive substances, which Mars is singularly blessed with in immense quantities. The period of Signaling lasted, with several breaks, till 1967, or seven long years—a strong indication of the well-known Martian persistency!

Various theories sprang up back in 1960, regarding the purpose of the signaling. Some claimed the Martians merely wanted to let us know they were living, having found out somehow (or had they?) that the Earth was inhabited by rational beings. There was no doubt that

the Earth was the object of their signaling, for assuming that the wave was a directional one, and it is the only possible conception, considering the enormous distance we know the waves to have followed the Earth in its movements.

The theory gradually gained ground that the signaling was a warning from the Martians that they were about to launch ships to the earth. In fact, said some, it might be taken as declaration of war! When the *Pioneer* landed in 1978, eleven years after the signaling so suddenly stopped, many people said its coming was the message conveyed by the Martian Signals, but we know today, the two events had no connection. The Martians, having means at hand, were imbued with the idea of making a simple gesture at interspace communication, one-sided though it be. One thing is certain; it had a most important effect on the affairs of this world.

### Space Flying Period

THE one great result of the Martian Signaling was to start an era of planetary ship-building, which gradually died away to normal in 1975. The people of the world seemed to become electrified by the startling news that rational beings, who understood radio and optics, lived on another and similar world some few million miles away! Minds, before dormant, were dragged out of the rut of the commonplace, and geniuses were born and died in the space of a week. Mars, Martians, interspace communication, light minutes, light seconds, acceleration, initial speed, super-steel, such expressions were on every one's tongue. Young inventors, old, hair-brained fanatics, unproved Lindberghs, self-appointed areonauts, and pseudo-engineers began designing and trying out spaceships, space-flyers, rocket ships, speed bullets, ether planes, anti-gravity screens, and what not else, in the attempt to be first to tell the Martians how glad we were to acknowledge them our neighbors! Almost daily, martyrs left the earth in imposing ships, having promised to send greetings from wife and child, neighbors and friends to the first Martians he saw. On an average of once a week, some inventor or pioneer came to a sudden death in his self-built ship, or soared into space never to return, never to arrive anywhere, victims of misbegotten ideas. The more rational people had no check on the enthusiastic ones who left all and everything to carry earthly tidings to distant Mars. Professor Billings' theory, that space-travel was only possible in an atomic-energy engine with more actinium than the world had, was totally disregarded by these fanatics and opinionated ones.

This country held its breath when a former-famed engineer embarked in a truly imposing rocket ship and soared grandly into space one summer's day. It took him a minute and a half to go 500 miles up and a minute and a half, or perhaps longer, to go back, and they couldn't even find his body down in the bottom of the big pit which marked the landing of the ship, loaded with several tons of "markite," a new and powerful explosive.

But youth is impetuous and his spectacular flight served rather to stimulate than check the mad tide of would-be space flyers, ambassadors to Mars.

In the meantime, Dr. Svens and others worked quietly ahead to the goal in sight, the synthetic production of actinium, so greatly needed for the atomic engine—and so rare. Their success in transmuting lower ele-



ments into a higher one, platinum, came about three years after the sudden decline in activity in space-flying attempts. Calmly assured that the production of synthetic actinium was but a matter of development, he forged ahead, determined to do in a scientific way what so many foolish people had attempted in other ways. The coming of the First Martian was a blow, but he accepted it philosophically, and perhaps realized that the success of the *Pioneer* was due more to chance than to Martian science.

An era of "wildcat speculation," far transcending that of the Civil War Period, set in and the gullible public bought worthless stock from convincing and voluble professional sharks, for Martian-Earthian Freight Lines, Inter-Space Express Co.'s, and Planetary Service Lines, etc.

To enhance their sales, certain combines of the sharks put up signs and billboards:

"This marks the spot where the great Martian Space Port will be built. Reliable backing. Buy stock now and realize millions before a year's time," and accompanying it, would be a vivid, florid picture of a gigantic space-ship, or perhaps a grotesque Martian, beckoning and urging.

But even as in former times, reliable companies sprang up to really promote the project. The common populace had a fling, and when they had spent themselves, science stepped in.

A scientific convention met at Moscow in 1976 and formed a body, which was pledged:

"To establish inter-space travel and communication between our inhabited neighbor, Mars, and the Earth, for the betterment of science and the good of the public."

The body became a strictly scientific organization, and the charter members, after drawing up a series of regulations, which included very strenuous requirements for membership, opened their doors to all who were interested, who could satisfactorily prove their worth. In time, the organization became known as the Mars Klan and absorbed a number of efficient engineers and mechanics, astronomers, and, in fact, recruits from every branch of science. But it is doubtful if the Klan would have made good, if it hadn't gathered into its folds Dr. Svens, the one person responsible for the success of their plans.

Work was begun in earnest the following year. Dr. Svens promised to produce actinium within a decade; the engineers worked together on the construction of the *Tellurian*, which, after making six flights to Mars and back, was placed in the Moscow Museum, where it rests today, viewed daily by thousands. It embodied, of course, the original plans as made by Professor Billings back in 1945, altered as modern discoveries made necessary, and was fully constructed almost a year before Dr. Svens perfected his synthetic actinium process in 1981. The laboratory constructed by the Mars Klan was rated as the best in the world at the time. The astronomers also had their part to do: to dig up and record some 350 years of painstaking data on Mars and all features of Mars, and also to study with renewed intensity the planet through telescopes. All in all, much valuable experimental work was done before the actual accomplishment of their aims, and a great deal of by-product results was filed away for future use. And in the midst of all this, like a prophesy, came the arrival of Kastory Impan, The First Martian:

### Gregory Stewart

WHEN the motorcop spoke into his little short wave transmitter to report to headquarters of the landing of a strange, green-hued sphere, he did not know the furore he caused in the mind of a certain man seated at the dials of his short-wave set. It had been more or less of a puzzle to the motorcop and the crew who came at his call, why, almost immediately after their arrival, the heads of the Ironwood Laboratory, branch 28 of the Federal Laboratory, also came up in a universal-power car. The scientists spoke of a mysterious call from someone who in a voice of anguish told them a Martian, the First Martian, had arrived on earth at First Bluff near Bessemer, begging them to hurry, because he was probably badly hurt. The writer of this article succeeded in piecing together the scattered facts after considerable trouble and revealing the little drama behind the arrival of the *Pioneer*.

A middle-aged, quiet, and quite well-to-do eccentric had bought a small brick house just on the northern edge of Bessemer and therein had established a small experimental radio laboratory. Small, insignificant, and unobtrusive, people had, after the usual run of gossip, almost completely forgotten him. In fact, that made it doubly hard to secure the necessary information about his activities, as no one knew of them. He simply had no friends.

He had listened steadily and eagerly to the Martian Signals at the time of their occurrence and had, for the purpose, built himself a long-wave set copied from the invention of the famous amateur who made possible radio reception from Mars. After the Martians had so suddenly ceased broadcasting in 1967, this experimenter, Gregory Stewart, put the useless set aside and turned back to his old field, short-wave experimenting. In 1970 he left for Europe, apparently to satisfy a "wanderlust." From then he traveled to different regions of the globe, erratically skipping from city to city and place to place. His "wanderlust" satisfied, he returned to the laboratory in Bessemer and began work on an incomplete report, which the writer has procured, on the effects of the Heaviside Layer on radio waves. It is possible, almost certain, that completion of this work would have made broadcasting to Mars an accomplished thing, before the adoption of Martian long-wave methods. It is safe to identify the reception of strange signals on Mars from time to time after 1972 with the efforts of this obscure man, whose apparatus, however, was found completely demolished. It is surmised the Martian signaling had imbued him with the desire to retaliate.

But night after night, as he glanced now and then at the old high wave set, an irresistible impulse grew within him, a hunch, more or less, that the Martians would some time recommence signaling, perhaps in answer to his efforts to reach them. At last, almost driven to distraction by haunting thoughts of missing it when it came (this is gleaned from his incomplete and erratic diary) he devised a scheme whereby, should the Martians re-establish broadcasting to earth on the old wave length, about 30,000 meters, he would be notified by the flashing of a small light in an open circuit. He had revised a crystal set and along with the high-wave design, had inserted a very sensitive heat-indicator, and connected it to the break in the light circuit. If, at any time, the signals from Mars came again, the crystal, sensitized to it by



the high-wave design, would send a minutely weak, and absolutely unhearable impulse through a coil surrounding the heat indicator. This heat indicator was the heart of the whole scheme. Several years back, an investigator had perfected a thermo-electric globe, made of a secret metal, which in response to the slightest amount of radio-heat (i. e. the border line waves between heat and radio) waves would close an electric circuit. The coil surrounding it produced this necessary radio-heat impulse when the signals came and as a result, the circuit would be closed, lighting the small lamp, and the observer would be appraised of the signaling. He would then simply have to connect up his big set and tune in. Several times the light had momentarily flashed, but at no time had there been a permanent and lasting broadcast; probably some accidental effect of earthly experimenters.

But one night it happened. In a trice the man, awaiting just this occurrence, had hooked up the big set, although his hands trembled so, he dropped the ear-phones twice. His astonishment may be imagined when he heard, instead of signals, a *voice!* True, a strange and muffled voice, but nevertheless they were articulations of a rational being. It is possible that the man ecstatically drank in the triumph of first hearing of all living and of all dead peoples the voice of a Martian. In breathless suspense, we may imagine him, listening spellbound to a language he could not in the least understand, momentarily disconnected with things material, and experiencing a sublime emotion, that of being *first* to do something!

His diary is especially illuminating at this point: "voice that soothes and lulls, at least to me. Curiously rapid, and unhesitatingly, as if it took little effort to formulate. Few harsh sounds and many graduated vowel combinations came. I am the first human to hear the voice of a being not of the earth! Glorious triumph! I am now amply rewarded for my recluse life. And it took no physical prowess. God, how I hate the thought — Despised and scorned, health undermined — But this is ample reward. I could ask no more. Am I to become famous? Nothing I desire more—or less. I'll meet him face to face—"

I may add that he struck the right expression when he said: "Rapid and unhesitating as if it took little effort to formulate." That is the outstanding characteristic of the spoken Martian language.

In the days following, he listened to what were evidently long talks or reports, to which he could not hear the answers, for which the speaker stopped at times. As he listened, night after night, and the voice grew louder and louder, it gradually dawned upon him that the Martian was somehow in motion and gradually nearing the earth!

In a daze, the man sat almost continuously by the receiver till a report would be ended, then most likely he worked on his great work; in the pauses between the messages. As soon as the light flashed, however, he was back at the set and indulging again in the "soothing and lulling" modulations of the Pioneer. It never occurred to him or perhaps he didn't want to do that, to notify the scientists at the Ironwood Public-Service Laboratory, but it did occur to him to speak to the Martian. He hooked up the set of his invention and switched on the current. No one knows what he said but probably they were impassioned words of cheer and

welcome, and the effect on the Martian, again from the diary, is given here:

"His voice became eager, his words more rapid; and although we had no way of understanding each other, I verily believe something in common in our thoughts gave him hope and comfort and me——! Later, when he spoke again, to whomever on Mars was in contact with him, I could almost follow his eager explanations about me——"

This, the writer thinks, explains the comparatively slight excitement, when the Martians asked, who had attempted to communicate with the Martian, Kastory Impan, during his flight to earth. No one had accomplished such an inconceivable thing as far as anyone knew, the Martians were assured, but they maintained, with their usual persistency, that someone on our earth had spoken to him while he was yet in mid-space and from then till his fatal landing.

Affairs came to a climax. Some fate, some working of destiny, pointed the ship of the First Martian in his epochal-making flight to the town of Bessemer near the shores of Lake Superior and very near to the home of the eccentric radio-enthusiast.

The signals had become extraordinarily loud and the man basked in delightful thoughts of meeting him. He sat by his set that memorable afternoon of August, 1978, and heard the voice of the Martian becoming excited! Suddenly his words ceased! There was a long and deathly silence, in which the only man cognizant of the Martian's arrivau "was gripped in a mighty and terrible dread. My very heart stopped beating as I hoped and prayed for the Martian." Then came a grinding sound, a fearful scream, a dull crash, and then—dead silence!

We have no record of Gregory Stewart's immediate reactions to what he knew probably meant death to the First Martian. Perhaps he fainted. Anyway, the call, his call, to the Ironwood Laboratory came a full hour after the landing. The words of the unknown man who apprized the scientists of the arrival are indelibly printed in the mind of the operator at the set in the laboratory, who heard in a tense, almost unearthly, strained voiced the following:

"In God's name, hurry over to First Bluff near Bessemer where a Martian has just landed and is probably—badly—hurt!"

It is easily seen that Gregory Stewart had heard the report of the motorcop in his low-wave set and so knew that fate had landed the Martian very near to the only human who knew of his coming!

Thus it was that when the scientists and utilities crew arrived and carried out the body of Kastory Impan, The Pioneer, The First Martian, there was a small dark man, a glazed look in his weary eyes, who hovered in the background and looked intently at the distorted face of the Martian.

### Kastory Impan

THE door was cut out, as was the only possible way, with a hydrotorch, and the piece was lifted away. The head of the utilities crew stepped into the globe. He came out with an expression of bewilderment, and turning to the group of five scientists who had sped over to investigate the truth of the mysterious call, said he believed they were the ones to enter and bring out the person inside.



Let us read the abridged report of this group of men who were first to look upon the face of the First Martian:

"Our universal-power flashlights lit up the interior of the globe suffused by a greenish glow from the reflection of things made of a certain metal (an alloy known later as Martinium). The first object to engage our attention was the body of the First Martian to arrive on this earth. Perhaps four feet long, with massive chest and spindly legs, the Pioneer lay stretched out, on his thin and wasted face a most frantic look of despair and fear. His fingers were clutched together and his legs terribly twisted. A general angular look about the body suggested that all his bones were broken. Carefully we laid aside the yielding broken body and proceeded to examine the interior of the ship. The interior walls were covered by a netting of fine wire, whose purpose was to provide heat, obtained from electrical energy from a radioactive battery. Among the articles in the ship was a heavy, metal box, securely attached to the floor-wall, which housed the atomic-energy engine; another, similar-appearing box nearby was ajar and inside were jars of a peculiar, practically unbreakable glass, some of them containing crust-like substances and others water, an oily liquid and miscellaneous articles. Fastened securely to the walls all around were various instruments of delicate and fine make easily recognized as thermometer, clock, telescope, sextant-like affair, an acceleration and speed recorder, altimeter, and several seemingly purposeless instruments. All seemed to have survived the shock of the impact quite well.

"Near the body was an apparent radio-set, mangled beyond readjustment and about the only object in the ship in that condition. It was connected by a thin wire to a metallic rod supported on a wooden base, which evidently was the aerial. We also observed a television attachment and the reflecting mirror fastened to the wall. In the space between the outer and inner wall was the compressed air tank which supplied the pilot with pure air, and an outlet with an ingenious valve for eliminating used air. In six different places, equidistant from each other, were shutter-like arrangements. Raising one of them we looked right through the outer wall into the woods around First Bluff! Truly, a marvelous metal of which the ship was built!

"The body lay half across the radio-set as we found it. Our inspection done, the body was reverently carried outside to the eager people and the ship was closed up and guarded till taken away the next day."

The body of Kastory Impan lies in state, in contrast to the look of anguish on his face, in the Bessemer Museum, and is a shrine at which thousands daily worship—and pray.

The Martians, we learned later, knew absolutely nothing about the flight of the *Pioneer*. He and his friend had built the ship, devised the engine (the crude forerunner of the atomic-engine) and fitted it for space-flight. Constant communication was kept up between the two during all the flight, and the full story of particulars was published by the Martian who stayed behind. It is therein stated that the reason for his failure to land successfully was due to the crudeness and incompleteness of the engine. For fuel, the Martian had used gold, a fairly common metal on Mars, which yields a high percentage of hydrogen volume when broken up by actinium. The ship had landed squarely on its rocket-tube

discharge (which they had built almost flush with the outer shell). Around the discharge tube had been placed the weighting material, gold, to keep the tube always pointing to the planet above which the ship hovered. It is suggested that the Martian and his companion had not made enough allowance for the earth's superior gravity and hence had not enough discharge-force to land the ship gently.

### Two Worlds

"SECOND Martian Ship Arrived!" read the startling headlines of newspapers. September 21, 1981. What had happened to Dr. Svens', to our ship? the *Tellurian*? Had they passed each other on the way? Had the *Tellurian* been disabled or lost or smashed into infinity? The turmoil reached proportions almost transcending the Space-Ship Period, when everyone had become inspired with the desire to reach Mars.

The ten Martians who came as official pioneers to earth, knew nothing of our ship. They started, in fact, on exactly the same day the *Tellurian* left earth! If the dead body of the Pioneer, Kastory Impan, had been ogle-eyed and stared at by millions, imagine the center of attraction ten live, moving, and talking Martians must have been! Their ship had arrived in Europia, in the former country of Belgium, near Antwerp. The International Science Group of Paris immediately traveled thither *en masse* and accorded the Martians welcome. I will not detail the activities of the Martians and our scientists but suffice it that the visit lasted a full six months, in which time, by using joint telepathy and simple teaching methods, the Martians were taught English, which was the universal language on Earth.

In the meantime, the *Tellurian* came back from Mars, and the success of their voyage caused every world citizen to expand his chest and look mightily pleased. The two ships were a strange contrast side by side: the large, green-hued globular ship from Mars, made of Martinium, and the smaller, elongated, bright silver earth-ship. Both had the identical type of engine, but each was run by different fuels. The Martians were run by large amounts of actinium and gold, while ours was run by small amounts of the Wonder Metal and lead.

After the two successful flights in 1981, space travel became but a matter of development and enterprise. The Martians soon brought us their science, in many ways superior to ours, their television, which was superior to ours, their persistence, and lastly, Martinium, able to resist heat and cold to all extremes. The Earth returned with her imbeciles and invalids, headed for the mountains of Mars, the best sanitariums of the two worlds. As trade became established, vast stores of radioactive minerals, gold, lead and tin, were exported to earth, the last two vying on the market with synthetic lead and tin, successfully developed by Professor Riehm, famous for all times as the originator of transmutation. In turn, the Martians imported sodium salts, of which they suffered an extreme rarity, sulphur, and iron. At first, considerable numbers of the space freight-ships were lost, some with valuable consignments, due to insufficient fuel or lack of practical data on space travel, but today, losses are down to a bare minimum. And the brains of the two worlds have worked in unison to solve baffling problems. Only once has trouble loomed on the horizon of our friendly relationship.



In closing, let us read a clipping from a newspaper dated August 3, 1978.

"Today, a small, dark man, Gregory Stewart, known to the people of Bessemer as a radio-amateur, and having a laboratory there, startled the people in Setter's Park by rushing straight to the waters of the lagoon. He shouted as he ran: "Ah! God! I hear it again!

He screams, oh!—he screams! He's lost!" and holding his hands to his ears, he plunged to his death in the pond. Although he was pulled out quickly, he could not be revived.

This little article was hidden in the middle of the newspaper. Yet almost all the rest of it dealt with the arrival of the *FIRST MARTIAN*.

THE END

## Space Rocket Murders

By Edmond Hamilton

(Continued from page 601)

they took. For let us suppose that when the Venerians first visited earth two hundred years ago, they had made themselves known to the people of earth and had helped them build space-ships like their own. Suppose they had done that fifty years ago—five years ago. What would have been the result?

Would there not have been space-ships sailing from earth to Venus soon, crowded with the curious, the self-seeking, the restless? And when they reached Venus, if they found there anything considered of value by men, gold, precious stones, valuable minerals, who can doubt but that soon more and more ships would have been sailing Venus-ward, that the Venerians' natural resources would have been ruthlessly exploited, and that when the Venerians resisted, they would have been fought and in time wiped out just as here in our own world the Tasmanians and the Red Indians and a score of other lower races were annihilated?

No, much as we may dislike to admit it, we must confess that the Venerians acted for their own best interests when they deliberately planted spies on earth to retard and prevent entirely, if possible, the development of space-travel by men. And, from their point of view, the few deaths their course occasioned here on earth would be well justified by the prevention of the disastrous consequences if man ever did reach Venus.

But this lies in the past. We know now that the Venerians exist and that they have developed a method of space-sailing. We are aware even of the fact that their numbers are less than ours, though their science is farther advanced. Their two hundred years of watch on us, through their spies on earth, has been disclosed to us.

Parenthetically, there is small chance, to my mind, that the Venerians will attempt to resume this watch on us. I doubt if they will ever again seek to maintain spies on earth, not only because, since they have been once discovered, their work would be almost impossible, but also because the object of their watch is gone, now that we know all these things and are fully aware that Venus is a habitable and inhabited world.

No, this first secret phase in the relations of Venus and Earth, the one planet's race being entirely unaware of the other's existence, is gone forever. The great question now is, what are the two worlds' relations to be in the future?

It is evident, that if the Venerians have developed

space-ships, we also can do so, though perhaps much time must elapse first. But as the scientific knowledge and power of man marches steadily onward, the day must surely come when man, too, will take to space and sail to other worlds. When he sails to Venus, will it be as an invader or a friend?

The Venerians, no doubt, believe that he will come combatively, and probably from now on will be busily preparing weapons with which to resist the hordes of earth that will someday drop out of the sky. Many there will be on earth, too, who will want to see man go as a conqueror, who will vision an empire of humans extending from end to end of the solar system, from Mercury to Pluto.

It may be that their visions will be fulfilled and that the Venerians will go down under a human invasion after long resistance, and their little islands will be peopled by human colonists. It may be that less-developed races on other planets will be exterminated also to the greater glory of humanity. Certainly there will be many in that future day who would thrill to the trumpet-call challenge to bring every planet in our system under the domination of man.

But there is a chance, also, that when man does visit Venus and the other worlds, it will not be as a conqueror but as a friend. There is a chance that by that time man will have outgrown his barbaric war-fever that still racks earth and will have seen it for the childish thing it is, unworthy of a mature race. And that chance increases each day, for each day sees us a little farther, a tiny little, away from the glory in war for war's sake, that formerly was ours.

So the fears of the Venerians may prove vain after all. So the future may bring, not a cruel autocracy of man in the solar system, but a friendly, peaceful association of the solar system's living worlds, with humans, Venerians and whatever other races the system may prove to hold, engaged in trade and travel from world to world.

May this prove indeed to be what the future holds! Our solar system, that seems now so vast to us, is in reality but a little, heated, lighted shelter in the cold black immensities of space.

May we different ones who inhabit it refrain always from fighting each other, and dwell in it in enduring peace.

THE END