

AMATEUR SCIENCE STORIES

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FOREWORD.

With this issue, the third of the first three experimental issues, the publication of AMATEUR SCIENCE STORIES must, we regret, come to an end. The experiment has been an interesting one of all concerned. Tyro-authors have had an opportunity of seeing their cherished work published, and readers have been able to enjoy well-written stories which, for some reason or other, were not quite suitable for the professional magazines.

The chief reason for its discontinuance is that we have not a sufficient supply of material. The seven stories in the three issues were all written by three people. This was largely due to the high standard upon which we have insisted, which scared off many amateur authors, and which secured the rejection of much of the material that was submitted. But AMATEUR SCIENCE STORIES has served its purpose by encouraging those who did crash its pages, and we are pleased to record that William F. Temple who, as "Temple Williams" wrote "Mr. Craddock's Life-Line" for our first issue, has had one of his stories published in the current issue of TALES OF WONDER.

If, in the future, amateur authors again awake to life, the magazine will be resurrected. Meanwhile, we invite all amateur authors to continue to submit their stories, and should any of them be of sufficient merit, they will be published in the forthcoming printed issues of TOMORROW.

It remains only for us to extend our sincerest thanks to those who have supported the magazine during its brief existence, whether by writing, subscribing, selecting or publishing, and to remind everyone that there is now a much better, regular, British science-fiction magazine - TALES OF WONDER.

by

Arthur C. Clarke.

(N.B. All characters in this story are entirely fictitious and only exist in the Author's subconscious. Psych-analysts please apply at the Tradesmen's Entrance.)

It is with considerable trepidation that I now take up my pen to describe the incredible adventures that befel the members of the Snoring-in-the-Hay Rocket Society in the Winter of 1952. Although we would have preferred posterity to be our judge, the members of the society of which I am proud to be President, Secretary and Treasurer, feel that we cannot leave unanswered the accusations - nay, calumnies - made by envious rivals as to our integrity, sobriety and even sanity.

In this connection I would like to take the opportunity of dealing with the fantastic statements regarding our achievements made in the "Daily Drool" by Prof. Swivel and in the "Weekly Washout" by Dr. Sprocket, but unfortunately space does not permit. In any case, I sincerely hope that no intelligent reader was deceived by these persons' vapourings.

No doubt most of you will recollect the tremendous awakening of public interest in the science of rocketry caused by the celebrated case in 1941 of "Rex v. British Rocket Society", and its still more celebrated sequel, "British Rocket Society v. Rex." The first case, which was started when a five ton rocket descended in the Houses of Parliament upon Admiral Sir Horatio Froth-frenzy, M.P., K.C.B., H.P., D.T., after a most successful stratosphere flight, may be said to have resulted in a draw, thanks to the efforts of Sir Hatrick Pastings, K.C., whom the B.R.S. had managed to brief as a result of their success in selling lunar real estate at exorbitant prices. The appeal brought by the B.R.S. against the restrictions of the 1940 (Rocket Propulsion) Act was an undoubted victory for the society, as the explosion in court of a demonstration model removed all opposition and most of Temple Bar. Incidentally, it has recently been discovered after extensive excavations that there were no members of the B.R.S. in the court at the time of the disaster - rather an odd coincidence. Moreover, both the survivors state that a few minutes before the explosion, Mr. Hector Heptane, the President of the Society, passed very close to the rocket and then left the court hurriedly. Although an inquiry was started, it was then too late as Mr. Heptane had already left for Russia, in order, as he put it, "to continue work unhampered by the toils of capitalist enterprise, in a country where workers and scientists are properly rewarded by the gratitude of their comrades". But I digress.

It was not until the repeal of the 1940 Act that progress could continue in England, when a fresh impetus was given to the movement by the discovery in Surrey of a large rocket labelled "Property of the U.S.S.R. Please return to Omsk" - obviously one of Mr. Heptane's. A flight from Omsk to England (though quite understandable) was certainly a remarkable achievement, and not until many years later was it discovered that the rocket had been dropped from an aeroplane by the members of the Hickleborough Rocket Association, who even in those days were expert publicity hunters.

By 1945 there were a score of societies in the country, each spreading destruction over rapidly widening areas. My society, though only founded in 1949, already has to its credit one church, two Methodist chapels, five cinemas, seventeen trust houses, and innumerable private residences, some as far away as Weevil-in-the-Wurzle and Little Dithering. Moreover, there can be no doubt in unprejudiced minds that the sudden collapse of the lunar crater Vitus was caused by one of our rockets, in spite of the claims of the French, German, American, Russian, Spanish, Italian, Japanese, Swiss and Danish Societies (to mention only a few), all of whom, we are asked to believe, dispatched rockets moonwards a few days before the phenomenon was witnessed.

At first we contented ourselves with firing large models to considerable heights. These test rockets were fitted with recording

baro-thermographs, etc. and our lawyers kept us fully informed as to their landing places. We were progressing very favourably with this important work when the unwarrentable defection of our insurance company forced us to start work on a large, man-carrying space-ship. We already had a sufficiently powerful fuel, details of which I cannot divulge here, save to say that it was a complex hydro-carbon into which our chemist, Dr. Badstoff, had with great ingenuity introduced no less than sixteen quadruple carbon bonds. This new fuel was so violent that at first it caused a rapid change in our personnel, but by continued research it had been stabilised until the explosion took place when expected on $97\frac{1}{2}$ occasions out of 100 - in which it showed its immense superiority over Dr. Sprocket's triple heavy hyper-hyzone (20 occasions in 100) and Prof. Swivel's nitrogen heptafluoride (probability of non-explosion incommensurable).

The ship itself was thirty metres long and was made of moulded neo-bakelite with crystallux windows, and consisted of two steps, which were ample thanks to our new fuel. The whole thing would have cost a great deal of money had we intended to pay for it. The rocket motors were made of one of the new boro-silicon alloys and had an operating time of several minutes. Apart from these features, our ship did not differ materially from any other designed previously, except in so far that it had actually been constructed. We had no intention of venturing far out into space on our first flight, but circumstances of which I shall relate altered our plans in an unforeseen manner.

On the 1st. of April, 1952, everything was ready for a preliminary flight. I broke the customary vacuum flask on the prow of the ship, christened it the "Pride of the Galaxy", and we (that is, myself and the five surviving members of the council of twenty five) entered the cabin and carefully sealed the door, squeezing chewing gum into all the cracks.

The ship itself was resting on a balloon-tyre undercarriage and we had a straight run of two miles over various people's lawns and gardens. We intended to rise to a height of a few hundred miles and then to glide back to earth, landing as best we could with little regard to life or property save our own.

I seated myself at the controls and the others lay in the compensating hammocks which we hoped might save us from the shock of the take-off. In any case every space-ship has them and we could hardly do otherwise. With an expression of grim determination, which I had to assume several times before Ivan Schnitzel, our official photographer, was satisfied, I pressed the starting button and - rather to our surprise - the ship began to move.

After leaving our grounds it tore through a fence into a vegetable garden which it rapidly converted into a ploughed field, and then passed over a large lawn doing comparatively little damage apart from setting fire to a few greenhouses. By now we were nearing a row of buildings which might offer some resistance, and as we had not yet lifted, I turned the power full on. With a tremendous roar, the ship leapt into the air, and amid the groans of my companions I lost consciousness.

When I recovered, I realised that we were in space and jumped to my feet to see if we were falling back to earth. But I had forgotten my weightless condition and crashed head first against the ceiling, once more losing consciousness.

When I recovered, I very carefully made my way to the window and with relief saw that we were not floating back to earth. My relief was short-lived when I found that the earth was nowhere in sight! I at once realised that we must have been unconscious for a very long time - my less robust companions still lay in a coma, or rather several comas, at the end of the cabin, the hammocks having given way under the strain, to the detriment of their occupants.

I first inspected the machinery, which so far as I could tell seemed intact, and then set about reviving my companions. This I readily did by pouring a little liquid air down their necks. When all

were conscious (or as nearly so as could be expected in the circumstances), I rapidly outlined the situation and explained the need for complete calm. After the resulting hysterics had subsided, I asked for volunteers to go outside in a space suit and inspect the ship. I am sorry to say that I had to go myself.

Luckily, the exterior of the ship seemed quite intact, though there were bits of branches and a "Trespassers will be Prosecuted" notice stuck in the rudder. These I detached and threw away, but unluckily they got into an orbit round the ship and returned round the back, catching me a resounding whack on the head.

The impact knocked me off the ship, and to my horror I found myself floating in space. I did not, of course, lose my head but immediately looked around for some method by which I could return. In the pouch on the exterior of the space-suit I found a safety-pin, two tram tickets, a double-headed penny, a football-pool noupon covered with what seemed to be orbital calculations, and a complimentary ticket to the Russian ballot. After a careful scrutiny of these, I came to the reluctant conclusion that they offered little hope. Even if I could bring myself to throw away the penny, its momentum would, I rapidly calculated, be insufficient to return me to the ship. The tickets I did throw away, rather as a gesture than anything else, and I was about to throw the safety-pin after them - it would have given me a velocity of .000001 millimeters an hour, which was better than nothing (by, in fact, .000001 mm/hour.) - when a splendid idea occurred to me. I carefully punctured my space-suit with the pin, and in a moment the escaping jet of air drove me back to the ship. I entered the air-lock just as the suit collapsed, not a moment too soon.

My companions crowded round me, eager for news, though there was little that I could tell them. It would take prolonged measurements to discover our position and I commenced this important work at once.

After ten minutes' observations of the stars, followed by five hours intensive calculations on our specially lubricated multiple slide-rules, I was able to announce, to the relief of all present, that we were 5,670,000 miles from the earth, 365,000 miles above the ecliptic, travelling towards Right Ascension 23 hours 15 mins. 37.07 secs., Declination $153^{\circ} 17' 36''$. We had feared that we might have been moving towards, for example, R.A. 12 hours 19 mins 7.3 secs, Dec. $169^{\circ} 15' 17''$ or even, if the worst had happened, R.A. 5 hours 32 mins. 59.9 secs, Dec. $0^{\circ} 0' 0''$.

At least, we were doing this when we took our observations, but as we had moved several million miles in the meantime, we had to start all over again to find where we were now. After several trials, we succeeded in finding where we were only two hours only two hours before we found it, but in spite of the greatest efforts we could not reduce the time taken in calculation to less than this value. So with this we had to be content.

The earth was between us and the sun, which was why we could not see it. Since we were travelling in the direction of Mars, I suggested that we could continue on our present course and try to make a landing on the planet. I had grave doubts, in fact, as to whether there was anything else we could do. So for two days we cruised on towards the red planet, my companions relieving the tedium with dominoes, poker and three-dimensional billiards (which, of course, can only be played in the absence of gravity). However, I had little time for these pursuits, as I had to keep constant check on the ship's position. In any case, I was completely fleeced on the first day, and was unable to obtain any credit from my grasping companions.

All the time Mars was slowly growing larger, and as we drew nearer and nearer many were the speculations we made as to what we should find when we landed on the mysterious red planet.

"One thing we can be certain of", remarked Isaac Guzzbaum, our auditor, to me as we were looking through the ports at the world now only a few million miles away. "We won't be met by a lot of old johnnies with flowing robes and beards who will address us in perfect English and give us the freedom of the city, as in so many science-fiction stories. I'll bet our next year's deficit on that!"

Finally we began our braking manoeuvres and curved down towards the planet in a type of logarithmic spiral whose first, second and third differential coefficients are in harmonic ratio + a curve on which I hold all patents. We made a landing near the equator, as close to the Solis Lacus as possible. Our ship slid for several miles across the desert, leaving a trail of fused quartz behind it where the blast touched the ground, and ended up with its nose in a sand dune.

Our first move was to investigate the air. We decided unanimously (only Mr. Guzzbaum dissenting), that Mr. Guzzbaum should be detailed to enter the air-lock and sample the Martian atmosphere. Fortunately for him, it proved fit for human consumption, and we all joined Isaac in the air-lock. I then stepped solemnly out onto Martian soil - the first human being in history to do so - while Ivan Schnitzel recorded the scene for the benefit of history. As a matter of fact, we later found that he had forgotten to load the camera. Perhaps this was just as well, for my desire for strict accuracy compels me to admit that no sooner did I touch the ground than it gave way beneath my feet, precipitating me into a sandy pit from which I was with difficulty rescued by my companions.

However, in spite of this mishap, we eventually clambered up the dune and surveyed the countryside. It was most uninteresting, consisting solely of long ridges of heaped-up sand. We were debating what to do when suddenly we heard a high-pitched whining noise in the sky and to our surprise a cigar-shaped metal vessel dropped to the ground a few yards away. A door slid open.

"Fire when you see the whites of their eyes!" hissed Eric Wobblewit, our tame humourist, but I could tell that his joke was even more forced than usual. Indeed, we all felt nervous as we waited for the occupants of the ship to emerge.

They were three old men with long beards, clad in flowing white robes. Behind me I heard a dull thud as Isaac passed out. The leader spoke to me in what would have been flawless B.B.C. English had it not been for the bits he had obviously picked up from Schenectady.

"Welcome, visitors from Earth! I'm afraid this is not an authorised landing place, but we will let that pass for the moment. We have come to guide you to our city of Xzgtplk."

"Thanks", I replied, somewhat taken aback, "I'm sure we're very grateful to you for your trouble. Is it far to Xzgtplk?"

The Martian winced. "Xzgtplk," he said firmly.

"Well, Xzgtplk, then," I went on desperately. The other two Martians looked pained and took a firmer grip on their rod-like instruments they were carrying. (These, we learned later, were walking-sticks.) The leader gave me up as a bad job.

"Skip it," he said. "It's about fifty miles away as the crow flies, though as there aren't any crows on Mars we have never been able to check this very accurately. Could you fly your ship behind us?"

"We could," I replied, "though we'd rather not, unless Xzg— er, your city, is heavily insured with a reputable firm. Could you carry us? No doubt you have tractor beams and such-like".

The Martian seemed surprised. "Yes, we have," he said, "but how did you know it?"

"Just a surmise", I replied modestly. "Well, we'll get over to our ship and leave the rest to you."

We did so, carrying the prostrate Guzzbaum with us, and in a few minutes were speeding over the desert after the Martian ship. Soon the spires of a mighty city reared above the horizon and in a short time we landed in a great square, surrounded by teeming crowds.

In a trice, or less, we were facing a battery of cameras and microphones, or their Martian equivalents. Our guide spoke a few words and then beckoned to me. With characteristic foresight I had

prepared a speech before leaving earth, so I pulled it from my pocket and read it to, no doubt, the entire Martian nation. It was only when I had finished that I noticed I was reading the lecture: "British Science-Fiction Authors: Their Prevention or Cure?" which I had given to the S.P.A. a few months before and which had already involved me in six libel actions. This was unfortunate, but from the reception, I am sure that the Martians found it of interest. The Martian cheer, oddly enough, closely resembles the terrestrial boo.

We were then taken (with difficulty) onto a moving road which led to a giant building in the centre of the city, where a lavish meal awaited us. What it consisted of we never succeeded in ascertaining, and we rather hope it was synthetic.

After the meal we were asked what part of the city we would like to visit, as it was entirely at our disposal. We did our best to explain what a variety show was, but the idea seemed beyond our guides and as we had feared they insisted on showing us over their power-plants and factories. Here I must say we found our knowledge of contemporary science-fiction invaluable, for everything with which the Martians tried to surprise us we had heard of long before. Their atomic generators, for instance, we compared unfavourably with those described by many terrestrial writers (though we took care to secure the plans) and we expressed surprise at their inability to overcome those laws of nature that have been repealed by our economists and politicians for years. In fact - and I say it with pride - the Martians got very little change out of us. When the tour finished I was lecturing the leader on the habits of termites and behind me I could hear Mr. Guzzbaum (now, alas, his normal self) criticising the scandalously low rates of interest allowed in Martian trade.

After this we were not bothered any more and were able to spend most of our time indoors playing poker and some curious Martian games we had picked up, including an interesting mathematical one which I can best describe as "four-dimensional chess." Unfortunately, it was so complicated that none of my companions could understand it, and accordingly I had to play against myself. I am sorry to say that I invariably lost.

Of our adventures on Mars I could say a great deal and am going to at a later date. My forthcoming book, "Mars with the Lid Off" should be out in the spring and will be published by Blotto and Windup at 21/- . All I will say at the moment is that we were very well entertained by our hosts, and I believe that we gave them a favourable impression of the human race. We made it quite clear, however, that we were somewhat exceptional specimens, as we did not want our hosts to be unduly disappointed by the expeditions after ours.

So well indeed were we treated that one of us decided not to return to earth when the time came, for reasons which I shall not go into here, as he has a wife and family on earth. I may have something more to say about this matter in my book.

We had, unfortunately, only a week in which to stay on Mars as the planets were rapidly moving apart. Our Martian friends had very kindly refueled our ship for us, and also gave us many mementoes of our visit, some of them of considerable value. (Whether these souvenirs belong to the society as a whole or to the individual officers is a matter that has not yet been settled. I would, however, point out to those members who have been complaining that possession is nine points of the law, and where the possessors are my esteemed colleagues, it is more like ten.)

Our return to earth was uneventful and thanks to our great reserve of fuel we were able to make a landing where and how we liked. Consequently we chose a spot which would focus the eyes of the world upon us and bring home to everybody the magnitude of our accomplishment.

Of our landing in Hyde Park and the consequent evaporation of the Serpentine, enough has been written elsewhere, and the spectacle of three-inch headlines in the next day's "TIMES" was proof enough

RETREAT FROM EARTH.

by

Arthur C. Clarke.

A great many millions of years ago, when man was a dream of the distant future, the third ship to reach earth in all history descended through the perpetual clouds onto what is now Africa, and the creatures it had carried across an unthinkable abyss of space looked out upon a world which would be a fit home for their weary race. But Earth was already inhabited by a great though dying people, and since both races were civilised in the true sense of the word, they did not go to war but made a mutual agreement. For those who then ruled Earth had once ruled everywhere within the orbit of Pluto, had planned always for the future and even at their end they had prepared Earth for the race that was to come after them.

So, forty million years after the last of the old ones had gone to his eternal rest, men began to rear their cities where once the architects of a greater race had flung their towers against the clouds. And in the long echoing centuries before the birth of man, the aliens had not been idle but had covered half the planet with their cities filled with blind, fantastic slaves, and though man knew these cities, for they often caused him infinite trouble, yet he never suspected that all around him in the tropics an older civilisation than his was planning busily for the day when it would once again venture forth upon the seas of space to regain its lost inheritance.

"Gentleman", said the President of the Council gravely, "I am sorry to say that we have received a severe setback in our plans to colonise the third planet. As you all know, we have for many years been working on that planet unknown to its inhabitants, preparing for the day when we should take over complete control. We anticipated no resistance, for the people of Three are at a very primitive level of development, and possess no weapons which could harm us. Moreover, they are continually quarrelling among themselves owing to the extraordinary number of political groups or "nations" into which they are divided, a lack of unity which will no doubt be a considerable help to our plans.

"To obtain the fullest possible knowledge of the planet and its peoples, we have had several hundred investigators working on Three, a number in each important city. Our men have done very well, and thanks to their regular reports we now have a detailed knowledge of this strange world. In fact, until a few setas ago I would have said that we knew everything of importance concerning it, but now I find that we were very much mistaken.

"Our chief investigator in the country known as England, which has been mentioned here on a number of occasions, was that very intelligent young student, Cervac Theton, grand-son of the great Vorac. He progressed splendidly with the English, a particularly guileless race it seems, and was soon accepted into their highest society. He even spent some time at one of their great seats of learning (so called) but soon left in disgust. Though it had nothing to do with his real purpose, this energetic young man also studied the wild animals of Three, for remarkable though it seems there are a great many strange and interesting creatures roaming freely over large areas of the planet. Some are actually dangerous to man, but he has conquered most of them and even exterminated some species. It was while studying these beasts that Cervac made the discovery which I fear may change our whole plan of action. But let Cervac speak for himself."

The President threw a switch, and from concealed speakers Cervac Theton's voice rang out over that assembly of the greatest brains of Mars.

" — come to what is the most important part of this communication. For some time I have been studying the many wild creatures

of this planet, purely for the sake of scientific knowledge. The animals of Three are divided into four main groups - mammals, fishes, reptiles and insects, and a number of lesser groups. There have been many representatives of the first three classes on our own planet, though of course there are none now, but as far as I know there have never been insects on our world at any time in its history. Consequently they attracted my attention from the first, and I made a careful study of their habits and structure.

"You who have never seen them will have great difficulty in imagining what these creatures are like. There are millions of different types, and it would take ages to classify all of them, but they are mostly small animals with many jointed limbs and with a hard armoured body. They are usually very small, about half a zem in length, and are often winged. Most of them lay eggs and undergo a number of metamorphoses before they become perfect creatures. I am sending with this report a number of photographs and films which will give you a better idea of their infinite variety than any words of mine. I obtained most of my information on the subject from the literature which has been built up by thousands of patient students who have devoted their lives to watching insects at work. The inhabitants of Three have taken much interest in the creatures which share their world, and this, I think, is another proof that they are more intelligent than some of our scientists would have us believe."

At this there were smiles in the audience, for the House of Theton had always been noted for its radical and unorthodox views.

"In my studies I came across accounts of some extraordinary creatures which live in the tropical regions of the planet. They are called "termites" or "white ants" and live in large, wonderfully organised communities. They even have cities - huge mounds, honey-combed with passages and made of exceedingly hard materials. They can perform prodigious feats of engineering, being able to bore through metals and glass, and they can destroy most of man's creations when they wish. They eat cellulose, that is, wood, and since man uses this material extensively he is always waging war on these destroyers of his possessions. Perhaps luckily for him, the termites have even deadlier enemies, the ants, which are a very similar type of creature. These two races have been at war for geological ages, and the outcome is still undecided.

"Although they are blind, the termites cannot endure light and so even when they venture from their cities they always keep under cover, making tunnels and cement tubes if they have to cross open country. They are wonderful engineers and architects, and no ordinary obstacle will deflect them from their purpose. Their most remarkable achievement, however, is a biological one. From the same eggs they can produce half a dozen different types of specialised creature. Thus they can breed fighters with immense claws, soldiers which can spray poison over their opponents, workers which act as food storers by virtue of their immense distended stomachs, and a number of other fantastic mutations. You will find a full account of them, as far as they are known to the naturalists of Three, in the books I am sending.

"The more I read of their achievements, the more I was impressed by the perfection of their social system. It occurred to me, as indeed it had to many previous students, that a termite may be compared to a vast machine, whose component parts are not of metal but of protoplasm, whose wheels and cogs are separate insects, each with some preordained role to perform. It was not until later that I found how near the truth this analogy was.

"Nowhere in the termite is there any waste or disorder, and everywhere there is mystery. As I considered the matter it seemed to me that the termites were much more worthy of our attention, from the purely scientific point of view, than man himself. After all, man is not so very different from ourselves, though I shall annoy many by saying so, yet these insects are utterly alien to us in every way. They work, live and die for the good of the state. To them the individual is nothing. With us, and with man, the state exists only for the individual. Who shall say which is right?

These problems so engrossed me that I eventually decided to

study the little creatures myself with all the instruments at my command, instruments of which the naturalists of Three had never dreamt. So I selected a small uninhabited island in a lonely part of the Pacific, the greatest ocean of Three, where the strange mounds of the termites clustered thickly, and constructed on it a little metal building to serve as a laboratory. As I was thoroughly impressed by the creatures' destructive powers, I cut a wide circular moat round the building, leaving enough room for my ship to land, and let the sea flow in. I thought that ten zets of water would keep them from doing any mischief. How foolish that moat looks now.

"These preparations took several weeks for it was not very often that I was able to leave England. In my little space-yacht the journey from London to Termite Island took under half a sector so little time was lost in this way. The laboratory was equipped with everything I considered might be useful and many things for which I could see no conceivable use, but which might possibly be required. The most important instrument was a high-powered gamma-ray televisior which I hoped would reveal to me all the secrets hidden from ordinary sight by the walls of the termitary. Perhaps equally useful was a very sensitive psychometer, of the kind we use when exploring planets on which new types of mentalities may exist, and which we might not detect in the ordinary way. The device could operate on any conceivable mind frequency, and at its highest amplification could locate a man several hundred miles away. I was certain that even if the termites possessed only the faintest glimmers of an utterly alien intelligence, I would be able to detect their mental processes.

"At first I made relatively little progress. With the televisior I examined all the nearest termitaries, and fascinating work it was following the workers along the passages of their homes as they carried food and building materials hither and thither. I watched the enormous bloated queen in the royal nursery, laying her endless stream of eggs, one every few seconds, night and day, year after year. Although she was the centre of the colony's activities, yet when I focussed the psychometer on her the needles did not so much as flicker. The very cells of my body could do better than that! The monstrous queen was only a brainless mechanism, none the less mechanical because she was made of protoplasm, and the workers looked after her with the care we would devote to one of our useful robots.

"For a number of reasons I had not expected the queen to be the ruling force of the colony, but when I began to explore with psychometer and televisior, nowhere could I discover any creature, any super-termite, which directed and supervised the operations of the rest. This would not have suprised the scientists of Three, for they hold that the termites are governed by instinct alone. But my instrument could have detected the nervous stimuli which constitute automatic reflex actions, and yet I found nothing. I would turn up the amplification to its utmost, put on a pair of those primitive but very useful "head-phones" and listen hour on hour. Sometimes there would be those faint, characteristic cracklings we have never been able to explain, but generally the only sound was the subdued washing noise, like waves breaking on some far-off beach, caused by the massed intellects of the planet reacting on my apparatus.

"I was beginning to get discouraged when there occurred one of those accidents which happen so often in science. I was dismantling the instrument after another fruitless investigation when I happened to knock the little receiving loop so that it pointed to the ground. To my suprise the needles started flickering violently. By swinging the loop in the usual way I discovered that the exciting source lay almost directly underneath me, though at what distance I could not guess. In the phones was a continuous humming noise, interspersed with sudden clickings. It sounded for all the world like any electric machine operating, and the frequency, one hundred thousand mega mega cycles, was not one of which minds have ever been known to function before. To my intense annoyance, as you can guess, I had to return to England at once, and so I could not do anything more at the time.

"It was a fortnight before I could return to Termite Island, and in that time I had to overhaul my little space yacht owing to an electrical fault. At some time in her history, which I know to have been an eventful one, she had been fitted with ray screens. They were,

moreover, very good ray screens, much too good for a law abiding ship to possess. I have every reason to believe, in fact, that more than once they have defied the cruisers of the Assembly. I did not much relish the task of checking over the complex automatic relay circuits, but at last it was done and I set off at top speed for the Pacific, travelling so fast that my bow wave must have been one continuous explosion. Unfortunately, I soon had to slow down again, for I found that the directional beam I had installed on the island was no longer functioning. I presumed that a fuse had blown, and had to take observations and navigate in the ordinary way. The accident was annoying but not alarming, and I finally spiraled down over Termite Island with no premonition of danger.

"I landed inside my little moat, and went to the door of the laboratory. As I spoke the key word, the metal seal slid open and a tremendous blast of vapour gushed out of the room. I was nearly stupified by the stuff, and it was some time before I recovered sufficiently to realise what had happened. When I regained my senses I recognised the smell of hydrogen cyanide, a gas which is instantly fatal to human beings but which only affects us after a considerable time.

"At first I thought that there had been some accident in the laboratory, but I soon remembered that there were not enough chemicals to produce anything like the volume of gas that had gushed out. And in any case, what could possibly have produced such an accident?

"When I turned to the laboratory itself, I had my second shock. One glance was sufficient to show that the place was in ruins. Not a piece of apparatus was recognisable. The cause of the damage was soon apparent - the power plant, my little atomic motor, had exploded. But why? Atomic motors do not explode without very good reason; it would be bad business if they did. I made a careful examination of the room and presently found a number of little holes coming up through the floor - holes such as the termites make when they travel from place to place. My suspicions, incredible though they were, began to be confirmed. It was not completely impossible that the creatures might flood my room with poisonous gas, but to imagine that they understood atomic motors - that was too much! To settle the matter I started hunting for the fragments of the generator, and to my consternation found that the synchronising coils had been short-circuited. Still clinging to the shattered remnants of the osmium toroid were the jaws of the termite that had been sacrificed to wreck the motor.....

"For a long time I sat in the ship, considering these astounding facts. Obviously, the damage had been wrought by the intelligence I had located for a moment on my last visit. If it were the termite ruler, and there was nothing else it could very well be, how did it come to possess its knowledge of atomic motors and the only way in which to wreck them? For some reason, possibly because I was prying too deeply into its secrets, it had decided to destroy me and my works. Its first attempt had been unsuccessful, but it might try again with better results, though I did not imagine that it could harm me inside the stout walls of my yacht.

"Although my psychometer and televisor had been destroyed, I was determined not to be defeated so easily, and started hunting with the ship's televisor, which though not made for this kind of work could do it very well. Since I lacked the essential psychometer it was some time before I found what I was looking for. I had to explore great sections of the ground with my instrument, focussing the view point through stratum after stratum and examining any suspicious rock that came into the field. When I was at a depth of nearly two hundred feet, I noticed a dark mass looming faintly in the distance, rather like a very large boulder embedded in the soil. But when I approached I saw with a great feeling of elation that it was no boulder, but a perfect sphere of metal, about twenty feet in diameter. My search had ended. There was a slight fading of the image as I drove the beam through the metal, and then on the screen lay revealed the lair of the super-termite.

"I had expected to find some fantastic creature, perhaps a great naked brain with vestigial limbs, but at a glance I could see that there was no living thing in that sphere. From wall to wall that metal-enclosed space was packed with a maze of machinery, most of it very minute

and almost unthinkably complex, and all of it clicking and buzzing with lightning-like rapidity. Compared to this miracle of electrical engineering, our great television exchanges would seem the creations of children or savages. I could see myriads of tiny relays operating, director valves flashing intermittently, and strangely shaped cams spinning among moving mazes of apparatus utterly unlike anything we have ever built. To the makers of this machinery, my atomic generator must have seemed a toy.

"For perhaps two seconds I gazed in wonder at that amazing sight, and then, suddenly and incredibly, an obliterating veil of interference slashed down and the screen was a dancing riot of formless colour.

"Here was something we had never been able to produce - a screen which the televisior could not penetrate. The power of this strange creature was even greater than I had imagined, and in the face of this latest revelation I no longer felt safe even in my ship. In fact, I had a sudden desire to put as many miles as possible between myself and Termite Island. This impulse was so strong that a minute later I was high over the Pacific, rising up through the stratosphere in the great ellipse which would curve down again in England.

"Yes, you may smile or accuse me of cowardice, saying that my grand-father Vorac would not have done so - but listen.

"I was about a hundred miles from the island, thirty miles high and already travelling at two thousand miles an hour when there came a sudden crashing of relays, and the low purr of the motors changed to a tremendous deep-throated roar as an overload was thrown onto them. A glance at the board showed me what had happened - the ray screens were oh, flaring beneath the impact of a heavy induction beam. But there was comparatively little power behind the beam, though had I been nearer it would have been a very different tale, and my screens dissipated it without much trouble. Nevertheless, the occurrence gave me an unpleasant shock for the moment, until I remembered that old trick of electrical war-fare and threw the full field of my geodesic generators into the beam. I switched on the televisior just in time to see the incandescent fragments of Termite Island fall back into the Pacific.....

"So I returned to England, with one problem solved and a dozen greater ones formulated. How was it that the Termite-brain, as I supposed the machine to be, had never revealed itself to humans? They have often destroyed the homes of its people, but as far as I know it has never retaliated. Yet directly I appeared it attacked me, though I was doing it no harm! Perhaps, by some obscure means, it knew that I was not a man, but an adversary worthy of its powers. Or perhaps, though I do not put the suggestion seriously, it is a kind of guardian protecting Three from invaders such as ourselves.

"Somewhere there is an inconsistency that I cannot understand. On the one hand we have that incredible intelligence possessing much, if not all of our knowledge, while on the other are the blind, relatively helpless insects waging an endless war with puny weapons against enemies their ruler could exterminate instantly and without effort. Behind this mad system there must be a purpose, but it is beyond my comprehension. The only rational explanation I can conceive is that for most of the time the termite brain is content to let its subjects go their own, mechanical ways, and that only very seldom, perhaps once in an age, does it take an active part in guiding them. As long as it is not seriously interfered with, it is content to let man do what he likes. It may even take a benevolent interest in him and his works.

"Fortunately for us, the super-termite is not invulnerable. Twice it miscalculated in its dealings with me, and the second time cost it its existence - I cannot say life. I am confident that we can overcome the creature, for it, or others like it, still control the remaining billions of the race. I have just returned from Africa, and termites there are still organised as they have always been. On this excursion I did not leave my ship, or even land. I believe I have incurred the enmity of an entire race and I am taking no chances. Until I have an armoured cruiser and a staff of expert biologists, I am leaving the termites strictly alone. Even then I shall not feel quite safe, for there may be yet more powerful intelligences on Three than the one I

encountered. That is a risk we must take, for unless we can defeat these beings, Planet Three will never be safe for our kind."

The President cut off the record and turned to the waiting assembly.

"You have heard Theton's report," he said, "I appreciated its importance and at once sent a heavy cruiser to Three. As soon as it arrived, Theton boarded it and left for the Pacific.

"That was two days ago. Since then I have heard from neither Theton nor the cruiser, but I do know this:-

"An hour after the ship left England, we picked up the radiations from here screens, and in a very few seconds other disturbances - cosmics, ultra-cosmics, induction and tremendous long-wave, low quantum radiations such as we have never used in battle - began to come through in ever increasing quantities. This lasted for nearly three minutes, when suddenly there came one titanic blast of energy, lasting for a fraction of a second and then - nothing. That final burst of power could have been caused by nothing less than the detonation of an entire atomic generating plant, and must have jarred Three to its core.

"I have called this meeting to put the facts of the matter before you and to ask you to vote on the subject. Shall we abandon our plans for Three, or shall we send one of our most powerful super-dreadnaughts to the planet? One ship could do as much as an entire section of the Fleet in this matter, and would be safe, in case.....but I cannot imagine any power which could defeat such a ship as our "Zuranthor". Will you please register your votes in the usual way? It will be a great setback if we cannot colonise Three, but it is not the only planet in the system, though it is the fairest."

There came subdued clicks and a faint humming of motors as the councillors pressed their coloured buttons, and on the television screen appeared the words; For, 967; Against, 233.

"Very well, the "Zuranthor" will leave at once for Three. This time we will follow her movements with the televisior and then if anything does go wrong, we shall at least obtain some idea of the weapons the enemy uses."

Hours later the tremendous mags of the flagship of the Martian fleet dropped thundrously through the outer reaches of Earth's atmosphere towards the far-off waters of the Pacific. She fell in the heart of a tornado, for her captain was taking no chances and the winds of the stratosphere were being annihilated by her flaming ray screens.

But on a tiny island far over the eastern horizon, the termites had been preparing for the attack they knew must come, and strange, fragile mechanisms had been erected by a myriad blind and toiling insects. The great Martian warship was two hundred miles away when her captain located the island in his televisior. His finger reached towards the button which would start the enormous ray generators, but swift as he was the almost instant acting relays of the termite mind were far swifter. Though, in any case, the outcome would have been the same.

The great spherical screens did not flare even once as the enemy struck home. Their slim rapier of pure heat was driven by only a score of horse-power, while behind the shield of the warship were a thousand million. But the feeble heat beam of the termites never passed through those screens - it reached out through hyperspace to gnaw at the very vitals of the ship. The Martians could not check an enemy who struck from within their defenses, an enemy to whom a sphere was no more a barrier than a hollow ring.

The termite rulers, those alien beings from outer space, had kept their agreement with the old lords of earth, and had saved man from the danger his ancestors had long ago foreseen.

But the watching assembly knew only that the screens of the ship which had been blazing fiercely one moment had erupted in a

hurricane of flame and a numbing concussion of sound, while for a thousand miles around fragments of white-hot metal were dropping from the heavens.

Slowly the President turned to face the Council and whispered in a low, strained voice, "I think it had better be planet Two, after all."

THE END.

"HOW WE WENT TO MARS". (Cont. from page 6.)

that we had made our mark in history. Everyone will remember my broadcast from the cells in Vine Street Police Station, where we were taken at the triumphant conclusion of our flight, and there is no need for me to add any more at the moment, since, moreover, it might embarrass my lawyers.

We are content to know that we have added something, however small, to the total of human knowledge, and something, however large, to the bank balance of our society. What more than this could we desire?

THE END.

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WHAT IS GOOD ENOUGH FOR TODAY IS MUCH TOO BAD FOR

TOMORROW.

MY FIRST SPACE-SHIP. (MAGNA ENIGMA).

by

Eric C. Williams.

(With apologies to H.G. Wells' story "My First Aeroplane. (Alauda Magna)")

My first space-ship! What vivid memories of joyous youth and hurtling speed that recalls!

Far back it was in the days of Railroads and Steam-boats that I purchased the dear old Magna Enigma (Great Puzzle). She was the first of her spit-fire type, straight from the foundries of some obscure but ingenious firm; small, lean; a veritable shell of leashed energy; proud, and with a will of her own. Yes, in many ways she was fitted and matched to the dashing spirit that filled my wiry chest in those days; and her first performance showed, I suppose, that fiery instability that she held in common with her owner. Indeed, the resemblance between owner and machine went further than the spiritual indications, it was said that she resembled me in the sleekness of her outlines, in the sharpness of her prow, in the far-off gaze of her two forward ports. I am proud of those comparisons, often drawn though they were in a spirit of levity, for I recognise in them subtle compliments to the wonderful form and strength of my Magna Enigma. Character and nobility showed in every line of her splendid shape; she was in a word - Perfect.

I purchased her on the credit system, through a travelling agent. Dear mother knew nothing of the transaction until the day of delivery. Then when I broke the news to her of my desperate resolve - the tears! the pleading! the dire prophesies! Ah me! women are always doubtful of their man's prowess, and mothers anxious about their sons. But I prevailed as I usually do when my mind is made up, and we travelled by tube to the Croydon Space Drone.

It is curious the affinity that sometimes exists between man and man; how sometimes when you meet a person for the first time you instantly become firm friends, whereas, another you instinctively dislike. More curious still, I think, is the sensation I experienced when I was confronted for the first time with the gleaming contours of the Magna Enigma. A thrill convulsed my body. Some say that the blood drained from my face, and that I shook and made as though to run away. Such were my emotions that I do not doubt that these curious symptoms showed themselves. Such, I say, was this inexplicable bond, that soon the silvery walls of the Magna Enigma were gleaming back a score of curious faces that had collected round my shivering shape.

My mother (bless her dear conventional mind) misinterpreted this unaccountable hesitation on my part, and advised me not to go up if I felt incapable of controlling the thing. Several people round about must have also taken fear as the cause of my paleness and perspiration, for they began to laugh secretly, and chatter about the ground giving people cold feet.

Rage almost uncontrrollable bubbled up within me, (it has always been the way of us Popplegates to blaze up at the least thing) and casting off my mother's detaining hand, I threw myself through the circular air-lock and into the narrow control room. I had there to constrain myself by a terrific concentration of will from firing off the tubes at once - an act that would have devastated the hangars behind me, and killed my poor proud mother, together with myself, of course.

I sat there shivering with rage.

A face with a braided peaked cap atop, peered in through one of the forward ports, and signalled me to come out. I stabbed my finger upwards fiercely, and shook my head with decision. The face disappeared for a minute, then came back with a pair of hands holding up a piece of paper inscribed as follows: "Are you officially registered as capable to pilot this space-ship?"

I nodded my head even though I had no license, and jabbed my finger up insistently. The face bobbed down again only to reappear with another note: "Turn on the radio and listen for the starting signal."

From my readings of booklets I knew just where to locate the wireless switch, so I punched the little knob home. A noise like a gigantic clock ticking came through, and in a minute a voice speaking; "Magna Enigma, now raising your take-off runners to firing angle." My view at this moment of the distant horizon sank lower and vanished below the circles of the forward portholes.

"You are now at forty-five degrees. When you hear the signal, let her go!" I waited tensely for this signal, whatever it might be, and when a high whine started in the receiver, I pulled the ignition trigger full over.

What happened next is perhaps unique in the annals of space flight. I was lifted clear out of my seat and thrown heavily against the ceiling. As I spawled there I had a fragmentary view through one of the port holes of the Drome field shrinking and tipping obliquely to the right. Then again I was crashing across the room back amongst the buttons of the control table. Plungers snapped in and I lifted all asprawl onto the left wall, then the right, whacking backwards and forwards in that narrow space of delicate machinery. Only the wonderful control I exercised over my flying limbs saved the machinery from damage. Up and down, back and forward, I cannoned as with each successive flight I pushed in new buttons. The Magna Enigma, the willful hussy that she was, had already challenged my ownership.

This went on for some time, then summoning all my will-power, I clawed at the main ignition trigger and pulled it off. Shaking with the terrific punishment I had taken I dragged myself into the pilots chair, and felt my battered limbs. As I was doing this, my eyes fell upon the gravity altimeter. I stopped my carefully testing and stared, - 1000 miles up!!! - and still going!

My God! what a situation! I smile now at the horror which gripped me then. It is forgivable. Even the bravest of us know fear, and who was it who said; "A brave man is not one who does not know fear, but who knows fear and conquers it."? I conquered that paralysing fear.

I went to one of the port-holes and stared down. Dear old Earth, that is the one and only view I have had of you from Space, (I never seem to get the time to go up now.) but that memory is imperishable. A huge looming sphere darkened over most of its surface; a faint rosy light clinging to one edge and the absolute black of night to the other. Two greenish ice caps with long thin streamers branching off into the faintly visible American Continent; a faint wash of grey-blue disappearing into the darkness of the East. You were a fairy picture framed in the pearl of the Sun's Corona, set about with diamond stars. Enough to inspire the poetic Popplegate strain in me.

I turned away at last with a sigh, for that sphere seemed almost unobtainable in its remoteness. Fond faces came to me. No! thought I, I will get back. What would mother do without me? Determined thus, I sat down before the complex button panel, and set everything at "off". I would proceed button by button until I knew just how to control this ship of mine.

The first button I pushed dropped steel plates down over the portholes with a tremendous clash. The second put out the electric lights, and plunged me into complete - absolute - darkness. My blind stabbing fingers prodded amongst the tiers of buttons with fantastic results.

A low mumble came from behind the rear partition as though a motor generator had commenced to "turn over"; the floor started a slow turning until in a few minutes it became the ceiling. Another quick stab from an inverted position, loosed off the rear tubes, and there I was stuck to the rear wall with the acceleration.

Things multiplied by the square.

The room was soon revolving at a colossal speed with myself catapulting in dizzy spirals from wall to wall. All sets of tubes were now apparently firing in alternate phases, so that mixed up with my whirling was a sudden thrusting from front wall to rear wall and back again.

The window shields were crashing up and down every time I landed amongst the controls, shaving my limbs upon their guillotine edges, and coming near at times to decapitating me. Another apparatus was now making itself felt in the sudden increase of the room temperature to near boiling point, then in a sudden drop to zero regions where water condensed like rain on my spectacles. The effect of this fluxation was to give me a severe attack of influenza five hours later.

The noise was terrific from the madly accelerating and decelerating engines. Everything howled. A little machine set in the ceiling, gave forth a high-pitched whine, and a thousand crackling, popping, electric sparks. It speedily built up such a spark gap, that the air stunk with ozone. Its action of keeping out some of the more dangerous short-waves had become so efficient that the ultra-short-wave wireless, which I had left switched on during the whole of my flight, only gave out a prolonged shriek of static.

Amongst all this bedlam, my wiry frame went here and there, head first, legs first, smashing and thumping amongst the bars and buttons and wires of this frenzied ship; a ship lost in the uncharted expanses of Space and Worlds.

I was long past thinking at all coherently, when everything stopped - except the spinning motion of the room. The window shutters stuck half up and half down; the tubes stopped firing; the ozone generator gave one pop and ceased; the electric lights, which had been flashing spasmodically, went out with finality; the temperature stayed where it was; the wireless stopped abruptly; the mysterious motor which had commenced the cabin revolving went silent with a short downward moan - but, as I say, the movement went on.

Quick to recover, I clutched at the back of the pilot chair as I spun past, and fixed my feet amongst some machinery on the roof. For a space I hung there gathering my strength.

What a fantastic figure I must have cut hanging upside-down there in the stabbing light from the sun which revolved in dizzy circles outside! In the little room I hung with my feet on the ceiling and my hands at floor level, breathing harshly in an atmosphere acid with ozone, and sickening with the smell of scorched rubber. I seized on this latter smell when I fully recovered, and with characteristic speedy deduction, saw that this sudden cessation in action was because of a failure in power. Somewhere the battery circuit had shorted or completely broken. Here in this case, I would be able to apply my knowledge of space-ships (diligently pieced together from the booklets of the time) and place my hand immediately on the battery circuit, and repair the damage.

I attempted to walk around the cabin to the wall above me, and found that there was no difficulty attached to it. Now I understood why all the walls, except the front and rear, of the cabin were in the form of one continuous curve; centrifugal force, my friends, centrifugal force! Simple, is it not? Yet devilishly wicard at first experience. I believe this system is out of use now, and magnetised floors and boots substituted. Thus, you may leave an old man behind in technical advance, but in spirit and courage you will never recapture the heights of those pioneer days when men were men and ships were ships.

My Magna Enigma was small, a tenth the size of your modern floating hotels, yet I am willing to wager that with my hands to her controls she could have out-maneuvred any of the crack specials of today. At the time I am telling of, she was shearing space at the staggering speed of twenty miles per second, a speed still good today. However, no doubt you are eager to learn how I brought my gallant ship to safety, so I will dilate no longer.

I presently found the damaged wire, and after a little scraping and twisting, managed to push it into place. Instantly all the confusion began again; the noise, the acceleration, the ozone, the heat and cold, the lights, shutters, everything for a moment was a buzzing clattering roaring scream, but by jerking away my hand I disconnected the circuit and all subsided.

I picked myself up from the far corner of the room, and before

connecting the circuit again, pushed in all the buttons. I put the wire right, then firmly strapped myself into the pilot seat. This time there would be no mishaps.

~~In~~ ~~went~~ ~~one~~ ~~button~~ ~~-~~ a well judged shot, - the lights went on. Another considered button, and the shutters slammed back - I shouted. The nose of the ship seemed to be in the act of striking the blinding surface of the moon. In front of me, spinning madly, stretched the towering needles of a smashed up world. One seemed to be on the point of piercing the forward port-hole. I could see every pebble on the scintillating slopes.

Crash! went all the buttons together in a frantic last minute effort to escape transfixion. Nothing seemed to happen, except that the ozone apparatus started shooting six-inch sparks into the room, and the temperature dropped to somewhere near absolute zero. In my cold blooded way I perceived that I had fallen foul of an optical misjudgment due to the super clarity of vision in space. What was probably thousands of miles away, appeared to be just outside the window.

Once again I started calmly with all the buttons in, and attempted to master this runaway ship. (Never will I admit defeat at the hands of a machine.) Patiently I tried the various buttons and levers. Certain combinations produced strange effects. Once, by pushing two red buttons at the same time, my ship turned completely round so that I found myself staring out into black star-dotted space, but, of course, still rushing towards the moon only now hind-first. Rushing, unless I could discover the right set of buttons, to certain destruction. This knowledge, however, only served to quicken the action of my normally fast thinking brain, and to speed the action of my fingers. Already I had the forward retarding tubes firing; I now had to find the set of tubes which would serve to swing the ship away into a tangent to the moon's surface.

By jove! These things take a long time to write down, but actually it was only a matter of ten minutes before I saw that the peaks were slanting away, and another two before I was slicing between two giant mountain peaks and roaring over a tremendous level area of pock-holed rock.

Before I knew what or where things were, I had swept over the towers and domes of the Mare Imbrium Mining Station, covering them in a scorching cloud of exhaust gas, then up I went in a near vertical ascent. Things seemed to get out of control again, and I swept down in a huge arc within two feet of the main pit tower, blanketing everything in a pink-red glow of scintillating particles. Things were definitely out of control. I was up and round again in a complete circle, this time actually driving down past the pit tower, scraping the ground, then up again.

Sweat stood out in great beads on my forehead as I tugged at the fixed set of buttons.

Down again roaring and blasting. Exhaust gas blew down bolting figures in space-suits; scattered a slag heap. I felt sick with the effects of the continued circling. Round and round in a fifty mile circle, always coming down through that confounded mining station.

At last on my fiftieth circumnavigation I had a fleeting glimpse of another space ship rising from the surface in pursuit of me.

Still determined not to be mastered, I banged and thumped at the obstinate controls. One knob ground in, and I zoomed off just missing the other ship. The wireless squealed at me.

"Keep outa my way, you saphead!"

"Something wrong with my tubes." I shouted in explanation.

"By God! I'll mash yer chubbs if you come that fool trick again. Set a straight course. I'll pick you up with chains. Get to itsnappy!"

I report this impudent command in its fulness to indicate what kind of a ruffian I had to deal with; a person no more capable of

understanding defects in machinery than the moon itself.

Furiously I battled this mad machine - and conquered. I forced those buttons back into their sockets, and switched on the correct opposing set. Straight as a die I flashed for the other ship, but he was too quick and he missed me by an inch.

I heard him swear across the ether, then he came blustering out again.

"Try and scare me would you? You crazy, yellow livered skunk. Try some of your own medicine!"

The fool made some juggling manoeuvre with his cumbersome ship, and finished up just above the Magna Enigma.

"Hold on sonny," he bawled, and dropped his vessel right across my bows missing me by about two inches. As he passed he gave a blast on his tubes and pasted up my windows with grey gas. Back he came again and stationed himself just ahead of me. His rear tubes swamped my game little ship in white-hot gas, raising the temperature of my control room to boiling point. I sizzled.

"Get away you blithering fool!" I shouted at him.

"Still fresh, hey?" he screamed back. "Here's some more."

He flashed on before me and disappeared into blackness. For perhaps five minutes I stared into the blankness, then I saw him as an expanding ring of phosphorescent white rushing straight head-on at me. In a second I seemed to be staring into the jaws of death fashioned in the shape of a sharp steel prow, two gleaming port-holes, and a face peering out at me. Then in a mighty flurry of exhaust gas the image passed and I was staring out into the black space.

"Want any more, or shall I take you in?"

"Thank you." I said coolly, "But I'll take her in myself."

I punched at the control board, but the tube buttons produced no results. My little ship was exhausted. I had emptied her life blood from her in my headlong race between earth and moon; her fuel tanks were empty. A derelict of space. This spirited ship was dead.

"Well, why don't you move, smarty?" came that blustering voice.

I sat silent.

"Oh, you aint gonna talk? Perhaps a few more tricks might help some. Ever seen a Popcmoff spiral with yourself as the axis?"

"I am helpless." I ground out at last. "My fuel tanks are empty. If I had a little power left I might show you a few tactics, as it is you can continue with your play undisturbed."

"That's the best news I've heard for years." returned the wireless heartily. "Perhaps after all the rushing about you've done, you wouldn't object to a straight run home?"

He brought his ship alongside, and working from the airlock in a space-suit, chained my ship to the ugly bulk of his black freighter. He wanted to come into my ship, but I just ignored his tappings and pointings. I had that much pride left.

Well, there's not much left to tell. I don't think my arrival at the mining station like a chained captive, and the ensuing fuss and roughness by the miners would interest the reader. And I don't think it deserving of lengthy mention all the insults about my intelligence and powers of observation when they found placed in a drawer beneath the control board, the I.C.'s "Details of Regulation Control Board as Standardised by the Interplanetary Council." These things serve only to detract from the main story which is my tremendous struggle and triumph over the Magna Enigma.

Just one protest I will make. Is it true Democracy when because of a boyish escapade, a fellow has his space-ship confiscated?