

MARCH, 1938.

PUBLISHED BY: **SELECTION COMMITTEE:**

THE SCIENCE-FICTION ASSOCIATION,
 20, Hollin Park Road,
 Leeds 8, England.

E. J. Carnell.
 Dr. W. A. Gibson.
 H. K. Hanson.
 F. Pragnell.
 H. Warner.

EDITOR: Douglas W. F. Mayer.

CONTENTS.

"HOW WE WENT TO MARS" by Arthur C. Clarke.....Page 2.

"RETREAT FROM EARTH" by Arthur C. Clarke.....Page 7.

"MY FIRST SPACE-SHIP" by Eric C. Williams.....Page 14.

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.

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, man 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.

* * * * *

"Gentlemen", 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 congenous 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 here.

" — 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 cent 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 Thoton had always been noted for its radical and unorthodox views.

"In my studies I come 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 these, 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 territory 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 territory 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 television 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 television 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 television, nowhere could I discover any creature, any super-termite, which directed and supervised the operations of the rest. This would not have surprised 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 surprise 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 would 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 Ternite Island with no pronouncement 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 stupefied 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 chip'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 unthinkable 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 crans spinning among moving masses 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 throw 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 - cosmic, ultra-cosmic, 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 on 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 television and then if anything does go wrong, we shall at least obtain some idea of the weapons the enemy uses."

Hours later the tremendous mass of the flagship of the Martian fleet dropped thunderously 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 television. 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,
