

**THE KORTH TRILOGY 2**

**P K McBride**

# BESIEGED!



## THE PROGRAMS

Machine code routines by Neil Stevenson

**SIMULATOR** - this is the Weapons Simulator used by Louis to plan his tactics. Study the enemy, your weapons and their controls and test out your own skills. (See **WHO GOES THERE?** and **DOGFIGHT**, pages 24 and 30.)

**LANDFALL** - bring Space Drive I to a safe landing on the rugged face of the Alpha planet. It's not difficult when the ship is working perfectly, but can you cope with the different sorts of damage that it might have suffered ? (See **ALPHA CENTAURI**, page 36.)

**ALPHA** - can you reach the control room of the Alpha base station and solve the problems of trinary maths to reprogram the Korth computer? (See **THE ALPHA BASE**, page 45.)

### Using the programs

The safest way to **LOAD** these programs is to rewind the tape completely each time you use it. (If you have a tape counter, then there are shortcuts - see below.) Type in **LOAD "PROGRAM NAME"** (in **CAPITALS**), set the volume level somewhere over half way, press **ENTER** and start the tape. The computer will ignore everything until it comes to the program you want. You will then see the following things happen.

A short program will load in and run itself. The instruction "**PLEASE LEAVE THE TAPE RUNNING**" will appear. This program will also introduce the game and may be used to load in any machine code routines that are needed. Finally, it will load the game.

You will see on **ALPHA** and **LANDFALL**, the machine code routines loaded in. They only take a moment or two. "**Bytes: LANDFALL**" (or **ALPHA**) will appear on screen.

Finally, "**Program: LANDFALL**" (or whatever) will be printed, and the main game will load in. The whole of the loading sequence will take around one minute.

If you have a tape counter, you can save a little time by noting where each program begins. To load a program now, rewind the tape, set the counter to 000, run fast forward until you get to somewhere before your program and type in **LOAD ""**, **ENTER** and play. In case of difficulty, do it the safe way!

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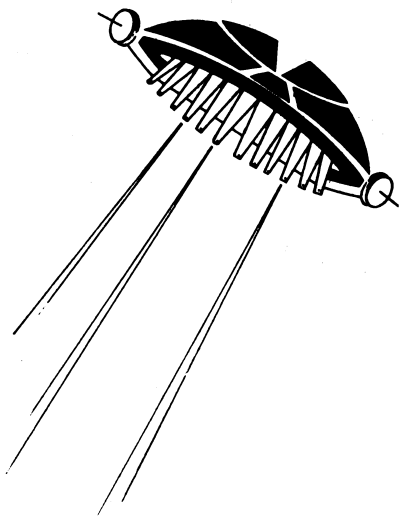
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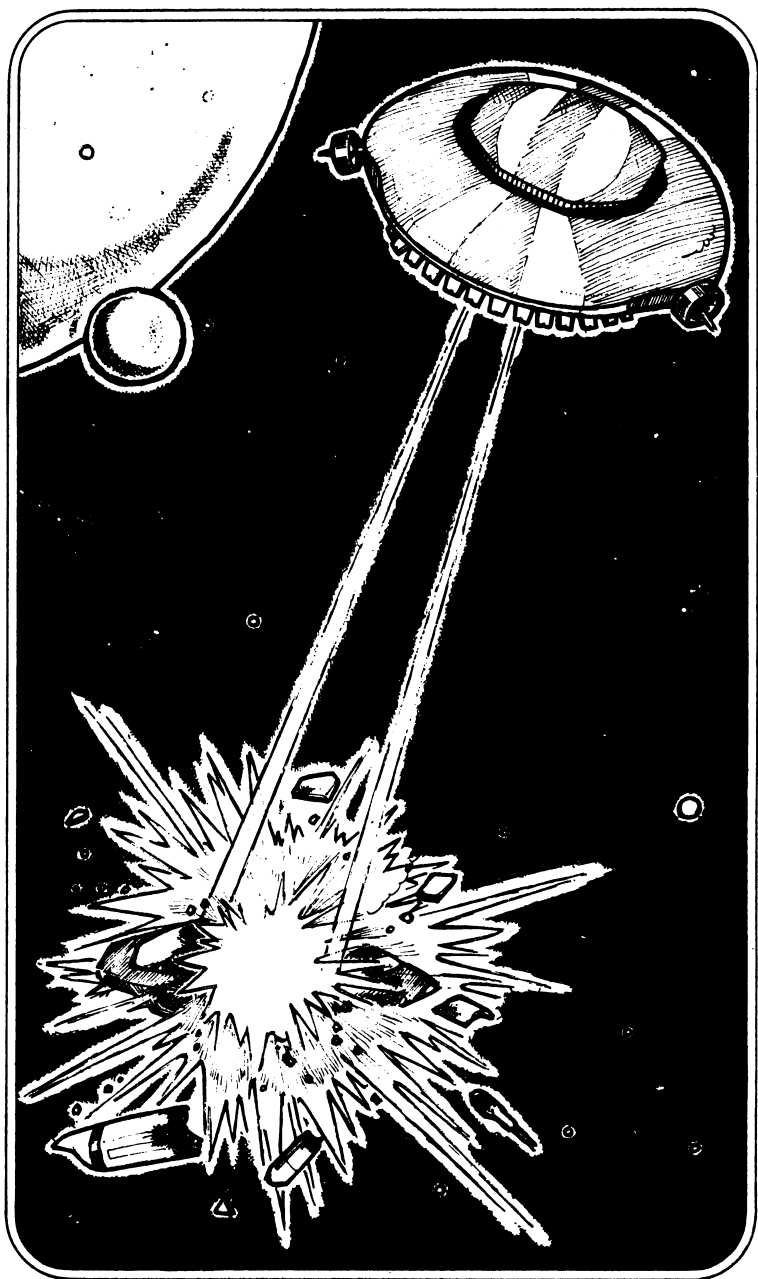
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### **The story so far . . .**

While testing out a new ultra-light space drive on a journey into the Sirius System, the Interplanetary Patrol crew of Kane Britain, Louis Michelin and Xenia Arden made a disturbing discovery on the Planet Arkaron. There they found the native people enslaved by the Korth Galactic Empire. Angered at the cruel treatment, they helped the oppressed Arkons to overthrow one of the garrisons and then returned to the Solar system to warn of the danger growing in the galaxy.

Over two years have passed since these events with no reprisals. Kane's fear that they might have started an intersellar war between the Korth and humankind seems groundless. Then one day, the Korth ships appear in great numbers . . .





## Surrender or Starve

Mankind was under siege. Patrol vessels of the Korth Empire combed the spaceways of the Solar system destroying every ship they found. Every trader, every battleship, every passenger cruiser, large or small, armed or defenceless – every ship they found was destroyed. And they found every ship that dared to leave a spaceport. They could outrun and outgun any Solar ship, and their force fields protected them from even the deadliest weapons in the Solar arsenals.

In the observation room of Mars Station, the crews of the Martian Squadron stood kicking their heels in frustration, watching the viewscreens and the computer print-outs, looking for some sign of change, some hope that perhaps the days of helpless waiting might draw to an end.

‘Why don’t they come down and invade? Then we could give them a fight to remember,’ said Garve, pilot of Mars 4.

‘They don’t need to, do they?’ answered Kane, captain of Mars 9. ‘As long as they cruise around up there, they’ve got us pinned to the ground. They can just sit there and watch us starve. How long can Mars Station last without resupplying? How long can Earth keep going, cut off from the Thormium deposits of Venus?’

It was a depressing thought. Xenia, Mars 9’s computist tried to cheer them up. ‘You would be more than a match for them if they did come down, you know. Those force fields can only be used in space. If they turned them on in an atmosphere they

would overheat so rapidly that the ships would explode. I don't think they could use their proton guns either.'

'Why not?' asked Garve, who was already thinking of ways to lure unsuspecting Korth ships into the air of Mars, and into the range of his lasers.

'Same sort of reason,' replied Xenia. 'Both the guns and the fields rely on the destructive power of protons. They can simply smash atoms to pieces. If you try to use them where there is air, you would have an atomic explosion at the mouth of the gun.'

'Perhaps we could shoot into the guns using old-fashioned bullets,' suggested Louis, pilot and marksman of Mars 9.

'They would never let you get close enough,' said Kane. 'We just couldn't catch them.'

'We need space drives on the patrol ships, or armaments on the test vehicles,' Louis replied.

There was no time then to discuss it further. The squadron commander had come into the room.

'Easy, Squadron,' he said, as they sprang to attention. 'Thank you all for coming. This is an update meeting, but also a mission briefing.'

The air was suddenly charged with the electric thrill of anticipation – a mission!

'Let me first outline the present situation,' the commander went on. 'We have now received the Korth demands. It amounts to a complete surrender and acceptance of Korth rule.'

'They talk of peace-keeping forces and mining concessions, but I think we know from Arkaron just what it means to be part of the Korth empire.'

'The alternative is to be locked into our planets and



bases. Only Earth could survive without interplanetary trade, and even there our way of life could not continue.

‘Our research boys are working on new weapons and defences and, of course, the space drive engines are fully developed. However, the facts are that it would take two to three years to build a space fleet capable of tackling the Korth, and that we only have a few months. There is just a slim chance that we may be able to buy a little time. I would like to introduce Professor Heron of the Space Drive Project. He will give you the background.’

Few of the crew people had taken much notice of the short, bulky man who had come in with Commander Neilsen. As he stepped forward now, they turned their full attention to him.

‘Thank you, Commander. Ladies and gentlemen, could I ask you to look at the main screen.’

The screen was actually a holograph giving a three-dimensional view of Solar space. Space ports on



moons and planets, and on stations in free space were clearly marked with yellow lights. Scattered between them were the green lights that indicated the position of the Korth ships. The professor tapped an instruction into the command console and a network of green lines appeared, weaving a complex pattern through interplanetary space.

‘We have analysed the paths of the Korth ships and they do form a definite pattern. It was difficult to see at first when the Korth were still busy chasing our ships, but we can see it now that they are just on sentry duty.

‘Those tracks look random, but they are not. What they do is ensure that the entire system is in view of their radar at all times. You realize, don’t you,’ he commented, ‘that they have some form of Ubix radar? This means that they can spot a movement of 2000 million kilometres within a second. Our own experimental Ubix is now operational, and even that is only effective up to twelve million kilometres.’

He stopped talking for a moment to type a further instruction into the console. The display suddenly lit up. Each Korth ship was now a slowly moving floodlight, and every planet and moon cast an intricate web of shadows and half-shadows.

‘I said their radar covered the entire system,’ the professor went on. ‘This is not quite correct, fortunately. The display here assumes that the Korth radar is effective over 250 million kilometres. It could hardly be more, and is almost certainly twenty or thirty million less. Notice the areas of radar shadow behind some of the planets and moons, and particularly in the asteroid belt. It is possible to compute a

course that makes maximum use of these shadows to get from Mars to the edges of the system and out.'

'Do you mean that we could all escape?' asked one of the crew in disbelief.

'No, no,' replied the professor quickly. 'Look at those shadows. What you have are tiny corridors in space that change as fast as the Korth vessels move. A few small ships might get through. No more.'

The commander stepped forward again. 'Thank you, Professor.' He turned to the crew. 'You are no doubt wondering what one small ship could do.'

The commander was quite right. What could one ship do against the might of the Korth Empire?

The commander answered the unspoken question.

'It could win us some time. We are almost certain that these Korth ships are unmanned. They all produce a lot of Ubig signals, but they are entirely in computer code. The signals that are beamed back are also in code. We have pinpointed the source of those signals and it is here, on a small planet in the Alpha Centauri system.'

The holographic display had altered to include the distant star system.

'All the indications are that this is a forward base. From our Ubig observations we can tell that there is very little movement to and from this place, and we know that the Korth could not control their patrol ships effectively from the main headquarters on Korth. Even at the speed that Ubig waves travel, it would still take over ten seconds for a command to reach the ships. Alpha base is less than two seconds away.

'It's likely that the base will be lightly manned.

Probably just technicians and computists working directly with a commander. We wouldn't expect to find many guards – or soldiers. The Korth don't appear to know about our space drive and it would take over four years to get there at normal speeds; they can't be expecting any kind of attack.'

The commander paused for a moment to draw breath. One of the listening crew raised a hand.

'Is this a seek and destroy mission then, Commander? I'd like to volunteer on behalf of the crew of Mars 7.'

'Thank you, Captain Berry,' said the commander, 'but no. No, this is not a seek and destroy, though that would in fact be easier, and no, I'm not asking for volunteers.

'The mission is to find the Alpha base, gain access to the main control area and reprogram these blasted nuisances that are zipping around out there.'

The commander jerked a thumb in the general direction of space.

'Excuse me, sir,' asked Xenia, 'but do we know how to program the Korth computers?'

The commander smiled wryly and said, 'I'll let Professor Heron explain.' The professor stepped forward again. 'The answer to your question is not exactly, but enough. We have been monitoring their transmissions for some time and have been able to work out part of their computer language. There are certain similarities with some of the languages we have used. The point is, we have definitely found the GO TO command and the line numbering system.'

'So that you can sabotage the programs by writing in closed loops!' burst in Xenia.

‘Exactly,’ said the professor, smiling. ‘We write in lots of lines saying 100 GO TO 100, 3000 GO TO 3000 and a few that send the program back to some line at random.’

Captain Berry was a simple soldier and didn’t understand. ‘But why not just destroy the command post?’ he asked.

It was the commander who replied. ‘To do that would leave the Korth patrol vessels in our space following their present program – which means, guarding us! Do I need to remind you that they are probably robot ships and will never need to stop for food supplies? Their fuel and ammunition stocks are certainly enough to last a very long time. Those ships must be reprogrammed if we are to get rid of them.’

‘But, Commander,’ Berry went on, ‘what are we going to reprogram them to do?’

This was the bit that the commander was none to happy about. He, like Berry, preferred simple soldiering and straightforward answers. He turned to the professor again.

‘We don’t know,’ said Heron flatly. ‘Whatever it is, it must be better than what we have now. We hope that the program would in effect immobilize the ships. Their on-board computers should be so busy going round in circles that they won’t have any time for steering, watching or shooting at us.’

‘It’s worth a try,’ chipped in Kane. ‘Anything’s better than sitting here waiting for the end.’

‘I’m glad you feel that way,’ replied the commander. ‘The engineers over at Drive Research are arming and refitting the two test vessels. Mars 4 crew will take the first crack at this, as their computist, Epstein,

has the most experience. Your crew will be the back-up team. For this kind of mission, I should really be asking for volunteers, but your two crews are the only ones with sufficient experience of the Space Drive.'

'We volunteer anyway,' said the captains of Mars 4 and Mars 9 together. The other members of their crews nodded their agreement, honoured to be chosen, but grimly aware of the great dangers that lay ahead.

## Space Drive 2

Three days later Space Drive 2 stood on the launch pad waiting for the countdown. The crew had worked almost non-stop. There had been so much to learn. Garve, the pilot, had spent many long hours on the new simulators practising the control routines for the space-drive engines. Louis had likewise been training and the captains and computists of Mars 4 and Mars 9 had been more than fully occupied with preparations for the mission.

Shortly before noon, Commander Neilsen gave the crew of Mars 4 their final briefing.

'It is essential that the Korth do not realize that we have the space drive. If they do find out they will understand that the Alpha base is within our reach, and vulnerable. By the time you had got there they would be more than ready for you. If you are spotted before you reach the edge of Solar space, you must try to hide, or stand and fight. Do not make a run for it.'

The captain nodded grimly. He knew that they would not be able to hide from the Korth once they had been seen, and that they would never survive a fight, but Kane's crew would be following. The space drive must not be revealed if either ship were to take the Korth by surprise.

Two hours later Space Drive 2 lifted off and began its trek down the narrow and shifting trails of radar shadow. For thirteen hours the ship's computer would guide them along a carefully programmed course, while its crew could do nothing but watch and wait.

In the observation room of Mars Station the crew of Mars 9 and of the other ships of the squadron were also watching and waiting. They could follow the ship's progress on the main screen, a tiny white light moving silently through the display. Space Drive 2 was travelling in almost complete radio silence. Each hour, the Mars Station sent out a brief burst of compressed data to update their navigational computer, and then an even briefer burst would acknowledge safe receipt. Even such limited signals would expose the ship to the Korth watchers, but they were essential if the ship was to stay within the ever-changing corridors of radar shadow. The human watchers hoped that the Korth would miss those beeps amid the background noises of the universe.

For four hours it appeared that the plan was working perfectly, but within a few minutes of the fifth beep Professor Heron entered the observation room. He came over and sat by Kane.

'How's it going?' asked Kane, noticing a look of worry on the professor's face.

'I don't like it,' Heron replied. 'Two of the Korth ships have left their normal flight paths. They are both heading in the general direction of Space Drive 2'

'They have shown up on the Korth radar then?'

'Possibly, but not likely. I think that they must have picked up our check signals and gone to investigate. The problem is now, that the radar fields have changed. Garve has been instructed to go into manual control. They've got radar sensors, but you know how much good they are.'

Kane nodded. The radar sensors would tell you when your ship was visible on the enemy radar and you could steer yourself back into shadow again – if you could find any. The catch was, the enemy had already had you on their screens and they would be looking for you again.

'I think you three had better come up to mission control,' said the professor.

The crew of Mars 9 followed the professor out. The other crew watched them leave and feared the worst.

Mission control joined the observation room, though at a higher level. A single sheet of plasglass separated the two rooms, shutting off all noise, but allowing the control staff a clear view of the main display screen.

Commander Neilsen was deep in conversation with a white-coated technician as Kane, Louis and Xenia entered. He looked suddenly tired and old.

'It would appear that the Korth wolves have their prey in view. Both of their ships have just changed course, and are now heading straight for where Space Drive 2 should be. We've warned them, but what can they do?'



They turned to the main screens. The display had been reprogrammed and the tracks of the pursuers now showed clearly in green, two shimmering lines darting through space.

The radio crackled. 'Space Drive 2, Space Drive 2. Message received and understood. Now heading for Saturn. Over.'

'That's a good move,' said Louis. 'If Garve can reach the rings he's got a chance.'

The Korth ships would be forced to slow to the speed of the Solar ship amongst the rocks and myriad moonlets of Saturn's rings. The dust between the rocks would lower the effectiveness of the proton guns and the force fields. Despite that, the Korth ships would still be more than a match for the Solar ships, but Space Drive 2 might manage some lucky shots.

Now that the Korth had spotted them, there was no longer any need to maintain radio silence, and the ship was feeding back data from its radar, its navigational equipment and its cameras. Anything they could learn about the Korth ships and the Korth way of war might be useful one day.

The ship's data was processed by the control computer and used to update the images on the main screen. Space Drive 2 showed, in flashing white light, drawing visibly closer to Saturn's protective rings. The gap between the ship and the pursuers was closing fast.

Tension rose as the seconds ticked away and the three ships raced towards the shimmering rings.

'They're going to make it,' cried Xenia excitedly. The Korth ships were clearly not going to catch Mars 4 outside the rings. Then. . .

‘Oh no!’ cried Kane. ‘Look!’

Just below the rings a green dot had appeared. A third Korth ship had closed on Saturn from behind, and now it had come round to block their escape.

It was over within seconds. Suddenly the display around Saturn clicked out of focus as the flow of data from Space Drive 2 was cut off. The display refocused as the computer switched to the less complete information from the network of Solar observation stations. Now there were no ships to be seen around Saturn. The Korth vessels had already set course to return to their sentry posts.

The commander turned to the crew of Mars 9. ‘I cannot ask you to follow them to your death,’ he said.

‘Commander, you don’t have to ask us, and we are not going to our death,’ said Kane bravely, and he knew he spoke for all three. ‘Thank you,’ said Commander Neilsen. ‘We salute your courage. The Korth will be even more watchful now. This time though you will travel in complete radio silence. The risk of straying out of radar shadow cannot be any higher than the risk of them picking up your signals. Professor Heron will advise you when to leave.’

‘You may as well try and get a night’s rest,’ said the professor. ‘We will not be able to analyse the radar patterns again until those three are back on course.’

## Out!

As it happened, there was little time for sleep. In the pale red light of the Martian dawn the three were

roused from their bunks. They dressed hurriedly, and pausing only to draw a mug of Daystart, they made straight for the briefing room. They sat around the table sipping the thick pale liquid. It tasted as awful as always, but it was the quickest way to soak up the body's needs for a day.

The professor joined them before they had half



finished their mugs. He was red-eyed from lack of sleep, and pale with anxiety.

‘Sorry to get you all out of bed so early,’ he began, ‘but the time is now or never. The Korth seem to be changing all of their patrol routes. I think they probably realized that we have found the blind spots in their radar cover. It looks now as if they are going over to some randomized system. That will prevent us from predicting the escape routes. This time tomorrow they will have us really bottled up. Right now though there’s a chance. Most of the Korth ships are between routes. Those three that chased Space Drive 2 are still heading back in, and many of the

others have been reprogrammed. The only ones that are still where they used to be are this set here, circling around outside the asteroid belt.' He used a slim light probe to show the ships on the small screen in front of them.

'If you can slip past those, you've got a free run. In fact, you can go into space drive once you are beyond their radar. The outer guards are all being restationed, and there is a great hole in their cover all the way through here.' He traced a line with his probe from Ceres in the direction of Jupiter and beyond.

'You are bound to be spotted at some point between there and Alpha Centauri but with any luck the Korth will think that you are one of their own ships, and to help them keep thinking that way, we have fixed you up with a special tape. Play that through your Ubox when the Korth challenge you, and they should accept it as a normal Korth call sign.'

'How regular are the patrols around the asteroids?' asked Kane.

'Very,' replied the professor bluntly. He added a little more detail. 'They give almost total radar cover. You will have to sneak through the asteroids and wait for an opening at the far side. We can't predict it for you.'

By this time Commander Neilsen had joined them.

'We could not allow the first crew to use the space drive, because keeping that secret is vital to the success of the mission. It is still just as vital, but if all else fails you can use it. Better to have you alive and the ship in one piece. Without you there is no chance of defeating the Korth. If they are expecting you, your mission to Alpha will be infinitely harder, but at least

you will still be able to try.

‘Lift off in one hour,’ he said, glancing at his watch. ‘Any last questions?’

Kane looked at his two crew mates. They nodded their heads briefly.

‘We are ready,’ he said.

‘Good luck.’ The commander reached out a hand to each in turn.

‘See you in around six weeks,’ said Xenia.

‘Sir, a final request,’ said Louis stiffly.

‘Yes, Louis?’

‘When those Korth vessels disappear, can you make sure that there is plenty of strawberry Daystart on the first supply ship?’

The commander laughed for the first time in weeks.

‘I’ll do just that.’

Fifteen minutes later the three friends were cramped into the forward cabin of Space Drive 1. Even in normal times the cabin was not exactly roomy, but for this mission there was much extra equipment and many more stores. Louis’ ‘Pup’, Space Drive 1, was now armed with laser cannons, projectile guns and a bewildering variety of missiles, small and large. No one had yet found any weapon that worked on Korth warships, but Louis had a few ideas that he intended to try out if they had the misfortune to run into any trouble.

Chief Engineer Marley had also been able to improve the Pup’s drive systems to make it more manoeuvrable, but that had made the controls more complex than before. Louis was almost completely surrounded by the panels of dials, switches, buttons, displays and monitor screens. He peered between two

of the panels.

‘All set, Kane.’

Xenia was taking a last look at the Mars Station, her home for almost two years. In the morning breeze, the thin air of Mars had begun to fill with dust, and the outlines of the Station were blurred.

‘We’ll be back in six weeks, remember,’ said Kane.

‘You’re right,’ she replied briskly. ‘Ready when you are.’

Kane looked at his watch and began the count-down. ‘Ninety seconds. Checklist.’ They went through the checklists, each making sure that their part of the control system was functioning properly. At last all was ready.

‘Main ignition.’

‘Ignition, check.’

They felt the thrust of the engines as the ship began its short dash down the launch pad. In two seconds, and three hundred metres it had reached take-off speed.

‘Ground gear retracted fully.’

‘Gear up.’

Within another five seconds the ship had reached escape velocity and had begun its winding course through areas of radar shadow, across the two hundred million miles of space to the asteroid belt. Using the space drive, the ship could cover the distance in a few moments, but their path would then have taken them out of the radar shadow. The risk of a sighting was too high.

The ship accelerated up to the maximum of the normal drives, one fifth of the speed of light. The journey would take them over an hour.

Forty minutes later Louis cut in the reverse thrust that would slow them down to a speed at which they could navigate a safe path through the countless thousands of asteroids, large and small, that made up the belt. If the asteroids made life difficult for the Mars crew, they also made it difficult for the Korth ships.



Louis brought the ship on to a course parallel to the orbit of the asteroids, and matched his speed to that of the lifeless rocks. Now, even though they were still hurtling through space at a hundred kilometres a second, the asteroids appeared almost stationary. He began the long series of careful course corrections that would let them weave a safe path through. Many of the asteroids were less than a metre across, and these could be dealt with by the ship's meteor screens, but

there were also many that were very much larger. Travelling at over six thousand kilometres a minute, it needed only the slightest slip to bring them to their doom.

Kane and Xenia kept a visual watch through the unshielded ports while Louis steered using the radar.

'Larger runner ahead right', called Xenia, noticing an asteroid moving faster than the rest.

'Got it on screen, Xen, thanks.' He made the delicate adjustment that took the ship above the course of the runner. As the ship drew nearer to the outer edge of the belt, Xenia turned her attention to the computer display. There she could watch for the Korth ships whose probable courses had been programmed in by the professor's team on Mars.

'There should be a patrol out there any minute, Louis,' she warned.

'I'll tuck in behind that next big one,' he replied.

They moved into a hiding orbit and matched speeds exactly. They waited anxiously, watching the screens and listening on the Korth radio frequencies. If they were lucky they might pick up an echo from the patrol's searching radar beams.

'There!' cried Kane suddenly. The others had heard it too. The soft beep of a radar echo sounded again, this time its tone subtly different.

'It's moving across from the right,' said Xenia.

They heard the searching beams moving closer and listened breathlessly for the sharper ping of a direct radar contact. Louis' hands hovered over the controls. If they were spotted he would whip the ship out from behind the asteroid and go over to space drive.

The echoes stopped completely as the Korth patrol



vessel moved directly across their path, the other side of the asteroid. Louis turned the ship and began to steer it around their shielding rock, keeping always in radar shadow. He halted it to the right of the asteroid and waited. Xenia watched the computer display, and calculated carefully.

‘The professor’s simulation is almost right, I think,’ she said. ‘He seems to be a little over four seconds out.’

‘That’s not bad guesswork,’ commented Kane.

‘It’s more than guesswork,’ said Xenia angrily. Kane had never seemed to appreciate the finer arts of programming.

‘We’re clear to go now, Louis,’ she called.

Louis nosed the ship out from behind asteroid. The radar echoes had died away completely. The patrol vessel had sped out of sight.

‘Quickly, another should be due all too soon,’ Xenia reminded Louis. He needed no reminder, and even while she was talking he had begun to accelerate Space Drive 1 up to normal drive speeds.

Within a few minutes they had reached the top limit of the standard ships.

‘How are we doing, Xenia?’ asked Kane.

‘O.K. so far. We should be clear in seven and a half minutes.’

The seconds ticked slowly by. Xenia checked the computer display constantly, Kane listened for the tell-tale ping of a Korth radar beam, Louis held a hand over the space drive switch.

‘Nearly there,’ said Xenia. It looked as if they were going to slip out of the system unseen.

‘Korth!’ shouted Kane suddenly, as he heard a

radar contact. Louis hit the space drive switch and the three were forced back into their seats by the massive accelerational thrust.

Within seconds they had covered thousands of kilometres of space. Louis brought the ship round in a tight curve and accelerated further.

Twice more he turned the ship before settling on their final course.

'I don't know if they spotted us, but if they go to investigate, they won't find us over there,' he said. The ship was by now millions of kilometres from where they had been caught on the Korth radar and heading at ninety degrees to the course at that time.

'Good work, Louis,' Kane congratulated him. There had been no more tell-tale pings of radar contact. 'Let's hope they decided that the sighting on their screens was a meteor or a computer error.'

'Korth computers don't make errors, do they?' asked Louis.

'They will. Don't worry,' replied Xenia.

## Who Goes There?

There was no further sign of the Korth patrols for the rest of their journey inside the Solar system, and the long straight run from Ceres out beyond the orbit of Jupiter passed without incident.

Once outside the system, Louis pushed the speed up to the ship's new limit of nearly twenty times the speed of light. For over two weeks they would travel at five million kilometres a second, leaping across the

immeasurable reaches of the galaxy, drawing ever closer to Alpha Centauri.

Most of the time Louis let the ship fly itself, its computer making those delicate adjustments that would keep it clear of the occasional debris of interstellar space. Several times each day Kane would calculate their true position and check this with the pre-computed flight path. Sometimes Louis would then take the helm to correct the slight wanderings that were caused by uncharted galactic gravitational fields, or by the impact of particle showers on their meteor deflectors. Slight wanderings they may have been by the standards of any planet-bound pilot. You could go a tenth of a degree off course while crossing the widest ocean on Earth, and at the end of the flight, the airport would still be in sight. Such errors could not go uncorrected in the depths of space. Kane knew that if the ship slipped off course by as little as one hundredth of a degree, they would miss their goal by over a billion kilometres.

Xenia also had her routine duties and status checks, but for much of the time the three were free to prepare themselves for whatever lay ahead. They had been given copies of the last transmissions from Space Drive 2 and they studied these minutely, squeezing out of those few fleeting pictures and signals every last drop of information about the Korth ships.

Xenia had got the computer to produce several possible models of the ships, and the three compared these with the appearance and behaviour of the real ships seen in those pictures. In the end they were able to build up a fairly detailed model of the enemy's vessels.

‘Now come on, you two,’ said Louis, ‘There must be a weak spot somewhere.’

‘Why must there?’ asked Xenia.

‘Because we’re helpless if there isn’t,’ replied Louis. He said it jokingly, but they were all aware of the truth behind it.

‘Actually, he could be right,’ said Kane thoughtfully. ‘No design is ever perfect, is it?’

The model rotated slowly on the screen in front of them. They stared at it for a time in silence.

‘Where’s our weak spot?’ asked Xenia.

‘Do you mean in the meteorite screen or in battle?’

‘Let’s try the screen first, Kane,’ she replied.

‘It’s complete,’ said Louis, then almost immediately he corrected himself. ‘No, it’s not. There’s no screen behind the exhaust, and we have to open holes in it around the directional jets when we manoeuvre. You have to do it, but of course it doesn’t matter. The exhausts would deflect any meteorites anyway.’

Louis brightened and turned to Xenia. He nodded towards the model on the computer screen. ‘Where’s its main exhaust?’

‘I’m afraid there’s no sign of one. There’s no disturbance in the ether as they go through space. Heron thinks they’ve developed some kind of gravitational drive.’

‘Just a minute,’ said Kane. ‘Xenia, can you take us through those pictures from Space Drive 2 again – very slowly. I’m sorry, Louis, but I think we might have missed something.’ Kane knew the sorrow Louis felt each time they relived those final moments. He and Garve had been friends since their days at the pilots’ college.

‘It’s O.K., Kane. Garve wouldn’t have wanted to die in vain.’

They watched silently. The few brief seconds of the recording slowed down to fill many minutes.

‘There!’ cried Kane. ‘What’s that?’

There was the slightest twinkling of a distant star behind and above the image of one of the Korth ships.

‘That star was steady before. Can you close in and get an analysis of it, Xenia?’

‘Wasn’t that them firing?’ asked Louis, as Xenia adjusted the video focus and called up the synchronized radar readings.

‘No,’ Kane replied. ‘That comes just after. Notice the way it changes its angle slightly. The ship has made a directional adjustment to bring its guns to bear.’

They watched the action unroll again, replayed now in close focus.

‘He’s right, Louis.’ Xenia had a radar display on a second screen. ‘There’s a disturbance in the ether coming from around here.’ She pointed to the top left of the ship.

‘So they use directional jets just like we do,’ said Louis. ‘There’s hope yet.’

‘Heat-seeking missiles?’ suggested Kane.

‘Maybe, but I don’t think that’s our best bet. Old Marley fixed us up with a selection of everything. I’ll work through the specifications.’ Louis would say no more then, though several ideas were forming slowly. He spent much of his spare time from then on running through simulations on his weapons computer.

Their first contact with the Korth came on the fifth day out from Mars. The sudden sharp ping of the

radar sensor brought them instantly to full attention. Louis swung from the weapons computer and set to work on the main controls. He had pulled the ship into a new course before the Korth radar picked them up again. Xenia turned to the communicator.

‘There’s a steady Ubix source around here,’ said Kane, glancing up from his navigational display. ‘This could be a frontier post.’

A few seconds passed. Louis was soon able to pick up the Korth station on his radar display. ‘Got it,’ he commented, his eyes never leaving the screen. The Ubix crackled out a series of brief high tones. It was the Korth challenge. ‘Who goes there?’ The communicator was programmed to recognize this and give the taped reply.

The Korth watchers in the Solar system had monitored many exchanges between Korth ships. They had noted that the initial challenge was always the same, and that the replies followed a distinct pattern. Heron’s team had come up with a tape that, as far as they could tell, would identify them as a small Korth patrol ship. If the ruse worked, they could now expect the standard acknowledgement from the Korth station. They waited anxiously.

‘No good,’ said Xenia. ‘They should have acknowledged by now.’

‘Plan B?’ suggested Kane.

‘Let’s see,’ replied Xenia. ‘There are several possibilities.’ The Ubix crackled again. Xenia checked the analysis print-out. ‘It’s a rechallenge. Perhaps this will keep them busy for a little longer.’ She picked a reply from the selection that the professor’s team had prepared and sent it out over the Ubix. This taped

reply repeated the original message, but with interruptions it then came to a sudden stop as if the radio had failed.

‘Another fifteen seconds and we should be beyond the range of their radar. Can you keep them guessing, Xenia?’ asked Kane.

A long stream of harsh tones sounded from the Ubix. Xenia listened carefully, then studied the print-out as it whirled from the communicator’s analyser. ‘We don’t know what that was,’ she said. ‘Ignore it or confuse it, Kane?’

‘Ignore it. See what happens. Eight seconds more, that’s all.’

The Ubix sounded again. ‘Confuse it,’ said Kane.

Xenia called up a keyboard program that she had prepared and her fingers tapped rapidly on the keys. The Ubix communicator sent out a meaningless series of tones, blips, crackles and silences.

‘Three seconds, keep it up,’ Kane encouraged her. The pings from the radar sensors had changed now, and were beginning to fade. ‘That’s it, but give it a little longer to be on the safe side.’ He turned to Louis. ‘Ready for course correction?’

‘Ready.’

They took a further evasive sweep and then brought the ship back on to a new course, heading once again for Alpha Centauri. On their passage through the Korth radar field they had apparently been following a course from Andromeda towards Theta Pegasus. If the radar station alerted the rest of the Imperial defences – and it was a reasonable guess that it would do – then at least they should be expecting them to turn up elsewhere.

They remained on full alert for the rest of that day, but there was no further trouble. Heron's tape and Xenia's program had confused the Korth once but whether they would work a second time was very doubtful.

## Dogfight

Ten more days passed with no sign of the Korth. In those deep spaces between the stars there were no regular patrols and only once did they cross a shipping lane linking parts of that far-flung empire. Even there they could expect to come across only occasional traffic, and in fact there was nothing within 250 million kilometres at the time of their crossing.

On the eighth day out, Mars Station broke its self-imposed radio silence to send them a Ubix message. It was heavily coded, and Xenia went into a long huddle with her machines. At last she looked up, her eyes bright with excitement.

'They had a major breakthrough with the Korth computer language. I should be able to work out an interpreter program now.'

'That'll make life easier,' said Kane, who was still far from sure just exactly what they were going to do when they got to the Alpha base.

They had known for some time that the Korth computers worked in trinary rather than binary code – bits were not simply set to 1 or 0, on or off, but could be 1,0 or –1, positive, non-charged and negative. From this the scientists on Earth and Mars had



been able to build up a picture of their mathematics and begun to see how the line numbering systems of the Korth programs worked.

Xenia now had a set of basic machine code instructions which would enable her to work out the overall structure of any Korth program. What was more, she had the outline of a wiring diagram for a connector, which with any luck should let her link into a Korth machine. She would still need some special equipment, but Kane could assemble to any design that Xenia and her computer could produce. It was a race against time though, for Xenia had much basic work to do before she would be able to plan out the new interface.

Xenia struggled with the intricate and at times almost impossible problems for over a week, working fifteen or more hours every day. At last she had the essentials of an interpreter program worked out, and the computer had drawn up the wiring diagram for the interface. Kane had sorted out the parts he needed from the ship's stock of spares and had begun etching the circuit board with a micro-torch when his work was suddenly interrupted. There was the unmistakable ping of the radar sensor. He looked up from the screen of the electron microscope and checked the navigational display.

'Korth? There have been no Ubix signals from this sector of space for days.'

'Lying in wait. Total radio silence,' suggested Louis. He had taken a fix on the source of the radar and was even now typing instructions into his weapons control. 'Buy me time, Xenia. I need twenty seconds for my surprise packages to reach them

before they try to blast us out of space.' He launched two missiles, so small and slim that they should be invisible to the Korth radar, then he turned the ship on a new track veering away from the waiting enemy.

'Do you think we can outrun them, Louis?' asked Kane.

'I doubt it, but I'm not really trying. I want to pull them into the path of those power-seekers.'

Xenia would have asked what power-seekers were, but there was no time. The Ubix crackled with a Korth challenge.

'They've changed the pattern,' said Xenia. 'This isn't the usual challenge. I'll try one of Heron's other replies, but don't expect it to work.'

'Just a few more seconds Xenia, that's all we need.'

Louis could now see the image of the Korth ship on his radar screen. From its size and speed, Louis judged it to be some kind of battle-cruiser. It was closing fast and would soon have them in range of its proton guns.

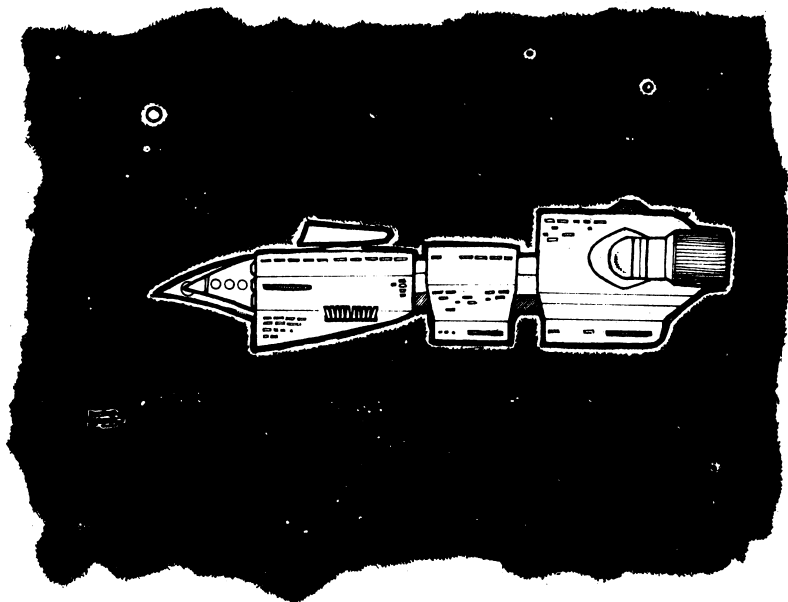
It didn't respond to the signal that Xenia had sent. She called up her keyboard program and began to type out a rapid series of random noises.

'This won't make any sense to them, Louis, but it might slow them down trying to work it out.'

The two ships were by now less than a million kilometres apart. Louis braked with full reverse thrust, then began to dodge and weave away from the Korth warship.

'Sorry about the rough ride,' he called, 'but I must make them use their directional engines. Those power-seekers should be in orbit around the Korth by now.' The mighty vessel had matched speeds with

Space Drive 1 and closed the gap to a few thousand kilometres. Their tele-cameras had it in focus and they could see some of its detail. The unmistakable cone-shapes of the Korth proton guns bristled from around the sides and from its upper decks. Louis accelerated suddenly, the tiny ship diving under the path of the monster. He braked sharply and spun Space Drive 1 around to face up into its bulk, now close above them. The great warship began to turn on its axis to bring its guns to bear when. . .



‘Bull’s eye!’ cried Louis. There was a brief flash of light and spurt of smoke from the rear underside of the ship. ‘And another!’

A further flash showed where the second power-seeker had found its mark, slipping through the brief

opening of the forcefield and exploding in the exhaust port of a directional engine. This time the fire burned for a few moments before the Korth were able to shut down the fuel supply.

‘So much for the easy part,’ said Louis grimly. ‘This is where it gets tricky.’

A warship as large and as advanced as the one on their screens was not likely to be hampered for long by the loss of two small directional engines. For a moment though, the advantage was on the side of the humans. Louis raced away from the enemy, heading behind and above it, then he turned and brought Space Drive 1 on a new course rushing directly at one of the larger proton guns, though at an angle to its field of fire. The ship began to turn, the barrel mouth opening menacingly towards them. At this close range its mighty blast would vaporize Space Drive 1 and its crew instantly. As the gun turned fully on to them Louis fired directly into the open barrel then swerved violently down and right. The ship shuddered as proton streams from the smaller rear guns raked their side.

‘Fantastic!’ said Xenia breathlessly.

‘Far and fast, Louis,’ added Kane, ‘I think she’s going to blow.’

‘That was the idea,’ he agreed.

On the screen in front of them they could see a gaping hole where the main rear proton gun had been. The ship’s side glowed red around the hole, and from its depths ever more violent flashes of light appeared. The force field around the warship had shimmered orange-red through to brilliant white in the first second after Louis had fired. That had been shut

down, but the direct hit on the proton gun seemed to have set off a chain reaction within the ship. A great flash lit the screen as the rear of the cruiser exploded, hurtling fragments of twisted metal through space all around. The shattered hulk of the ship was thrust away by the force of the blast, and slowly disappeared from view spinning helplessly over and over.

‘Not bad,’ said Louis happily. ‘Bit better than I expected really.’

‘So what did you do?’ asked Xenia, who had been so busy with her own work that she had not had time to find out about his plans.

‘Well, you got the power-seekers, didn’t you? They were tuned to pick up disturbances in the ether caused by the exhaust ports, but they travelled too slowly for me to fire them directly. That was why I needed that extra time. They had reached the Korth ship by the time it caught up with us and were there, ready and waiting. They had to be small though, so as not to be noticed and they didn’t do much damage.’

‘Yes, I guessed that much,’ Xenia agreed. ‘But what did you do to the proton gun?’

‘Same as I said back on Mars. I gave them a taste of old-fashioned lead. It’s a heavy metal – high mass. . .’

‘So when the proton gun fired it exploded the lead within its barrel!’ Xenia burst in.

‘And set off that very useful chain reaction,’ Kane completed the story. ‘Well done, Louis.’

‘As a matter of interest, how close were we to them getting us?’ asked Xenia.

‘Ooh, no chance,’ said Louis casually, but he knew they had been within a thousandth of a second of a violent death.

## Alpha Centauri

They travelled far from the site of their battle with the Korth ship before slowing down to sub-light speeds. The ship's monitoring systems showed no sign of any real damage, but they knew that they had not escaped from the encounter completely unscathed. Kane climbed into a pressure suit and gathered together a selection of testing and repair equipment. With the speed held stable at 50,000 kilometres a second, he went out through the rear airlock to examine the ship's hull.

'How's she looking, Kane?' asked Louis.

'Topside, O.K. Portside – forward fin shot away, some surface scarring. Number 3 directional exhaust damaged, but should still function. Underneath – hmm, hole in the cargo bay. I can patch that, but we'll have to check for internal damage there later. The pressure sensors must have gone or we would have noticed that. Starboard side, O.K.'

He moved carefully over the length of the ship again, checking and rechecking. They had lost one of their tele-cameras, but that could be replaced. The low-frequency radar antennae was twisted out of all recognition and that posed more of a problem.

'How do you feel about landing without an L.F. radar?' he radioed to Louis.

'I'll live without it,' he replied. It would make any landing more dangerous, but was not vital.

The repairs and replacements took little over an hour, and Kane soon rejoined the other two.

'We got off very lightly then. I'm surprised the

proton guns did such little damage.'

'I've been working on that one, Kane,' said Xenia. 'I think it was because we were travelling at ultra-light speed at the time. The turbulence would tend to deflect any indirect hits – unless you were going towards the streams. In that case, it would pull in proton beams that would otherwise have been near-misses.'

'The moral is, attack slowly, and retreat with haste,' commented Kane. Alpha Centauri was now less than a week's flying time away if they flew direct – but that was no longer a good idea. Their course changes when they had been first spotted by the Korth may have fooled them briefly, but it was a fair bet that someone had put that sighting together with the early brief contact as they left the asteroid belt, and had drawn a line stretching from Mars to Alpha Centauri. It wasn't just chance that had placed that Korth warship so close to their path, watching and waiting. There would be others closer in, and they would be ready for Space Drive 1 this time.

The battle and the damage repair afterwards had already slowed them down. Now they had to make the final approach via a long detour.

'I'm afraid Commander Neilsen is going to have to put up with his "blasted nuisances" for an extra week, folks,' said Kane, looking up from his star charts. 'We go in towards the heart of Korth space and approach Alpha from the other side. Xenia, can you try and work out a suitable reply to their new challenge?'

'I can try,' she said. 'It's probably a codeword change. I'll analyse the differences and see what I can

come up with.'

'Louis, have a look at this route and see what you think.' The new flight path swung them through uncharted sectors of space, bearing round on Alpha Centauri in a wide semicircle.

'Looks like a long, slow haul,' commented Louis. 'Let's get started. Point me in the right direction, boss.'

They would never know whether or not the Korth were waiting for them on the direct route to the Alpha base, but there were certainly no extra guards on the route they did take. Space Drive 1 was within two days' flight of the base before the sensors picked up the radar scan of a Korth vessel.

Xenia had programmed the communicator to respond immediately to any such contact, and the ship's Ubix beamed out the Korth challenge that Xenia had taped on their last meeting. The Korth ship replied with a message which she guessed to be the correct identification code, and the two vessels crossed millions of kilometres apart.

'Is that it?' asked Louis, almost disappointed that things had gone so smoothly.

'I think so,' Xenia replied. She was studying the Korth ship's signal. 'If I'm right, the correct reply falls into two parts. First a password and then the ship's identification number. All the ones they monitored in the Solar system used the same password, and the numbers following all started the same. The password has definitely changed and I can see a link between that and the new form of the challenge, but that ship had a totally different identification number.'

'So, a different sort of ship, not a robot patrol



craft,' suggested Kane.

'Possibly not even a military ship at all. Might have been some sort of freighter,' added Louis.

'That would explain why they didn't try to question us. They could have taken us for a Korth warship.'

'Shall I do the same next time?' asked Xenia, turning to Kane.

'Why not? It worked well enough just now. Let's hope there isn't a next time anyway.'

Their luck held and they reached the edge of the Alpha Centauri system with no further contact. There they slowed to sublight speed and took up orbit fifty million kilometres out from its centre.

'Let's look at the sights,' suggested Kane, pressing the switches to remove their outer screens.

After being so long enclosed in their tiny craft, the immensity of the blackness struck them like a physical blow. At first their eyes could not focus on the distant stars, now regrouped in new constellations.

The ship turned slowly and came to rest pointing at Alpha Centauri. A star, brighter than the rest, shone in the centre of their view.

'Here we are,' said Kane.

'I didn't realise that we were still so far out.' Xenia sounded puzzled. She hadn't been paying too much attention to the flight plans, but this was not what she had expected. She looked again at the gleaming yellow light. 'It's a beautiful one.'

'We aren't, and it's a beautiful two,' said Kane. Xenia looked mystified so he explained properly.

'Alpha Centauri is a double star – this yellow one that you can see and an orange star that should come into view soon.'

‘Like the twin suns of Sirius?’

‘Yes and no. Sirius A is a bright star very like our sun, and its companion is a tiny dull dwarf. Here the suns are much the same, and both of them are duller than ours. In fact, if you lean over here, you should be able to see the Sun. It’s one of the brightest stars in Alpha’s sky.’ Kane checked again with his navigational display and then pointed to a distant brightness.

Xenia peered round and was able to spot it before the ship’s motion took it out of view.

Kane allowed them the luxury of star-gazing for a little longer before getting his crew back to work. He closed the protective screens in readiness for ultra-light travel.

‘Come on, you two. Let’s find that base.’

Just where was the Alpha base, the beacon that had drawn them over four light years from home? Here, within the confines of the Korth Empire, its Ubix signals were less easy to identify. Xenia homed in on them at last and was able to give a bearing. They kept the Ubix tuned into them and travelled a measured million kilometres to take a second fix. Kane was then able to calculate the base’s position.

‘About eighty million kilometres the far side of the suns. Xenia,’ he called, ‘that freighter or whatever that we met earlier, did you tape its reply?’

‘Of course. Do you want to play it back if we are challenged?’

‘Please. Did you log its speed?’

‘We estimated it at ultra-light 1.3,’ Xenia replied.

‘Right, Louis, you are now the pilot of a Korth freighter. . .’

‘. . . or whatever-it-was,’ added Louis.

‘Take her up to 400,000 and head in. I’ll give you the proper course in a moment.’

They were challenged as they crossed the orbit of one of the inner planets, but the disguise seemed to work. There was a brief acknowledgement of their reply and no more. They sped on, running close round and past the twin suns, drawing ever closer to their goal. It was then, when Louis had slowed to pick a safe path through a patch of small asteroids and debris, that Xenia came up with the idea that got them safely down to the planet of the Alpha base.

‘They won’t fall for that freighter trick when we try to land, Kane. They are bound to check it before they let us down.’

‘You’re probably right, Xen,’ he agreed. It was something that had been bothering him too.

‘So suppose we went down as a meteorite. Could Louis do it?’

Kane glanced at their pilot who was at that moment locked on to his screens, his hands flitting over the controls as he manoeuvred through rock-strewn space. ‘We could enter that way and then go into landing mode when we were closer down. Louis could do it, but I think we could make it even more convincing.’ Kane brightened visibly, a plan forming rapidly in his brain. ‘Slow down Louis, I want to pick up a stone.’

If Louis was surprised by Kane’s order, he didn’t show it. He brought the ship to a halt just inside the far edge of the asteroid belt and turned to Kane.

‘Tell me more.’

Kane outlined his plan. Instead of travelling down as a meteorite, they would travel with one. The

immense thrust of Space Drive 1's ion engines could be used to push one of the smaller asteroids out of its orbit and into the gravitational pull of the planet. Tucked in close behind it, they would be protected from the worst of any re-entry heating if there was an atmosphere, and they would be invisible to any radar observations. Louis was a bit doubtful about the idea.

'I remember visiting a zoo once on Earth. There were some dolphins there that pushed beach balls around with their noses.' He paused. 'Their trainer said it had taken them over a year to learn that trick.'

'Ah, but you're no dolphin, Louis,' Kane encouraged him.

'And asteroids aren't beach balls. But nothing ventured, nothing gained,' Louis agreed. They lowered the protective screens and browsed slowly through the asteroid patch looking for a small and reasonably regular one. At last Louis found one that he was happy with. They scanned it carefully and calculated the necessary thrusts. Louis manoeuvred Space Drive 1 behind the asteroid and slowly closed the gap between. The rock was over five metres across and its bulk shut off all forward vision. There was a slight jolt as the ship made contact.

'So far, so good,' said Louis. He began to apply the thrust of the main ion engines. 'Here we go.'

Slowly, very slowly, he accelerated, pushing the lifeless mass ahead of them.

'We're a little off course,' commented Kane, 'but I don't think it will matter. This should still get us down close enough to the planet for the gravitational field to take hold.'

When the asteroid was safely on its way, Louis

eased the ship back to take up position some fifty metres behind. They were travelling quite slowly now – little over 10,000 kilometres a second – but the Korth would probably have been suspicious of any ‘meteorite’ that travelled faster than that.

The final approach to the planet took over two hours, but at last Kane, who had been monitoring the asteroid’s path closely, was able to declare that it had been caught by the gravitational field.

‘It should start to dive down now. Entry to the atmosphere within thirty minutes.’

‘There is an atmosphere then?’ asked Louis.

Xenia replied, for she had been collecting data on the planet. ‘Yes. Spectral analysis shows it to be mainly helium, with traces of oxygen and nitrogen. Expect fairly low pressure. The planet is smaller and lighter than Mars, so the atmosphere is sure to be that much thinner.’

The asteroid was now spiralling down ever closer to the planet, picking up speed all the time. Louis stayed close behind, riding the gravitational forces and using only the directional jets to keep them tucked into its radar shadow. As the rock entered the thin atmosphere its rough leading edge heated rapidly and showers of sparks began to spill off around its sides.

‘It’s like a firework party,’ said Xenia, seeing the glittering display in front and around them.

‘We’d better close up our screens. This is only the beginning.’ Kane did not like the way that their meteorite had heated up so quickly.

The rock’s flight was slowed steadily as the atmosphere thickened and its wake became ever more

turbulent. Louis braked and pulled the ship back to a safer distance. Even so he was constantly trimming and adjusting to maintain their course. They were still seventy kilometres above the surface when Kane cried out. 'Pull back, Louis. It's breaking up!'

Louis braked sharply but the ship was rocked by the impact of larger pieces that had fallen back and smashed through their meteor shields. Space Drive 1 was knocked off course and began to dive straight down. Louis wrestled with the controls. The reverse thrust was not responding. He spun the ship on its axis with the directional jets and gave a blast with the main drive. Its headlong dash to the ground was halted and became a rushing flight several kilometres above the surface.

'Now where?'

'The computer has located the Ubix transmitter on the other side of the planet, Kane,' said Xenia. 'Here are the figures.'

Kane took them and added his own calculations. 'We'd better come down before their horizon. Here's your route, Louis. Can you get us down?'

Flying backwards over an unknown planet without low-frequency radar was not Louis' idea of fun. The main radar display was of little use at this height.

'Xenia,' he asked, 'can you patch a landing display through to my screens?'

She linked the tele-cameras through the main computer so that Louis had before him a display of the ship's flight in relation to the planet's surface. He slowed the ship and took it down even lower so that it hugged the contours of the ground beneath and stayed below the Korth radar.

'500 kilometres and closing.' Kane read the co-ordinates displayed in front of him. Louis slowed down even more, and turned the ship so that the main drive could be used against the gravitational pull of the planet. He brought it to a halt with the directional jets and began to lower it down on to its tail fins.

They were in an area of craggy rocks around a hundred kilometres from the Alpha base. To their left, the rocks rose up into ragged cliffs. Louis edged the ship sideways away from them, looking for a smoother place to bring the ship to rest. He found a place where the boulders were more widely scattered with drifting sand between.

'Here goes,' he muttered, and he would have crossed his fingers for luck if he hadn't needed them all for the controls.

The ship came down on its tail and then keeled over to rest angled on its side.

'Not the best of positions for take-off,' he commented.

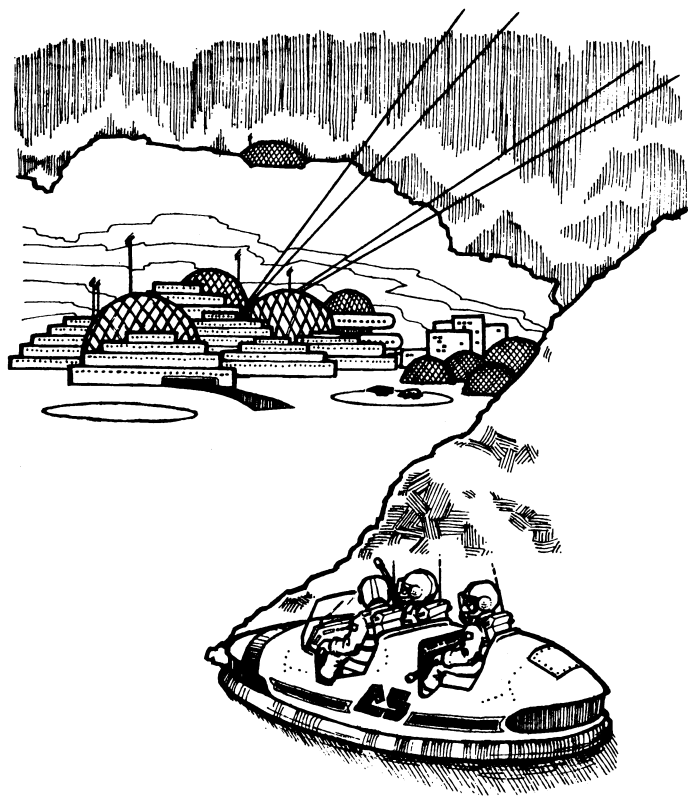
'Let's worry about that later,' suggested Kane. 'We're here and that's enough for now.'

## **The Alpha Base**

The light changed from yellow to pale orange as the first of the twin suns sank out of sight. Louis and Kane had unpacked and assembled the lightweight hover-scooter while Xenia had got their equipment and instruments together. It was fully dark before Kane was satisfied that they had all they might need

and that everything was functioning properly.

'O.K., let's go,' he said, touching helmets with Louis. He signalled to Xenia. In the thin helium atmosphere and sub-zero temperatures of the planet, the three were forced to wear full pressure suits. These made normal speech impossible, and Kane wanted to keep the use of the suit radios to a minimum in case the Korth were keeping a watch on the frequencies. However, sound waves travel well through aluplas, and they were able to talk to each other as long as their helmets touched.





They moved swiftly through the darkness of the planet's brief night, using a sonar scan to pick up the contours of the ground ahead of them and taking their bearings from the stars. A moon rose slowly on their right, its pale yellow light casting long shadows on the rocky waste. As they drew closer to the Korth base, Kane slowed and switched off the sonar scan. He moved on silently, steering a winding course, taking advantage of every scrap of cover he could find.

He stopped the scooter at last behind a rocky outcrop a few hundred metres from the base. Ahead of them was a scatter of buildings around a small landing field. Beyond that they could see the outlines of a squat, slab-sided building, rising up in a series of steps each five or six metres high. It was unlit, but lights were on in a corner of the landing field. They could see activity around a spaceship there.

The three put their heads together. 'What do you make of it, Kane?' asked Louis.

'Unloading, I think. Do you remember those wheeled transporters they had on Arkaron? I think I can make out two parked beside the ship. ... Look, one's moving!'

The heavy vehicle rolled across the field towards the transmitter building. A shaft of light spread out as a door opened at its base. The transporter rolled on and disappeared, the doors closing again behind it.

'There's our way in,' said Kane. 'Did you see how it went past that small dome on the edge of the field? It was beyond the spaceport lights there, but the doors still hadn't opened. If we can get there before the next transporter is ready, we may be able to hitch a lift.'

Louis and Xenia nodded their agreement and they took up their packs. Kane led the way, holding a field sensor in front of him. It scanned constantly across the ranges of electronic and Ubix frequencies giving the distance and direction of any new sources it picked up.

They were close to the spaceport boundary, the cargo robots on the far side clearly visible as they rolled between the ship and the transporter, when Kane suddenly held up his hand in warning. He picked up a small pebble and tossed it low in front of him. It disappeared with a flash and a crackle. Force field!

Louis came forward and touched helmets.

‘Proton force field? Xenia said they wouldn’t work in an atmosphere.’

‘No. She was probably right. These are hyperactive electrons here,’ Kane replied, reading from his field sensor. ‘Time to try Marley’s box of tricks,’ said Louis.

‘It should be O.K. This reads as a fairly weak field – not that we would survive walking through it.’ Kane helped Louis to unpack the mobile electromagnetic field generator that the chief engineer had produced for them.

The small black box crawled forward on its caterpillar tracks. Kane measured its progress, then nodded to Louis to halt it using his remote control. He picked up another small pebble and tossed it across and over the generator. It passed through the boundary of the force field and landed safely on the other side. Kane tossed several more pebbles, changing the trajectories, so that each passed through the field at a

different point around or above the box.

They could see that the generator had cleared a semicircular hole just over half a metre high. Kane went first, crawling low over the box. He could feel a slight tingling of static electricity and see a faintly shimmering line where the electrons of the invisible, deadly barrier were deflected back by the magnetic field. The others followed, Louis struggling to keep his greater bulk within the confines of the hole in the field.

Getting through the field had cost them valuable time. Most of the cargo robots had made their last delivery and begun to roll towards one of the spaceport's perimeter blocks. The last few were now carrying boxes down the ramp of the freighter. The three hurried on, keeping low to the ground. The transporter had begun its return trip to the transmitter station when they reached their hiding place. There was no time to scan for further defences, no time to spy out the land and identify possible danger spots or escape routes. Time only to position themselves to leap on to the transporter as it rumbled by.

It was a flat-topped vehicle, rather like the goods wagons of the ancient railways, with mesh sides to stop the cargo from falling off. There was no cab and no sign of a driver. They ran and caught hold of the mesh, vaulting over to land amongst the crates and cases that it was carrying. This last load was clearly the odds and ends of the cargo, and they had no trouble in making spaces for themselves between the packages. They tucked down, hoping to get in unseen, but drew their lasguns and made ready to fight if need be.

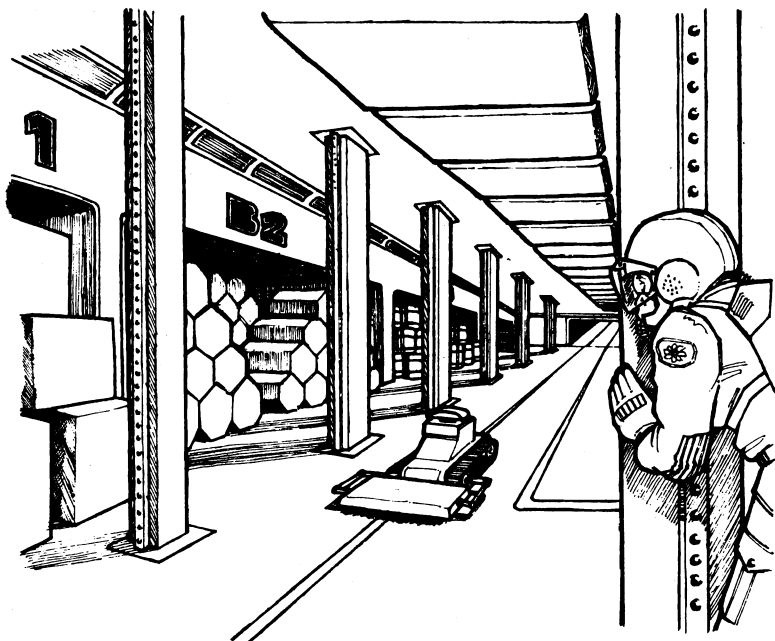
The basement doors opened and light flooded out from the interior of the building. The transporter rumbled down a slope and inside, coming to a stop not far beyond the doors. Kane turned up his suit's audio receiver and listened intently. He could hear a soft electrical hum and the distant sounds of moving machinery. There were no footsteps and no nearby sounds. He eased himself round and peered between and then over the cases that surrounded him.

They were in a long, low hall brightly lit by glowing panels in the ceiling. The area was divided up by grey metal girders, supports for the structure above. Either side of the central aisle were row upon row of neatly stacked stores – tanks and tins, cases and crates, bales and boxes. In one quarter of the stores there were ceiling-high piles of thick plastic sheets and mounds of girders, thick and thin. It looked as if the Korth were planning to erect new buildings at the base.

Their transporter was the last in a line of ten or more. While Kane watched, the leading transporter, now empty, started up and rolled away, disappearing behind the stockpiles. As it moved off, the other transporters all rolled forward together, moving in a single solid line. Mechanical arms stretched out to begin unloading the leading transporter. Kane looked around again, searching for any sign of the silver-suited guards. There was no movement anywhere, except for the unloading machinery and the small cargo robots that wheeled up and down the aisles carrying goods on their hydraulic platforms.

He reached over and tapped Xenia and Louis. At his signal the three climbed swiftly off the vehicle and took refuge amongst the stores. Kane's field sensor

showed much electro-magnetic and Ubix activity within the building, but mainly coming from above.



They began a careful search for a way out of the basement and up. They dare not cross the central aisle again, or go too close to the far end of the hall for fear of bumping into the busy cargo robots that wheeled silently around. They were not to know that those little machines were blind to everything but goods and shelves.

Eventually they found a continual lift rolling slowly past an opening in the side of the hall. It was unattended and seemed to be little used. They watched for a while and saw a cargo robot wheel over to it.

The robot slowed as it approached, timing its arrival with the movement of the floors of the lift. It tilted its platform gently and slid its load smoothly in, then wheeled round and disappeared. They waited and watched a little longer, then ran across the short stretch of open floor to the lift. Their timing was not quite as good as the robot's and they had to leap up on to the lift platform, ducking their heads to get under the low opening.

The floor above was very close, and they leapt out again almost immediately, lasguns poised and ready. They were in a long, brightly-lit, deserted corridor. It stretched from just beyond the lift-shaft to what was probably the far side of the building. There were stairs at that distant end. Kane signalled to the others and moved towards the stairs. The lift was quick and easy, but offered no chance of retreat.

They passed a door on the way, and Xenia paused to listen there. As her helmet touched the smooth metal surface, the door opened automatically. She stepped back in surprise, and Kane and Louis leapt to defensive positions either side of the opening, but there was no movement from within. The door opened into a room filled with humming machinery. Xenia had joined Kane by now and she touched helmets.

'Generators?'

Kane checked his field scanner before replying. 'Probably. Let's hope all the doors open that easily.'

The door closed again. Louis stepped across and joined them.

'Where is everybody?' he asked.

'Highly automated. Do they need patrolling guards

with that force field out there?’ replied Kane.

They walked on silently, checking constantly for any sign of cameras or other devices that might note their presence. The stairs at the end were broad and steep, leading upwards and inwards to the next floor of the stepped building. A wide landing led off to another long deserted corridor. Opposite them was a further flight of stairs. They carried on up.

The stairs ended at the next floor where they led to a square lobby. Once again there was a corridor to their left, but beside that was a double set of thick doors that seemed to be made of some kind of plate glass. The doors were separated by a space of some three metres, and the far doors were lightly misted with condensation. The three put their heads together.

‘My guess is that we have been in the servants’ quarters and that the real Korth are behind that airlock,’ said Kane. ‘I vote we go that way. Any comments?’

Xenia agreed. ‘The control room should be in the real Korth area. We ought to be able to find a way up from there.’

Louis would have preferred to remain in the quieter service areas, but before he could argue his case the matter was decided for them. Soft footsteps sounded on the stairs behind them. The corridor offered no hiding places. Kane reached out and touched the first of the glass doors. It rolled smoothly to the side, then closed again a moment after they had stepped in. Kane estimated that they had less than a minute to get through the airlock and find cover on the other side, but the airlock was working too slowly. They were

not going to be through in time. He pressed on the second door, but it was not yet ready to open.

He could hear the quiet whirring of the air-change fans and noted a rise in temperature on his suit indicator. This also showed that the new air was rich in oxygen and water vapour. Water vapour! He hardly dared hope, but a glance at the outer doors reassured him. The moisture was condensing rapidly on the cold glass, obscuring all view. They could just make out the shape of a small figure stepping up into the lobby as the inner doors opened. They hurried through, searching for a hiding place.

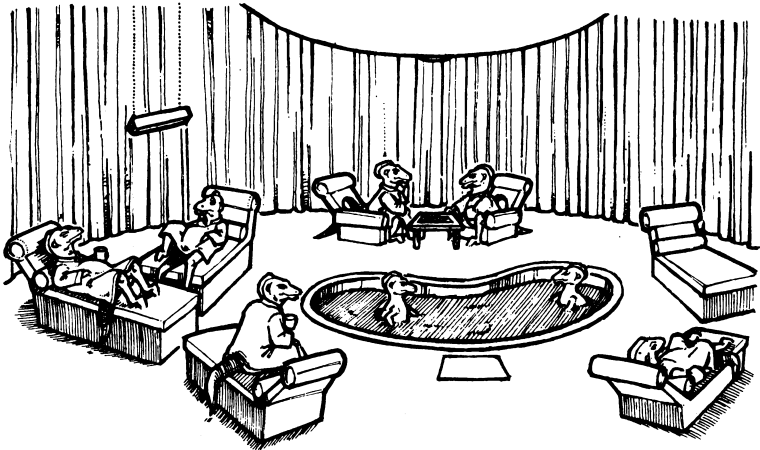
Corridors led off to the left and the right, their walls hung with soft green fabric, the floor covered with thickly tufted brown matting. The ceiling panels here gave a warm orange glow, less bright than the lighting in the service areas. There was a small gaily painted door ahead of them, but no others close by. Kane nodded to it, and the three grouped close together, ready to leap through as one. Louis reached out and the door opened.

## **Korth!**

It was only afterwards that they were able to take in the room properly, for the first thing that they noticed was that it was occupied – and not by the silver-suited guards. There were eight small reptilean creatures in the room. Some were stretched out on wide soft cushions, two were hunched over a table and another two were lounging, eyes closed, in a bubbling mud-



bath in the centre of the room. The creature on the cushion nearest to them glanced languidly towards the door, then shrieked with surprise as it saw the Earthlings. It was the last noise it ever made, and the other seven Korth died without making a sound as the intruders raked the room with lasgun fire.



Louis caught a movement in the corner of his eye and spun to meet the challenge, then held his fire. A small wheeled robot was rolling towards him carrying a shining scarlet robe in one claw and a ceramic cup filled with thick amber liquid in another. A third arm stretched out, empty. It was the mess servant come to tend to his needs. It stopped close to Louis and waited.

The door opened again and another Korth stepped in. It paused in mid-stride, then turned to run, but Xenia was ready. She caught it and hauled it back. Its

head rolled towards her, eyes wide with terror, then it slumped in a heap on the floor.

The creature was like the others, though its body was shrouded in a loosely fitting suit made of a finely textured golden fabric. It had carried a helmet in its claw as it came in, but that had fallen from its grasp and rolled across the floor.

They had more time now to look at the Korth – and these must indeed be members of the ruling race, for they would not have created such luxury in the wastelands for one of their subject peoples. They were more like small hunting dinosaurs than reptiles. They walked upright on bird-like rear legs, the weight of their bodies balanced by long tails. Their arms were short and ended in thin three fingered claws. Their heads were large in proportion to their bodies, and high-domed with small eyes and short beaky jaws. The overall impression was of great intelligence, but physical weakness. The one on the floor beside them stirred, its hand moving slowly towards a pouch in the front of the suit. Kane turned full towards it, pointing his lasgun, and then fired as he saw it reach into the pouch. The creature was thrown back by the force of the blast and lay dead.

Louis signalled to the others to follow him across the softly furnished room to a broad staircase that spiralled up from the far corner. They picked their way through the plush cushions and low, delicate tables, skirting the edge of the mud-bath with its gleaming stone surround. They ran silently up the shallow steps, pausing briefly at the floor above. The stairwell was here closed off by a pair of curved doors with clear glass panels. The room beyond, with its

many low tables and padded chairs, may have been a meeting place or a dining hall, but at that moment it was dimly-lit and empty.

The field sensor showed them to be close now to the strongest source of sub-magnetic radiation of the sort that Xenia thought their computers might produce. They carried on up the last sweep of the stairs, moving more slowly now than before and listening for the faintest sounds.

At the top they found another set of glazed doors. Louis drew close and peered through. In front of him was a small lobby leading to another set of doors. Either side of the far doorway stood a Korth guard, neutron rifles held stiffly in front of them. They seemed as still as statues, but the robots' vision missed not even the slightest movement. In perfect unison they spun and fired at the stairwell door. Louis was saved only by the speed of his reactions. He dived down and through the doors, rolling once and firing as he came to rest. Kane and Xenia rushed in after him, lasguns blazing. The guards reeled backwards, their rifles still blazing, raking the walls and ceiling as they fell. One rifle continued to fire even when both guards lay motionless, and its powerful beam tore a hole through the roof, exposing the sky beyond.

The door before them shot open and four more guards ran out only to be cut down instantly by withering lasgun fire. Without waiting to see if there were more following, Kane led his party through the door. They were in the command centre at last. There were no guards in the room, only live Korth. Three lay on the floor, their short arms clutching their heads. A fourth was running towards a control panel.

Louis fired a short burst and cut it down in mid-stride. The others remained cowering on the floor until Louis prodded them up and herded them towards the outer lobby. He stood guard over them there, watching all the while for further trouble, while Xenia and Kane explored the command centre.

The room was six sided, four of the sides being taken up with panels and screens. Directly opposite the door was an area of low chairs around a large flat box. As they crossed to it, they could see that its surface was marked off into small hexagons, each labelled with a different symbol.

Xenia made straight for this and searched around it. Kane had switched his suit radio on and signalled to her to do the same. 'What do you think?'

'Touch sensitive keyboard at a guess. It must be linked into the main bank somehow.'

She levered a panel off one side and looked in. 'Let's try that interface, Kane. We'll use the second of the connectors that you made up, and I'll need the micro-ammeter and the computer link.'

Kane shrugged off his pack and hunted for Xenia's equipment. He left her busy inside the machine and returned to Louis. 'Are they behaving themselves?' he asked, nodding to their prisoners, who were by now struggling to breathe in the thinning air of the blasted lobby.

'No bother,' Louis replied. 'I fancy they are waiting for help to arrive.'

'That's what worries me. Is there any other way up here apart from the stairs?'

'They keep glancing towards that alcove.' Louis indicated a narrow archway at the side. Kane went to

explore it. He disappeared through the arch and was gone for a few moments.

'Airlock, probably leads back to that liftshaft. You'll hear if anyone tries to come that way. I've booby-trapped the doors.'

He radioed across to Xenia. 'How's it going?'

'So far so good. I'm just wiring in the interface. I'll need a few minutes to check out the interpreter program before I can make the alterations.' There was a thunderous roar and smoke and dust billowed out of the alcove as the booby-trap exploded. Kane and Louis reeled with the blast, then crouched on the floor, lasguns pointing at the stairwell and the alcove. Help had arrived. A guard stepped into the lobby from the alcove, silver suit smoking, and crashed to the ground.

Footsteps pounded up the winding staircase, and the Korth made to run for cover, but a blast from Kane's lasgun herded them back to the opening at the top of the stairs. There they quivered, shielding the humans from the oncoming guards. Kane fired as the head of the first guard came into sight. The metallic skull flashed and fell backwards. The guards behind shot through the living shield, killing the Korth prisoners and blasting them out of the way.

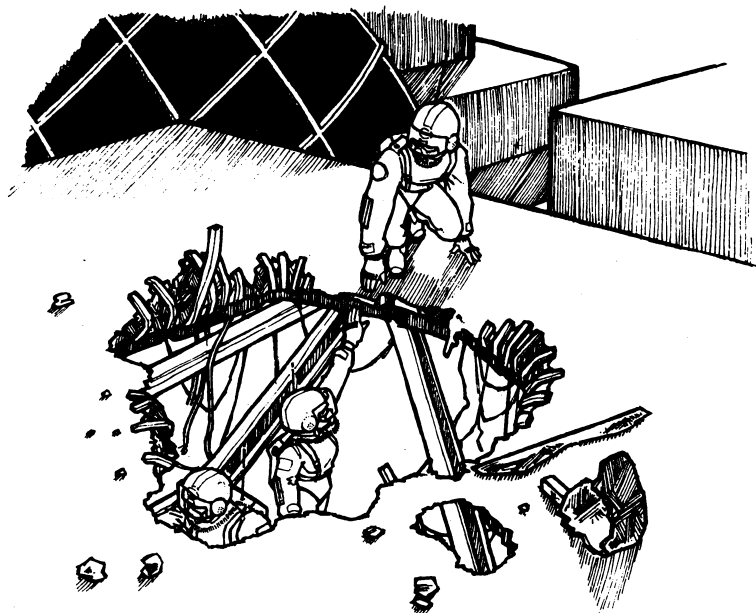
Louis hurled a detonator into the stairwell. The force of its explosion tore a hole in the outer wall and left the roof sagging from its twisted supports. A second detonator widened the hole and brought the whole section of roof over the stairs crashing down, blocking all entry.

'That should hold them for a while,' said Louis. 'Got any ideas as to how we get out?'

Kane had no time to reply. More guards had come up by the lifts and forced their way through the mangled airlock. He kept them pinned down with a constant stream of fire. The walls beside the archway began to glow and blister as the guards tried to cut their way through.

'Let's go,' cried Xenia. 'It's done.' She ran across the control room and joined them by the door.

'Just in time,' said Kane. 'We can't hold them. Up through the roof you two. I'll give you cover.'



Louis sprang up and caught hold of a twisted girder on the edge of the hole. He pulled himself through,

then reached down a hand to help Xenia. The two then leaned back down and covered Kane's escape. He climbed swiftly through and led the way to the edge of the roof.

From where they stood the building looked like a giant staircase, going down in huge steps, four metres wide and high. They swung themselves over the edge and dropped to the next roof level. Four more times they ran and dropped down until they stood on firm ground again.

More guards were pouring now from a blockhouse at the spaceport. The three ran away from them retracing their route to the tiny opening in the electron barrier. As they drew close they could see that the barrier was on the move slowly closing in on them. The ground smoked and sparked as the force field moved over it.

'Louis, draw the tunnel generator in,' Kane ordered.

Louis pulled out the remote control and set the tracked box moving towards them. It caught up with the moving barrier and then slowed as Louis matched its speed.

Xenia ran forward and went through first, crawling over the box as it trundled slowly forward. Louis followed, while Kane retreated a few steps and opened fire on the guards that were now drawing close to them.

'We've got you covered,' Louis called to him, and Kane turned and hurried through the gap. As soon as he was through, Louis snapped off the magnetic field generator and the electron barrier lowered, slicing the box in half. Neutron beams from the guards' rifles

flared and crackled against the force field.

‘We’re out and clear,’ said Louis in surprise.

‘Not yet, Louis. Look!’ Xenia pointed to the sky. There was the unmistakable shape of a Korth patrol ship above them. It was coming down swiftly, directly at them. Louis raised his lasgun and fired, a useless gesture of defiance against such a powerful war machine. The air around it glowed red and then white for a brief moment.

‘It’s turned its proton field on,’ cried Xenia. ‘Keep firing!’

They kept up a steady stream of laser fire at the ship. The force field was activated again and stayed on. It quickly shone with a dazzling brightness. The brightness became a violent flashing and the three threw themselves to the ground as it exploded in a sheet of flame. The shock waves washed over them, leaving them breathless and bruised.

‘What happened?’ asked Louis. ‘The ships have never done anything that stupid before.’

‘Computer error,’ replied Xenia, grinning.

‘Look over there,’ said Kane. The force field was still shrinking and had now reached the spaceport. One of the perimeter blocks was smouldering and smoking already, and showers of sparks were flaring out from the side of one of the grounded ships. As they watched, the field cut through into a fuel tank and the ship exploded with a brilliant green flash.

‘There’s going to be an almighty bang when the field shrinks back into the main station,’ said Kane. ‘Let’s get out of the way.’

‘Why is it shrinking anyway?’ asked Louis.

‘Better ask Xenia.’



‘I’ll tell you later, Louis. Let’s move.’

They ran back to the scooter, moving more slowly with their bruised muscles, and then took off directly back to Space Drive 1.

Kane wedged the scooter under their ship to force it back on to a more or less even keel so that Louis was able to get them up and into orbit. They were 150 kilometres above the ground when the transmitter station exploded, a sheet of flame searing out over the land around. The circle of fire was clearly visible, and shock waves registered on the ship’s sensors. The force field had closed in on the station’s power generator.

‘Would you mind telling me what we’ve done?’ said Louis, when the ship was safely on a course heading out of the Alpha Centauri system.

‘Well, once I had got the interpreter linked up and had identified the “change of orders” routines, I had a little fun. Some routines I simply wiped out, others I locked up with permanent loops. I set one routine to renumber itself so that it ran backwards, and with another one I added a run-down on all the variables so that whatever numbers had been fixed in there were now reduced every time the program passed through the loop. That must have been the force field control program, I suppose. It was as well I set it for a slow run-down.’

‘That would have been awkward,’ agreed Louis. ‘Did you know it was the field control system?’

‘Actually, I couldn’t tell what anything controlled once I was away from the basic structure. When I had got the changes in I set it to broadcast the new “orders” and – well, you saw what happened here.’

'I wonder what happened back home,' Louis mused. 'Well, we'll know in a few days once we are back in range of the Research Station's transmitter.'

The reprogramming and destruction of the Alpha base caused so much chaos in the sector of the galaxy around Alpha Centauri, that Space Drive 1 was able to fly unchallenged and untroubled clear home to Mars. When they were once again within the three light year limit of the small Ubix transmitter at the Research Station, they were delighted to hear that their mission had been a total success. The besieging patrol ships had gone on to new, random courses, immediately opening up many areas of space to human flight. Some of the ships had attempted to attack space ports on planets and had been destroyed by their own force fields as had happened at the Alpha base. Some had taken off into deep space and had disappeared beyond the limits of observation. Many ships though had done nothing and were still doing nothing, their computers so busy wrestling with impossible instructions that there was no capacity left for flight or fight.

They were two days out from Mars when a vital message came through on the Ubix.

'Space Drive 1, Space Drive 1, come in please.'

'Hello, Mars Station. This is Space Drive 1,' Xenia replied.

'Commander Neilsen here. Is Louis listening?'

'I hear you, Commander.'

'Louis, I've got something to tell you . . .'

'Yes?' said Louis anxiously.

'The strawberry Daystart has arrived.'

'Hooray!!'



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**2 Besieged!**

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