

TERRAN TRADE AUTHORITY HANDBOOK

SPACEWRECK

Ghostships and Derelicts of Space

Stewart Cowley



**Contains dramatic
full color fold out**

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Scanned By ARRAKIS

Exeter Books

NEW YORK

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The Terran Trade Authority

The TTA, formerly the World Trade Authority, was founded in 1999 AD as a subsidiary of the World Council, and charged with the task of administering global trading. Four years later the Commercial Technology Division of the World Community Research Council, together with its extensive manufacturing complex, was absorbed into the corporate structure.

During the long years of the Proxima Wars, the TTA was made responsible for military ordnance and manufacturing, most of which was accomplished through their own facilities. Following the formation of the Terran Federation in 2070 AD, the Authority became the central administrative body of the Federation as well as the main federal manufacturing center.

Subsidiary Offices and Institutions

The Federal Law Enforcement Authority. The Institute of Astronautics. The Institute of Medical Sciences. Interstellar Trade Directory and Data Control. Public Office of Information. The Research Council. The Settlement Welfare Service. Traffic Control and Customs.

Acknowledgements

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- ARRAKIS

Introduction

In an outer arm of our spiral galaxy lies a yellow G2-type star orbited by a variety of planetary bodies, the third of which was the cradle of our species. Here our forebears matured and multiplied, moving across the surface of a world bounded by water. The great oceans and seas of Earth represented the first alien environment that Man set out to master, and the price of the enterprise can be counted in the thousands of craft from almost every period of his history which lie scattered over the seabed. Whether victims of the never ending battle against the elements or casualties of war, the bones of Man's ships bear silent witness to his determination to be free to travel wherever he wishes to go. In the dark, silent depths Cretan galleys lie beside East India merchantmen, Spanish galleons beside great steel battleships of the 20th century, and the seas continue to exact their toll.

Time passed and as the world grew smaller the stars grew brighter, beckoning Man to another horizon with another hostile environment to pit himself against. Once again he began building ships to carry him across mysterious, uncharted wastes. At first the ships were empty and were launched out into the unknown, pushing deeper and deeper into the void before falling back to the surface. Piece by piece the fund of knowledge grew and Earth became encircled by the paraphernalia of space research: data collectors, satellites and exhausted launch vehicles. The trickle of information grew into a flood until one day the first human being squeezed himself into the nose of a huge rocket and thundered into the heavens to return a hero. Where one man had gone many followed, in

increasingly sophisticated vehicles, and by the beginning of the 21st century a wide variety of constructions, from laboratories to massive industrial research units, were circling the planet. The moon had become home for a host of scientists and technicians and ships were plying between these installations and the mother planet.

The next one hundred years saw the growing industrialization of space and the neighbouring planets, accompanied by a dramatic increase in the volume of traffic. Chemical rockets were replaced by a host of nuclear-powered systems which in turn led to new generations of Ion and Plasma driven craft journeying ever deeper into interstellar space.

Then an event took place which was to mark the beginning of another major advance in the evolution of space travel. A few years after the turn of the century an unmanned survey probe had been launched toward Barnard's Star, the nearest sun to our system known to possess a non-luminous companion body, and having arrived safely, was in orbit around this bleak planet. Its distance from Earth was 6.2 light years. Fifteen years after the Barnard Probe had blazed into the blackness, a unique spacecraft was undergoing its final preparation on a free-fall launch pad orbiting Jupiter.

On April 19th 2021 the countdown to send it to rendezvous with the distant probe reached zero and the ship instantaneously disappeared. One moment it was lying in its launch cradle, bathed in the sinister light of Jupiter, the next it had vanished. A little over eighteen months later the Barnard Probe recorded its arrival

on target and intact. This unprepossessing little craft had successfully completed the journey at the equivalent of four times the speed of light or nearly 670 million miles per hour, and the secret lay in the device it had been built around. This extraordinary device, the Space-Time Energy Potentializer, (STEP), was able to distort the space/time continuum using a mass accelerator to generate the contradictions of the accepted physical laws occurring when an object approaches the speed of light. It then manipulated these characteristics to reposition itself in space, and to some degree time. The way to the stars was now truly open and the search for other worlds capable of supporting human life started in earnest.

As history has noted, such planets were found scattered throughout the Galaxy and colonizer ships moved out from our solar system to settle new worlds. Man was now free to roam among the stars and in so doing added considerably to the catalogue of triumph and disaster, hope and despair which has always accompanied the pursuit of his aspirations.

When Man challenged the elements in his attempts to conquer the oceans of Earth his successes were qualified by tragedies. Similarly throughout space are scattered grim reminders of his failures; the gaunt, unlovely shapes of the ships that came to grief in the unforgiving vacuum. Each one has a story to tell. Some were the victims of circumstance and natural disaster, some of human frailty and ambition, and others were the inevitable casualties of war.

Corporately they constitute a record of spaceflight and the

hardships encountered on a difficult journey which has yet to end. This book describes some of the most revealing and intriguing of these lost ships and the chain of events which left them drifting eerily through the silence of space. But the vessels that carried the men of Earth were not the only craft navigating the void, and there are many wrecks floating or lying shattered on the surfaces of distant worlds to remind us that we have never been alone in the Galaxy. Some of these strange ships are also examined here, although too often conjecture and supposition have to substitute for facts.

Whatever their origin, the remains of all the craft described suggest that the dangers and risks are common to all those who journey among the stars, and as such forge a common bond between all those travellers who challenge the gods, be they known or otherwise.

Victims of Space

The *Ceres* Disaster

TONY ROBERTS



Designed and built for the benefit of long distance travellers and colonists alike, the *Ceres* ended a lifetime of faithful service with a supreme act of self sacrifice.

By the early 24th century a number of scientific problems had grown from items of secondary importance to difficulties for which solutions had to be found. They spanned a broad spectrum of research areas from micro-electronics to astrophysics, and it was decided to institute a massive scientific programme to which all members of the Terran Federation would contribute according to their resources.

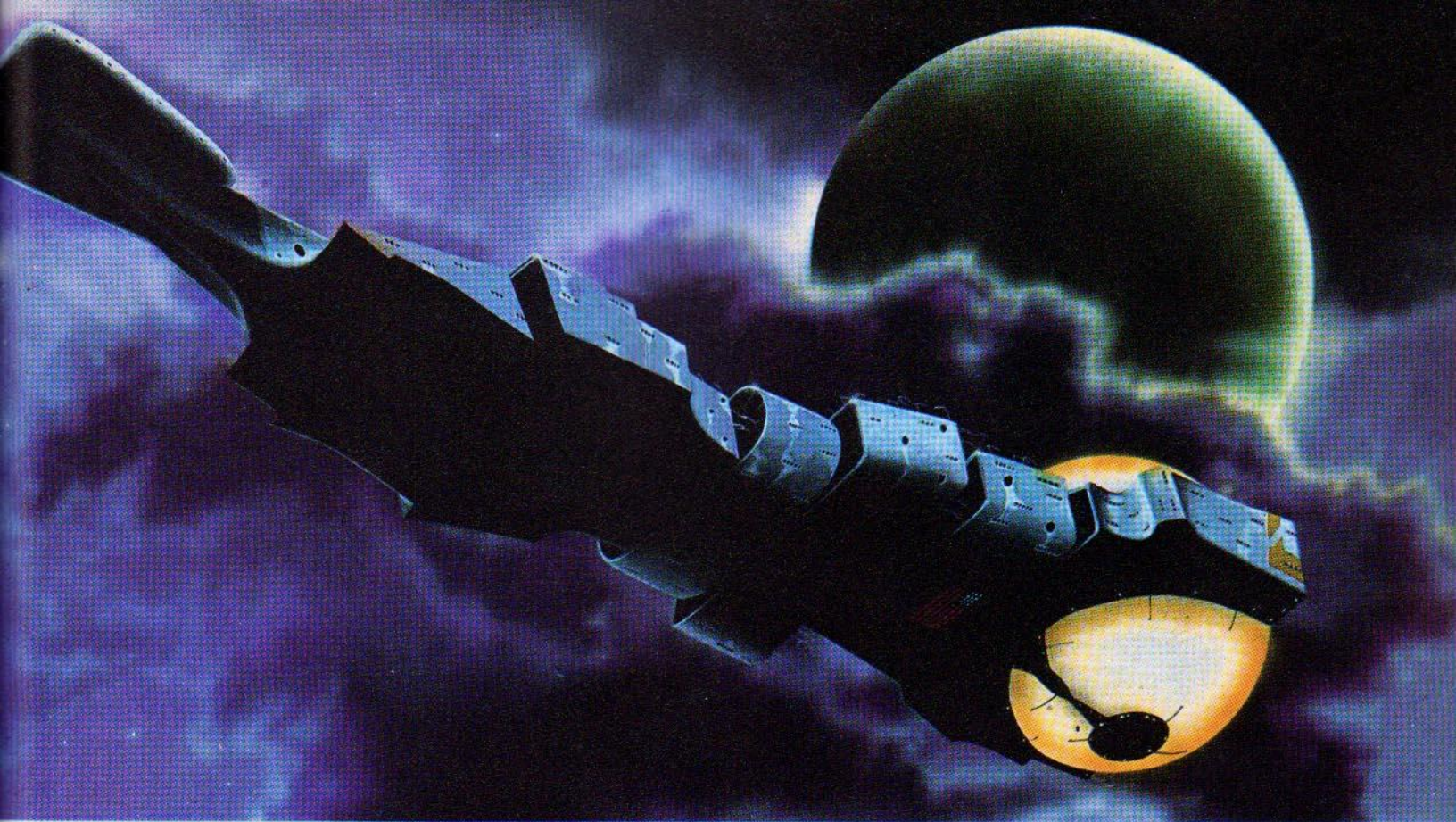
One field of increasing importance, due to the longer journeys colonizer ships were having to make on their way to settle new worlds, was the study of artificial food supplies. It fell on the North American State to undertake researches in this area, and they accordingly provided a specially designed research ship, the *Ceres*, whose task it was to act as a mobile laboratory system complete with a minisolar artificial habitat. This, as the name suggests, was a nuclear fusion reactor which acted as a miniature sun, and was the first of its kind to be small enough to be carried aboard a ship. It was able to

provide an environment suitable for the growing of a wide variety of complex plant and animal forms to supplement the usual, rather uninteresting hydroponic foodbanks that were the standard source of protein. An important spin-off was the opportunity for the passengers of such vessels to enjoy a reasonable facsimile of the planetary conditions that they had left behind.

Ceres became operational in 2318 AD and over the next few years contributed considerably to the science of in-flight dietetics before she was replaced by yet more sophisticated facilities. She still had an important role to play, however, and was employed to research problems experienced by new colonies trying to introduce their own food chains or combat obstructive indigenous ones. In this capacity she was posted to the young colony of New Mornac, a solitary planet orbiting a minor star out on the Rim. Few settlers opted to go to worlds on the galactic perimeter, but this one promised to yield considerable mineral wealth and was the object of a privately

financed expedition. *Ceres* had been contracted by the settlers themselves to help them with difficulties they were experiencing in the propagation of introduced foodplants. All the species tested were being attacked by a native organism which they had failed to isolate. When *Ceres* arrived she immediately took up station and started work.

Her records show that the technicians aboard were successful in isolating the virus concerned, but what went wrong is still not entirely clear. The reports received by the settlers during the weeks when the ship was orbiting their world indicated that the virus was one which attacked the cells of off-world flora, breaking down their structure in such a way as to prevent water retention. Somehow the osmotic process was inhibited, allowing fluids to escape without being replaced. Work started on interfering with the genetic characteristics of the virus itself, but two days after this intention had been declared the colonists received a cryptic message which simply



The first sign of the tragedy that had overtaken the gallant crew of the *Ceres* was a maintenance scooter with its grim passengers drifting away from the dead ship.

stated 'Accident has occurred, ship contaminated, do not, repeat do not attempt entry'. About an hour later the message was repeated, followed by a computer transmission detailing a stream of data relating to their work on this project. No information was included, however, about the accident mentioned in the first message, but obviously a mutated strain of the virus had somehow escaped into the vessel.

Shortly after the computer began reading out the data a maintenance scooter was plotted leaving *Ceres* and heading off into space. It now seems likely that the two men aboard decided that they would rather perish swiftly in open space than confined aboard the deathship, as their airlines had been deliberately severed.

The problem virus was eventually brought under control, due to the work already carried out aboard the *Ceres*, and she still hangs in space above New Mornac as a memorial to the men who died in her, her silent hull empty and dark except for the gradually fading light from the minisolar globe.

COLIN HAY



Victims of Space

The *Epsilon Queen*

Although men have travelled hundreds of light years in every direction from our solar system, we have scarcely begun to learn the unfathomable vastness of our own Galaxy, which is only an insignificant speck in the universe. Hundreds of ships regularly ply back and forth along the spacelanes of our tiny corner without mishap, and as our technology advances, so the dangers of space travel diminish. But in a medium as complex and strange as the dark vacuum surrounding our planet, disaster is never very far away.

It looked like a routine flight for the *Epsilon Queen* as she set out from Mars bound for the exotic playgrounds of Alpha Centauri III. This was a journey she had made many times as a luxury liner ferrying tourists and pleasure seekers from both worlds, and although now an elderly vessel she had recently undergone a complete refit in the modern Martian yards. Inside her rejuvenated frame, the cabins and saloons were a curious mixture of ultra-modern facilities in charmingly old-fashioned settings

which in themselves attracted many travellers. Somewhat slower in normal space than most of her younger sisters, her unusual mixture of both Pulse and Ion drives could nevertheless produce a very respectable turn of speed. She even carried a fully operational chemical thrust line as an emergency drive unit, although it had never been employed.

Her new Hyperdrive unit was the last word in sub-space propulsion, having only just completed the TTA Safety Clearance Tests, and was the pride and joy of the captain. While the passengers strolled among the elegant surroundings or sampled the various entertainments designed to while away the many hours the trip would take, the officers and crew busied themselves with the familiar process of preparing the ship for a long jump. Computers hummed and ticked as the coordinates were fed in, and the drive generators worked up the power to slide the ship into the mysterious world of alternative space-time. A slight vibration and the *Epsilon Queen* disappeared on

Everything about the journey of the luxury liner, *Epsilon Queen*, was routine. She had travelled from Mars to Alpha Centauri III over one hundred times, but what emerged from warp-drive was not the proud, sleek shape of the ship that entered it.



her way. While the rest of the crew stood down, the captain, chief engineer and the navigation officer remained on the flight deck beaming self-consciously at each other and remembering the shuddering and bumping that used to accompany a jump.

The new equipment made it unnecessary for anyone to man their posts until the time came for re-entry, and the officers eventually left for the mess deck, leaving the captain to make his habitual round before joining them. As he passed the scanner console he almost missed the slight flicker of a monitor display. Only his experienced eye would have registered the movement, and he stopped to peer at the reading. As he watched, the reading slowly increased but the information it was projecting was impossible. According to the scanner a large vessel was closing from behind on an identical course. He punched the alert call and turned back to the instruments in bewilderment. The approaching ship was moving faster than any craft ever built, military or otherwise.

Seconds later the crew began scrambling into their positions and a complete scan and instrument check was carried out in record time. But the more data that was thrown on to the command console the less sense it made. Not only was the craft travelling at an impossible speed but its weight and mass were identical to those of the *Epsilon Queen* down to the last decimal point. The final piece of information supplied by the warp sensors began to convince the captain that he had been overtaken by an unusually severe bout of 'space-delirium'. Every ship moving through hyperspace emanates an individual pattern of signal distortion which is as distinctive as a fingerprint and the 'print' of the extraordinary ship bearing down on them exactly matched their own!

Suppressing a surge of fear, the captain spun on his heel and shouted a string of orders. Cabin staff raced through the ship to look after the passengers as the great liner jinked and swerved in an effort to throw off its pursuer, but to no avail. Suddenly the Signals Officer

called to the captain and handed him a headset, his face ashen and his eyes fixed on his superior's face. As he listened, the captain felt his blood run cold, and the sounds from the set seemed to echo round and round his head. Every word intercepted of the other craft's internal communications was clear as a bell – but the voices were only too familiar. They were those of his own crew! Every word spoken on the flight deck came back through the headset; and mind-boggling though it seemed, the *Epsilon Queen* was about to collide with the *Epsilon Queen*. As the captain turned to look at the confused face of the signals officer there was a tremendous crash and he was hurled to the deck.

With the *Epsilon Queen*'s flight plan already registered in their data banks, the monitors in Alpha Centauri's warp exit zone awaited her arrival. Right on time their instruments detected an emerging mass but to the horror of the officers on watch, instead of the

familiar, smooth-skinned form of the luxury liner, what materialized was a gutted and ruined shell trailing streamers of debris. The stern and one side had been torn out and the distant stars shone through the gaping holes torn in the hull.

The grim hulk was towed to the nearest TTA station and the post-mortem began. Although the drive unit and generators had been reduced to fragments, the data banks and recorders were still intact and gradually an explanation emerged. Somehow the two generators which brought about the transition from real to hyperspace had not been correctly synchronized despite the many checks and the ship had been catapulted into a dual existence in the time/space continuum. In an effort to obey natural laws, the two representations of the one object had attempted to solve the paradox. The trouble was that each was as real as the other when the two projections finally met.



The traffic control station at Alpha Centauri which witnessed the arrival of the *Epsilon Queen*.

Victims of Space

The Wreck of the *Jancis Jo*

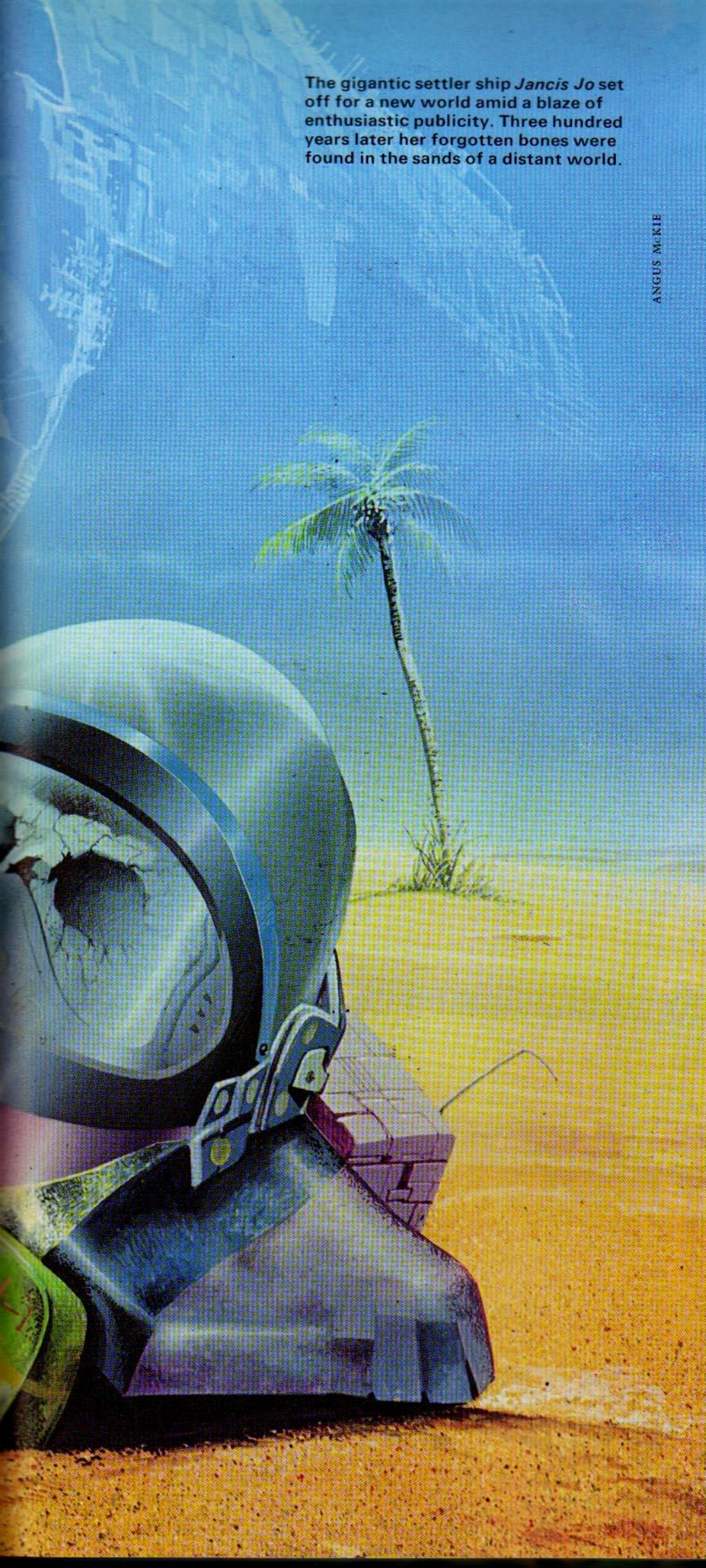
During the early part of the 22nd century, the idea of gigantic settler ships setting out bravely on their long journeys into the little known realms of space to seed the stars was new enough to excite considerable interest. Huge crowds flocked to the spaceports to watch the intrepid adventurers board the massive vessels that were to be their homes for the rest of their lives, and possibly for their children's lives as well. Hyperspace travel was still in its infancy, and few ships were capable of exceeding the speed of light, which meant that many voyages were to last for entire generations before confirmation of a successful flight was received back on Earth.

One such ship was the *Jancis Jo*, hanging in space above the Martian complex as she waited to set off on the long haul to the G2 star Alwaid, a sun similar to our own, 365 light years away in the constellation of Draco. Alwaid was known to possess a number of planetary companions, and a survey probe had established by what are now considered primitive methods that

one of these was habitable. The *Jancis Jo* was the latest and most sophisticated of the ships constructed in the Mars Orbital Yards and was capable of exceeding the speed of light by a substantial margin, which meant that her crew would begin the descent to the surface in a little over 270 years.

Once the apparently endless process of loading all the supplies and equipment necessary for complete self-sufficiency had been completed, the 430 settlers and crew bade their farewells and boarded the shuttles for the trip to their new home. As the countdown proceeded and the great vessel moved off to clear the planet before making its jump into hyperspace, hundreds of smaller craft danced and jostled around the huge cylinder to take a last look before she faded out of normal space. Within minutes she was reduced to a distant speck of light as her powerful drive systems accelerated her towards warp speed, then she was gone. The sightseers and relatives drifted away and life settled down to pass the years until her arrival in the Alwaid system.





The gigantic settler ship *Jancis Jo* set off for a new world amid a blaze of enthusiastic publicity. Three hundred years later her forgotten bones were found in the sands of a distant world.

ANGUS MCKIE

The next few generations saw the heyday of the colony ships and the departure of these enormous vessels soon became almost commonplace. The ETA of the *Jancis Jo* came and went almost unnoticed, and the absence of any signal caused little more than a ripple of academic speculation. The intervening years had witnessed many momentous events and the disappearance of an ancient ship seemed of little interest against the complex background of current affairs.

As the Federation extended its boundaries, however, it was only a matter of time before other craft cruised into the Alwaid system, and one day in 2447 AD a large survey ship searching for mineral-rich worlds set down on the sandy surface of the only habitable world. A base was established and for several weeks Skimmers and Crawlers criss-crossed the surface in their investigations. During one of these expeditions, the three-man crew of a Skimmer saw the huge, spectral shape of a ship's hull emerge from the heat-distorted horizon as they sped towards it.

The towering hulk was badly deteriorated and the evidence indicated it to have been the victim of a reactor overload. Most of the stern section had disappeared and large areas of the remains and surrounding surface were still emitting fairly intense radiation. The three men wandered round the desolate ruin and eventually came across grim reminders that the silent and decaying ship looming over them had once contained life. Here and there among the drifts of sand lay the strangely alive-looking shapes of pressure suits which contained only the yellowing bones of the owners.

The wreck of the *Jancis Jo* was duly charted and logged as routine procedure. Once the survey vessel had completed its task on Alwaid, it made its way home and submitted its report. The wreck notification eventually found its way back to Earth's central information files, where it joined the myriad items of data likely to interest none but the scholar or historian trying to recreate a day more than three hundred years in the past.

Victims of Space

Tombs of Crystal

Ships lost in space as a result of natural disasters have come to grief for many strange reasons, but there surely was none less likely than that suffered by two ships in the vicinity of Delta Cephei. During the year 2506 AD an ancient but reliable Ion-drive ship, the *Rollins II*, was cruising on a data sweep about 930 light years away from Earth. She was the largest of the complement assigned to the isolated research station TTAR 88873, which had recently been assigned this district, and carried a crew of sixteen technicians. Life aboard was routine and tedious, consisting mainly of the standard data collection processes, and all those carrying out their various functions looked forward with impatience to the completion of their tour of duty.

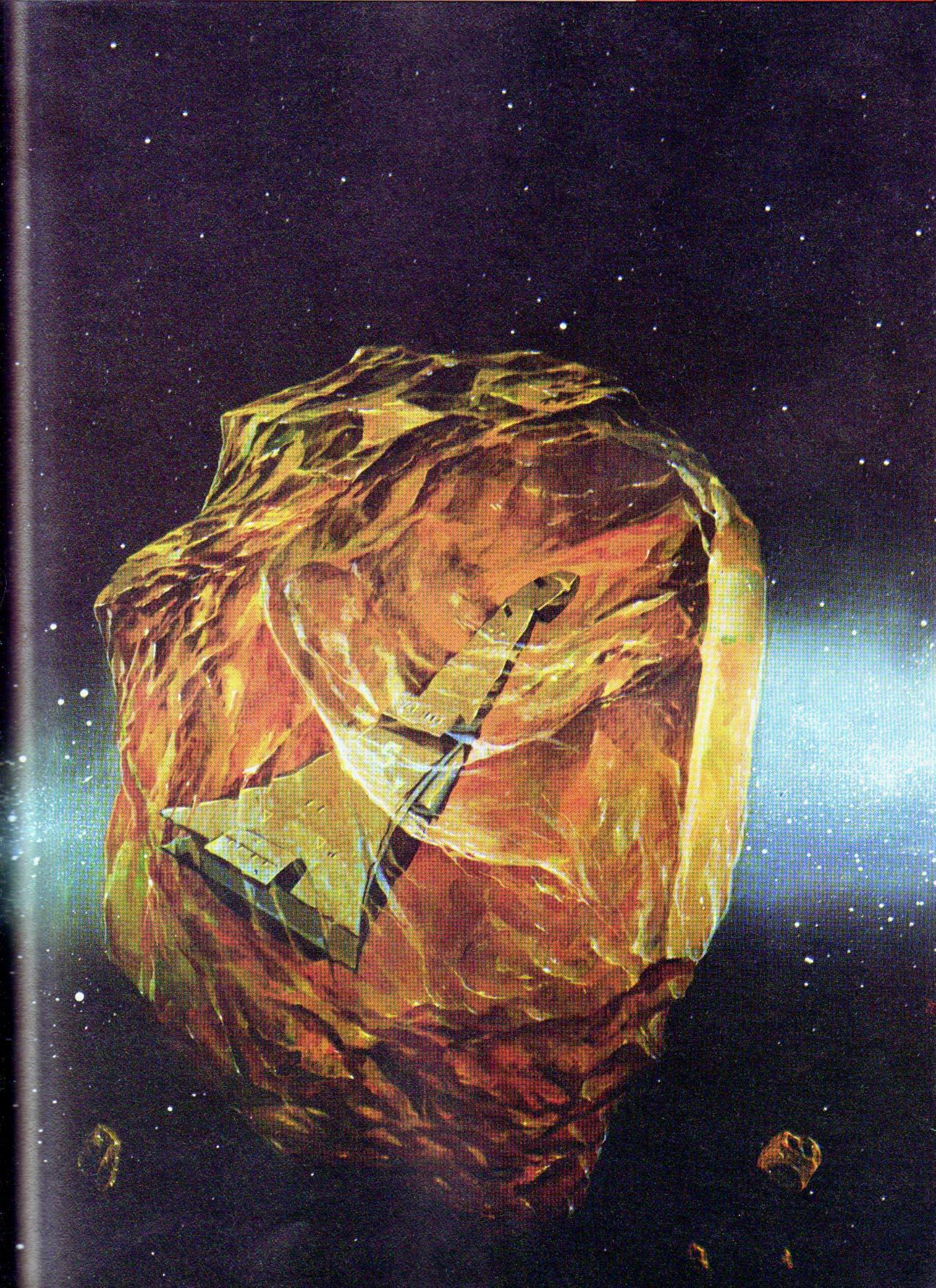
One of the prime objectives of this particular voyage was to investigate the large number of unusual magnetic fields associated with the variable super-giant, Delta Cephei, alternating between spectral groups F5 and G0. About one light-month out from base, the *Rollins II* emerged from warp and transferred

to Ion-drive for her normal space operations, heading towards one of the fields already charted. As she approached, her control monitors registered a minor drop in power output from the drive units, but the men busily engaged in preparing their equipment paid little attention as small fluctuations in power were not uncommon in a craft of this age. But less than an hour later, as the ship nosed into the target field, the thrust died away entirely and refused to respond to the efforts of the flight crew to revive it. Even the directional thrust ion tubes failed to function, and the *Rollins II* drove obstinately deeper into the field. There was no immediate danger to the ship or its occupants, and while some of the crew irritably began the slow and frustrating task of tracing through the inoperative system, the others carried on with their tasks, unaware of a silent menace gathering outside the dust-pitted hull.

It was some time before the drop in temperature was noticed, but it was not long before it became uncomfortable. The whine of

The *Rollins II* was not the only ship to perish in the strange icefields of Delta Cephei. A huge spaceberg later proved to contain the hull of an Interstellar Queen, an ancient type of passenger liner which had been operational in the 21st century.

conditioning systems became noticeably more shrill as they strained to correct the acute drop. Had this been a more modern craft, heat produced by the reactor could have been diverted to cope with almost any extreme reduction, but there were no such facilities on the *Rollins II*. In any case, the reactor itself was behaving erratically, failing to generate the electrical field on which the drive units depended. Amid growing concern, efforts to rectify the power train were redoubled, and the fault was found to lie at the thrust exit points. A positive electrical charge had built up, causing the positively charged ions of the propulsion stream to 'cement' together and obstructing the flow completely. Normally this situation was prevented by the injection of negatively charged electrons to stabilize the stream, but



this was not happening, and there was a dramatic build-up of electrons within the potential chamber. The reactor had to be damped, and while this was being done a hyperspace mayday signal was beamed towards the research station.

Suddenly one of the crew stared at a viewport in astonishment. The clear panorama of stars was being fogged by a thin film which grew denser as he watched. The huge ball of Delta Cephei shifted and distorted, growing dimmer and more diffuse as the material thickened. It was ice. For no understandable reason the ship was becoming entombed in a mantle of the stuff. Dense particles had been detected drifting among the dust in this sector but that they should be welding themselves with such rapidity to the ship made no sense. Panic gripped everyone aboard and feverish attempts were made to stabilize the drive system, but without success. Despairing, the crew huddled together around the conditioning vents in an attempt to fight the numbing cold that was pervading the vessel, but the outcome was inevitable. Within a few brief hours the conditioners gave up the unequal struggle and the drifting ship fell silent as one by one the pitiful shapes froze into immobility.

Some weeks later a trio of small scoutships emerged from warp in answer to the lonely signal of the drifting ship. It was some minutes before they realized that the transmission emanated from the crystal asteroid in the darkness ahead, but as they closed, portions of the *Rollins II* could be seen projecting from the spaceberg. Lines were made fast and the grim tomb was towed back to TTAR88873, where the fate of its passengers was discovered.

Detailed examination later established that the ice particles were given an electromagnetic potential by irregularities in the curious field through which they had passed, and had been drawn towards the dense masses of electrons which had accumulated as a result of the drive failure. This failure had in turn been the result of the negatively charged field which

had prevented the expulsion of protons.

This explanation was substantiated by another eerie discovery some years later, proving that the *Rollins II* was not alone in the fate which befell it. Another research vessel working in the same area, but using specially fitted chemical thrust packs, detected an unusually large spaceberg passing in a wide orbit around Delta Cephei. It might have aroused no more than a passing interest had not the scanners registered a dense metal core with a complex spectrum. As the craft approached to examine the object, an extraordinary sight met the eyes of the research vessel's crew. The men clustered round the viewports to stare in silent amazement at the massive, translucent asteroid and the unmistakable outline of a spaceliner deep in its heart. The small sounds of the research ship's support systems were all that could be heard until someone cleared his throat and identified the dim shape as an Interstellar Queen, a type of passenger vessel that had been obsolete for nearly three hundred years. The spell was broken and the crew went back to their stations. The incident was logged, and the glistening asteroid vanished into the darkness behind them.

The liner had originally reported a systems failure which had put the central computer out of action, and was slowly making its way to one of the old unmanned perimeter stations. It never arrived, and had been listed as missing due to navigational error, but at last its real fate could be only too easily identified.

A routine research sweep ends in disaster, and the frozen hulk of the *Rollins II* is towed back to base – too late.

ALAN DANIELS



Victims of Space

Death Ships from Alkahera

ROBIN HIDDON

Lorac One sat on the pad close to the mining camp on Gentleman's Dig, a small but productive group of asteroids in the Menkalinan fields. She had arrived from Alpha Centauri two days ago with a relief crew, who had spent most of the voyage gloomily contemplating the prospect of their eighteen-month tour of duty in this rather dismal place. As she refuelled and provisioned for the return trip, the men who had jubilantly watched her arrival were happily completing the handover to their replacements and gathering their belongings together for the journey back to the playgrounds of the Centauri system. The boisterous chatter was almost entirely concerned with how many Credits were due to them and the relative merits of some of the more dubious entertainments awaiting them.

Eventually the ship was ready for lift-off and they trooped noisily aboard, watched by the subdued group they were leaving behind. The anti-grav generators' whine climbed into the inaudible and first the base, then the rocky cluster

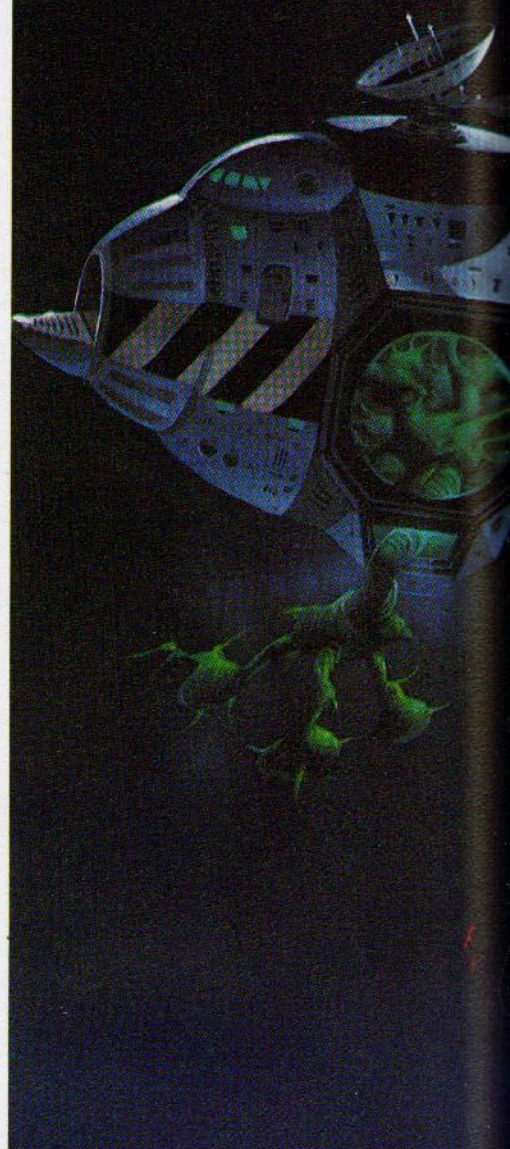
A bizarre sight met the eyes of the patrol ship sent to investigate the silent ship which emerged from hyperspace. Every inch of her interior was occupied by her mutated food supply.

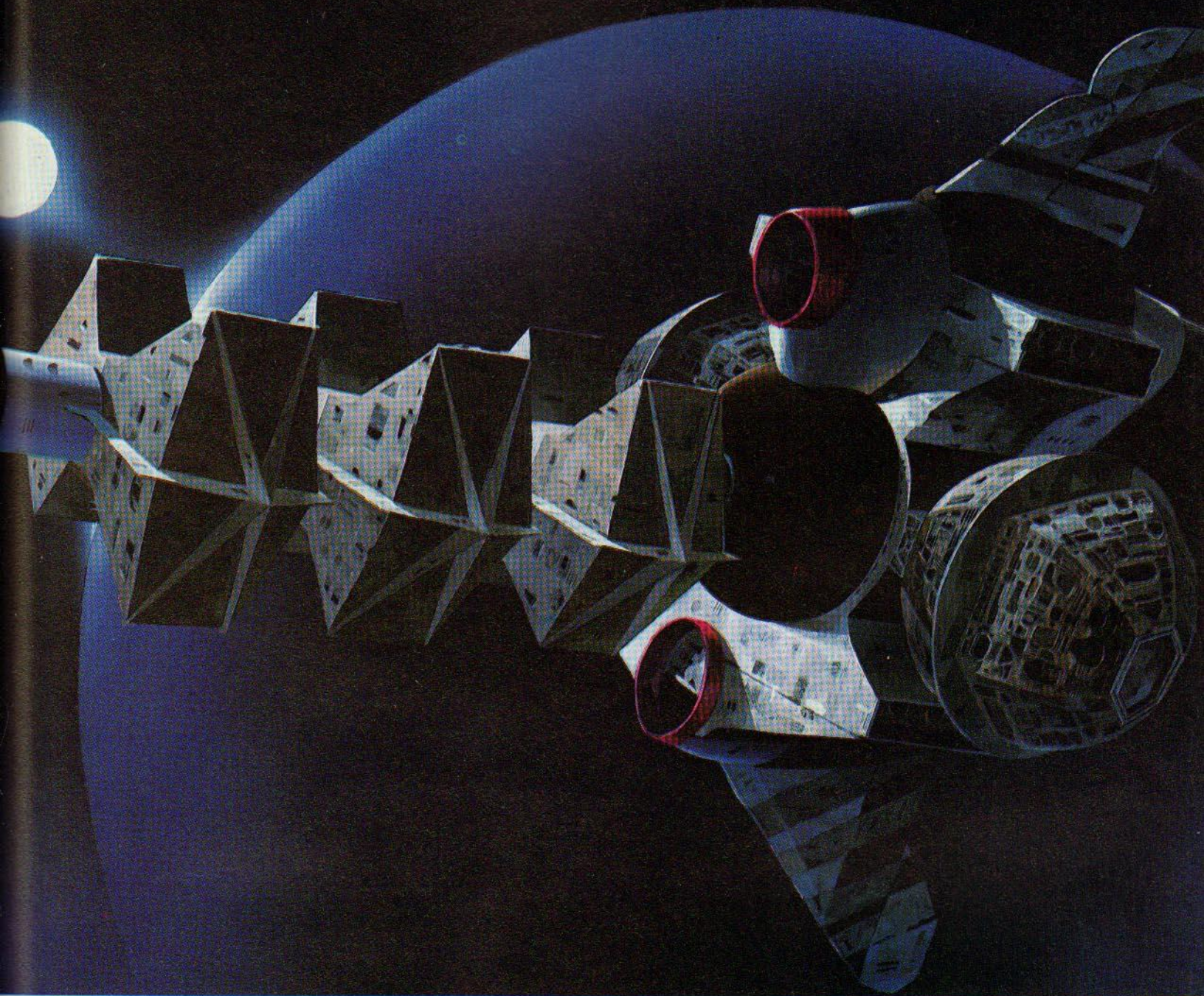
dwindled into specks beneath them. The warp-drive coordinates were keyed in, the flight computer activated, and the craft began to melt into hyperspace.

It was a chance in ten million that an unscheduled ore freighter en route for Gentlemans' Dig emerged from warp at the precise instant that *Lorac One* entered it. The warp field generated around a ship entering hyperspace is not confined to the outer surface of the hull but extends some distance beyond it. The reason why vessels have to move under conventional power to specified jump zones is to ensure that no other objects are inadvertently drawn into warp with the ship. The extraordinary coincidence experienced by *Lorac One* nearly ended the voyage before it had really begun. She bucked and spun crazily as her field struggled to draw the ore freighter into warp as well, and the nuclear plant and generators climbed dangerously near to overload. But the combined mass was too great, and after a frenzied instant *Lorac One* slipped into hyperspace, leaving the skipper of

the freighter to bring his own vessel back under control. The experience must have been a startling one for him as his detectors would not have had a chance to pick up the outgoing craft at the instant of emerging from warp, so he would have had no idea of what had suddenly hurled him around apparently empty space.

Three months later, a traffic control beacon near Centauri registered the scheduled arrival of the returning relief ship and transmitted a routine check signal. But there was no answer from the stationary vessel hanging within sight of its destination. The signal was repeated on a number of frequencies to no avail, so Central Control was notified and a scout





ship was dispatched to investigate. It was not long before *Lorac One* was visible through the viewports of the little craft, and its crew anxiously examined the growing image for any signs of damage. Her hull appeared intact, and lights could be seen glowing from the ports scattered along the irregular hull, including the larger ones in the vicinity of the main control deck, but there were no other signs of any living presence aboard.

With a sense of foreboding, two of the crew began to clamber into their bulky suits as the scoutship approached the silent shape of the larger vessel, while another broke out the laser gear and pressure seals so that an entry could be forced if necessary. Within seconds the hull

of *Lorac One* was looming over them, and the captain eased the ship up towards the greenish light of the control cabin above. Suddenly he gasped with astonishment as the small craft drew level with the huge viewports. The entire cabin was filled with a dense, fungus-like growth which seemed to emit a dull glow of its own. Puzzled, he moved his ship further down the outer skin to one of the smaller viewports, but there the same sight met his eyes. His sensors indicated that practically every square inch of compartment space registered the same density as the control cabin, in addition to which a high internal radiation level was detected.

He ordered the two men to exchange their suits for heavier,

radiation-proof ones before they disappeared into the airlock, reappearing in the viewport as they set up the isolation seal around themselves. Soon the tiny bubble glowed eerily as they cut their way into the skin of the ship. The situation became clear as they hacked their way through the strange growth in search of the men who had occupied her. The radiation was traced to a major reactor leak obviously caused by the sudden and powerful load imposed on jump-off. The intense emission had curiously mutated some of the plants in the hydroponic banks as well as killing the unfortunate passengers, and the unchecked growth had spread throughout the vessel.

The Warworld of Alshain

BOB LAYZELL

That the desolate world of Alshain IV had once been the home of a technologically advanced species was evident from the many decaying relics discovered there. The warlike nature of this vanished species was illustrated by such artefacts as this primitive missile battery.

The constellation of Aquila, or the Eagle, lies in the milky way below that of Cynus. The most prominent star in this group is Altair, lying a mere sixteen light years away. Of greater interest to the Terran Federation, however, was the yellow G8 dwarf, Alshain, forty-two light years away from Earth, and sharing very similar properties with our own sun. In 2355 AD it was found to possess a planetary system of six major bodies, and an expedition was mounted to investigate these worlds. Three of the orbiting spheres were circling too close to Alshain itself to be habitable, and displayed no signs of life. The fifth and sixth were closely associated, and swung in their irregular paths far out in the darkness. They also were uninhabitable, but for the opposite reason. Alshain IV was a very different proposition and although a hotter and harsher world than Earth, was certainly capable of supporting human life.

A closer look was certainly worth having, and the expeditionary force entered the system, taking up station near the perimeter and in the

shadow of Alshain V, while two of the scoutships carried moved into orbit to ascertain whether intelligent life existed there. After one or two unfortunate incidents in the early days of space exploration, it was now recognized that caution in these circumstances was by far the best policy. The sudden appearance of unexpected and unknown ships in the territory of a race with an advanced technology could easily have an undesirable effect. While one of the scouts took up a halfway position in case of trouble, the other moved closer in to scan the large continental masses, which lay surrounded by warm, shallow seas. The greater part of the surface seemed to consist of huge desert areas ringed by dry and craggy mountain ranges and devoid of any major forms of vegetation. In the more temperate latitudes the terrain was primarily scrubland streaked with ribbons of richer growth which marked the paths of a number of sluggish, soil-laden rivers. The polar regions were covered in extremely dense forest pierced by many large peaks, and it was here that the first





indications of an important life-form were detected.

The various sensors being used by the scout picked up curious differences in the formation and composition of a number of the isolated peaks, while closer inspection suggested that they might be artificial constructions. In addition, the mountains displaying these phenomena appeared to be the focal point of what could only be described as roads of some kind. The vessel remained in a tight orbit for several days, maintaining a constant observation, but there was no sign of life among these odd sites. Eventually it was decided to move into the thin atmosphere of the planet, and selecting one of the peaks, the ship moved in. As it approached it became obvious that these were indeed the handiwork of a highly skilled intelligence. Composed of a variety of materials, an interlinked complex of structures had been built covering most of the steep rock, but of its occupants there was no sign. As the ship closed it became apparent that the settlement had not been maintained for a long time, and the elements had taken their toll. Some structures had collapsed entirely and others would soon follow despite the massiveness of their construction. There were few apertures in the surfaces of the many buildings, the overall impression being of a fortification of some kind. The roads that radiated out from the base were being reclaimed by the thick forests and their surfaces were dotted with sprouting vegetation.

This information was relayed back to the rest of the group and the scout was instructed to move further south. Two similar formations were seen before the jungle began to thin out, but both were in the same condition as the first, and the original inhabitants once again seemed to have disappeared. The carpet of green gradually gave way to the tough, yellowish vegetation of the scrubland. The landscape here was formed of a series of plateaux and ridges among which the infrequent rivers wound their way. At this altitude several other constructions could be seen which would have been barely discernible

from the surrounding land, all being of low and massive build, suggestive of a defensive purpose.

The captain decided to risk a landing and set the ship down near one of these formidable artefacts. While the rest of the crew trained the vessel's light armament on the target, the captain and two men set out in a landscooter. Settling on the ground beside the building, the men noted that there were no seams or joints in the smooth surface of its walls. Spotting a small aperture in the side wall, they dismounted and walked over to what was clearly a weapons slit, from which projected the snout of a barrelled weapon in an advanced state of corrosion. Large flakes of material fell away when the barrel was touched, but it was impossible to determine the nature of the weapon.

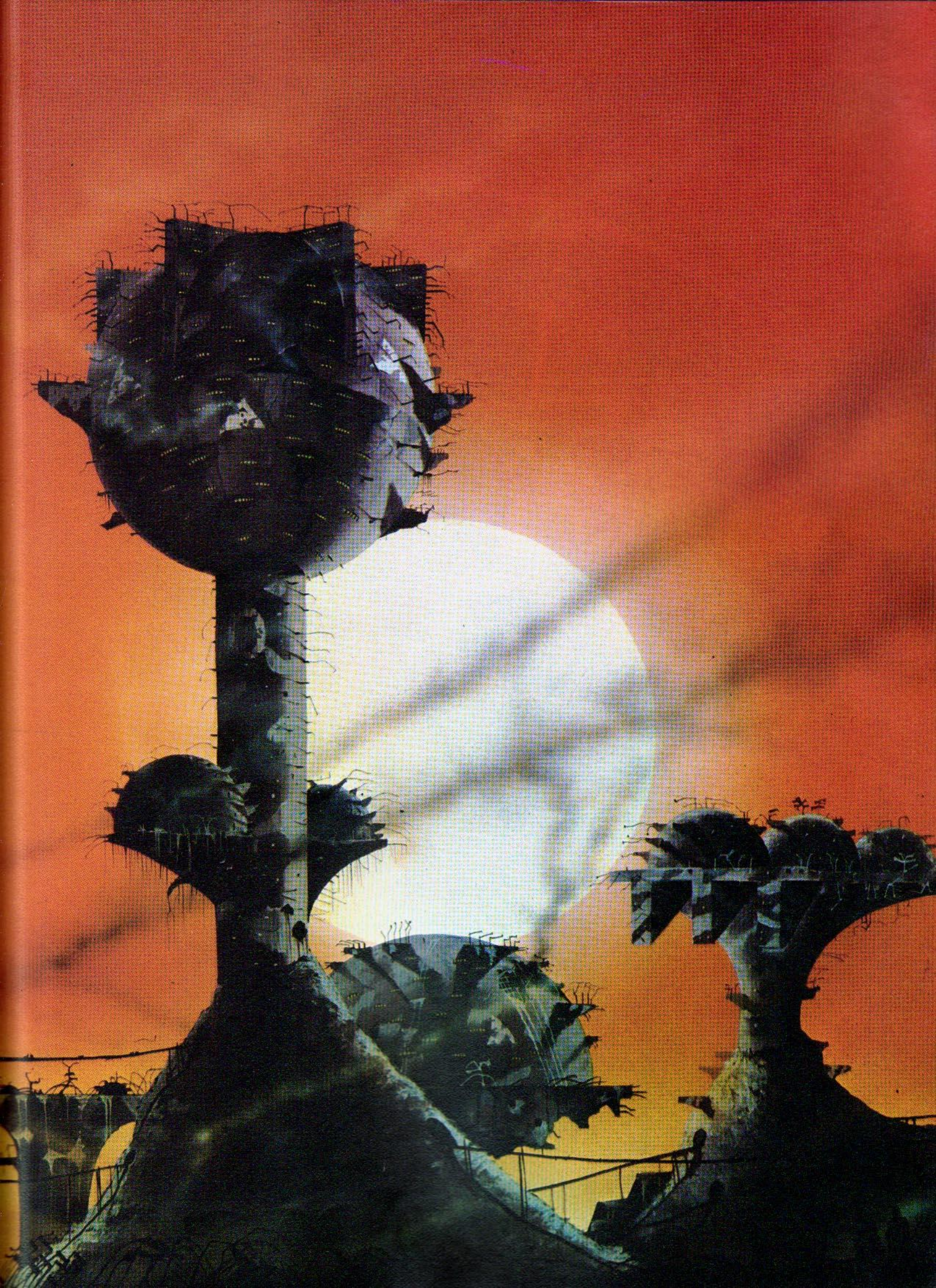
One side of the building was found to be almost entirely filled by a large metal plate recessed into the stone-like material. The captain spoke into his communicator, the scoutship lifted off and swung round to the side where they stood, and after the three men had moved clear, a vivid streak of laser lashed out, vaporizing an area of the plate. The men peered into the darkness beyond as they waited for the metal to cool, but nothing could be seen except the fading glow of the opposite wall where the laserbeam had hit. Once inside, however, they found a large chamber filled with decayed and corroded equipment and a huge machine resembling a projectile launcher of some kind. Several circular doors led off into smaller rooms all as empty and derelict as the first. Whoever had been responsible for creating this grim structure had made it for creatures of considerable size, to judge by the doorways and passages.

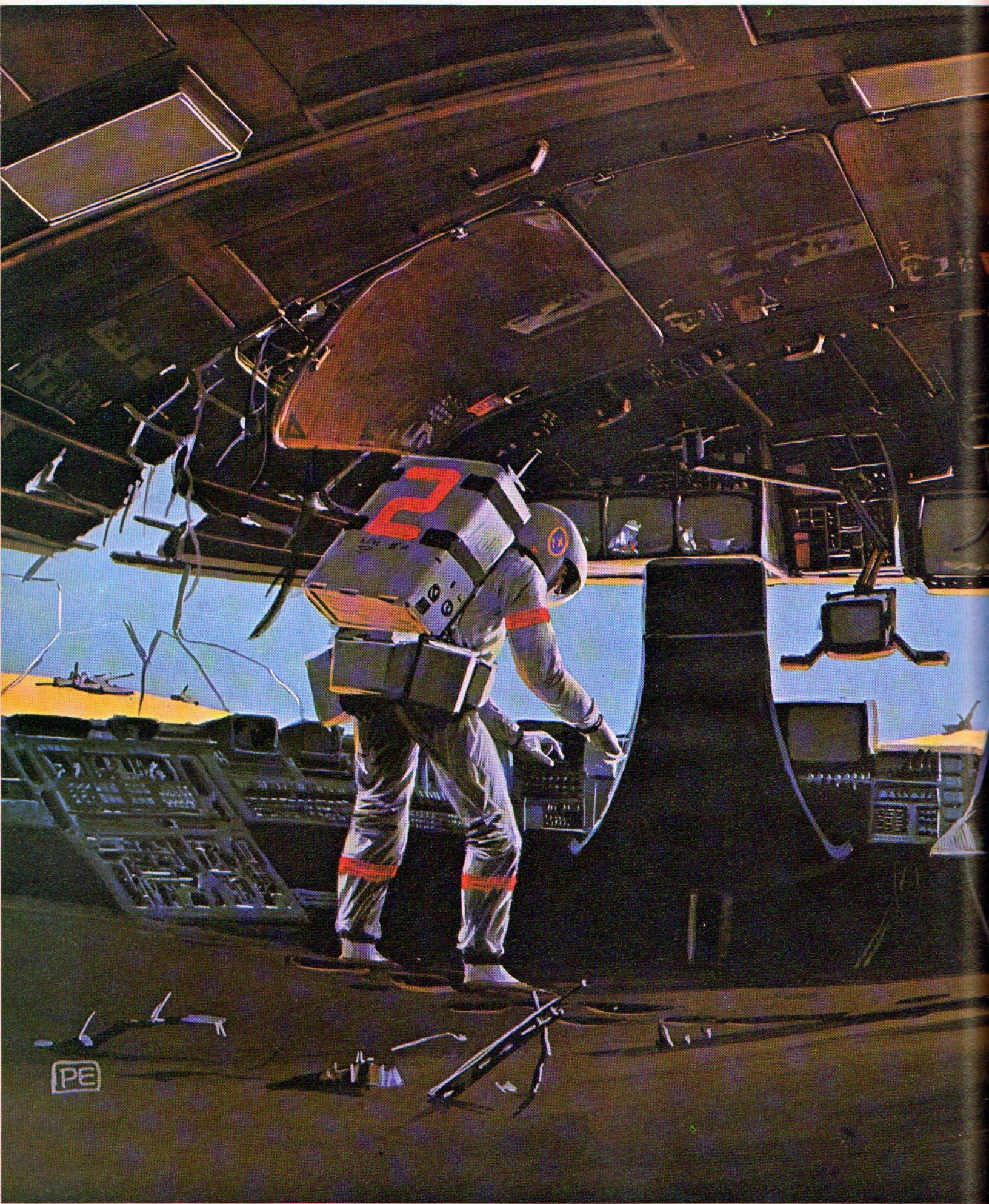
They returned to the ship to make their report and were told to await the arrival of the other scoutship, which arrived overhead eight hours later. Together the ships moved off further south towards the great desert plains, searching for any sign of movement on the ground beneath. Suddenly a scanner operator shouted. In the lee of a ridge ahead stood a group of extraordinary structures unlike any

The first sight that met the men exploring the vast desert plains of Alshain IV was this curious group of dwellings.

Overleaf

The hundreds of wrecks lying in the desert had clearly accumulated over a considerable period of time. Whereas a large number were extremely primitive in construction, others, such as the one shown here, were highly sophisticated fighting machines.









they had seen so far. Each one was different but shared a common style, the general impression being of a clump of huge plants. One of the scouts landed nearby as the other hovered above, and while some of the crew remained to handle the weapons systems, the rest set out in the scooters towards the gaunt, dark towers ahead. As they approached they saw that the entire complex was made of a metal, with the slender stems of the structures supporting a much larger mass of domes and spheres. Despite the general air of desolation lights gleamed from many of the hundreds of tiny apertures, and a thin plume of smoke issued from a gash torn in the side of one of the larger domes. The men spread out as the ship above them ran through a series of signals in an attempt to make contact with any occupants there might be. If anything was in there, it did not respond, and nothing could be seen moving behind the many windows. Cautiously, the men on the ground moved in among the high pillars, trying to discover a way into the strange buildings, which were in a far greater state of dereliction than they had seemed to be from a distance. One of the team eventually found a place where a section of wall had fallen away completely, and clutching their beamers, a party clambered into the interior. A spiral ramp ran in stages up the circular shaft, vanishing through a floor far above. They made their way upwards, covering each other as they moved until they arrived on the first level. Here the structure divided into a number of passages and compartments. Although there were quite a few lights operating it began to seem likely that these were energized by a self-replenishing power source, for the general air was one of emptiness and neglect. Nearly all the compartments were devoid of any signs of habitation and contained no fittings or equipment of any description. Some, however, were filled with banks of equipment, but their functions were obscure, particularly in view of their advanced state of decay.

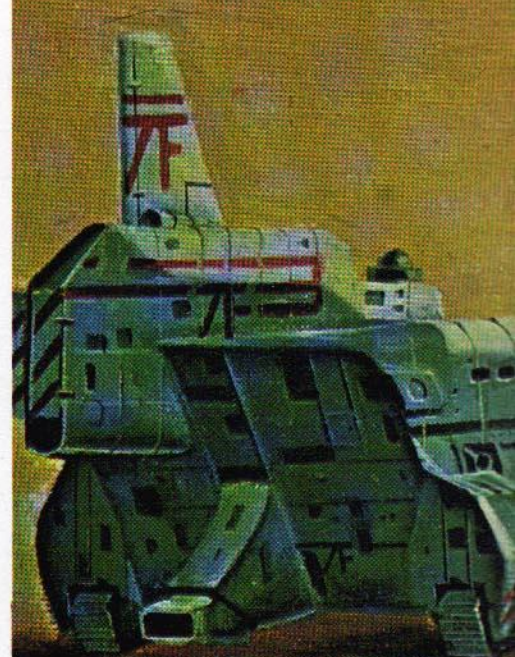
One of the team suddenly noticed that the sand which had entered via

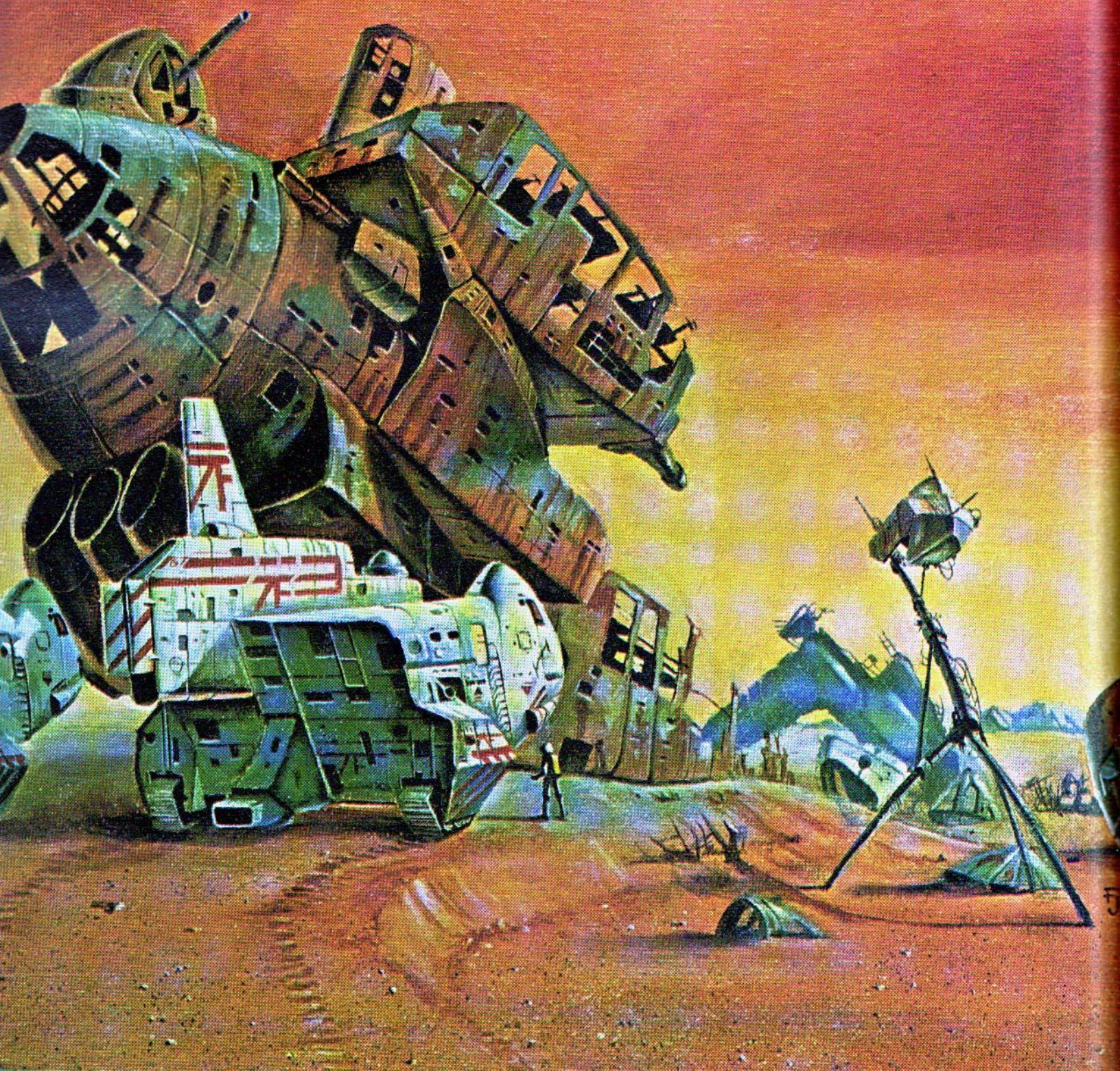
the many cracks in the structure and now lay in a thick carpet over the floors of the rooms had in some places been disturbed. The men gripped their weapons, looking apprehensively around them at the dozens of empty corridors and chambers. As they stood there, they became aware of a host of small sounds previously unnoticed against the subdued hum of the unseen power source. Carefully and silently, they moved more quickly among the maze of passages, climbing up from level to level. The intermittent noises were more audible now, and in some places a haze of dust hung in the shafts of light which penetrated from breaks in the outer skin. One of the men glimpsed a sudden movement in the entrance to a room and shouted as a large metallic object hurtled towards them, glancing off a wall with a resounding clang before thumping on to the dusty floor. Reacting instinctively, the entire party threw themselves down and fired a fusillade of shots into the chamber. There was the sound of a body falling inside, and two men dashed to the doorway. Peering round the edge they saw a large, sandy-furred creature lying slumped on the floor. A blast beam had torn a hole in its side from which a thin, pinkish fluid leaked into the dust.

Some eight feet in height and powerfully built, the bulky body appeared to be covered in a leathery, scaled skin with wiry fur growing from the joints between the large scales. The forelegs were curiously slender, terminating in a number of delicate finger-like projections, while the head was large and set close to the heavy shoulders. The front of the head was dominated by a broad slit fringed with a fine down and a flap of skin covered a mouth equipped with an armoury of triangular, razor sharp teeth. The eyes were set wide in the skull and seemed to be covered in a translucent membrane.

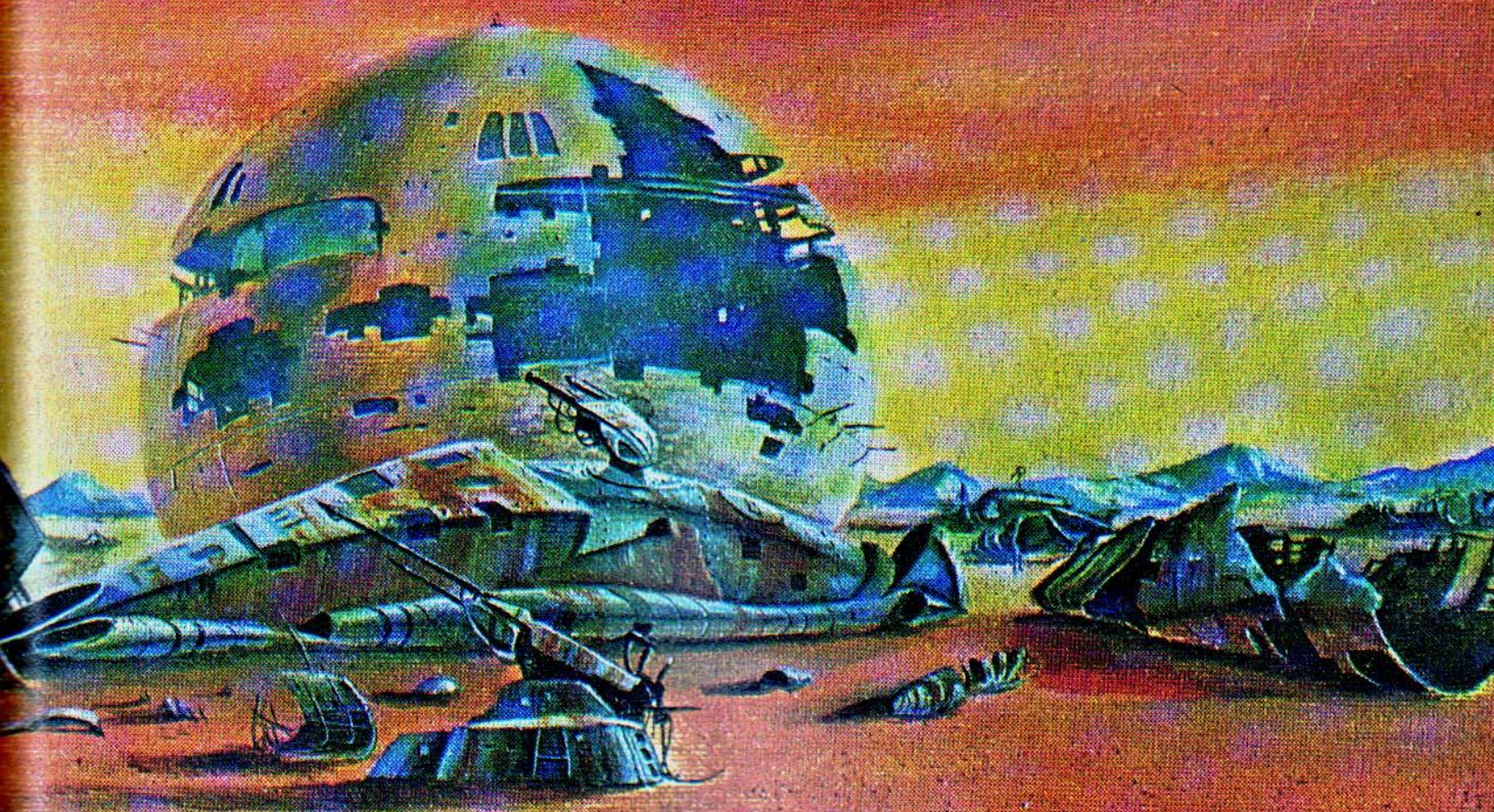
The men had gathered round to stare at the huddled form when there was a shrill whistling and the huge bulk of another of the creatures hurtled in through the door, swinging a heavy metal bar which crushed the skull of the

FRED GAMBINO





The seemingly endless desert was littered with the rotting hulks of innumerable wrecks and pieces of debris. It had obviously been the scene of some monumental struggle in the planet's mysterious past. Two Terran Federation crawlers can be seen in the shadow of one of the huge hulks.



nearest man and sent him sprawling against a wall. Three blasters erupted and the enormous shape dissolved, its remnants crashing into the group and bowling them over like skittles. As they clambered to their feet, the leader spoke rapidly into his communicator, and they spread out to search the rest of the tower. Nothing else was found in the upper sections except evidence that this was where the two beings had been living. Their excretions were scattered among the passages and piles of large bones suggested a carnivorous diet. It was with considerable relief that the party returned to the hot, bright light outside, and it was decided that the rest of the towers should be investigated by other means.

Infra-red and sound analysis equipment was carried from one of the ships and the technicians began the slow and laborious task of setting up to scan the tall structures for evidence of other life-forms. The long twenty-two hour day was beginning to close by the time that the various readings had confirmed the absence of other inhabitants.

By now the light was fading and the ships withdrew to the north for the night, amid much speculation as to the whereabouts of the species responsible for all the artefacts so far discovered. A force field was set up around the two ships nestled among the stones of a rocky outcrop, and contact was made with the force still far out in space, who set off immediately to join the advance group. As the others were occupied with setting up the defences and preparing food, a few strolled off to look at the shattered remains of another of the squat bunkers seen earlier in the day. It was broken and gutted, with little but the external walls remaining, but of significant interest were several intact missile launchers sited in an arc around the ruin. These were intact, though badly corroded and overgrown with tough, fibrous plants, and were clearly the product of an advanced military technology. If the species that constructed them still existed, they were going to pose a much greater problem than the creatures they had already encountered.

The next day the scouts were informed that the main group was in local orbit and that one of the large research ships was on its way down to join them. On its arrival, the entire force set off in a slow sweep towards the south, scanning the landscape below as it cruised overhead. Once beyond the distinctive forms of the settlement seen the day before, it slowed even further and dropped to a height of a few hundred metres above the surface. As the ships rounded a promontory of spiny hills they saw a vast flat waste spreading to the horizon. As far as the eye could see hundreds of huge, skeletal forms lay scattered, black against the sand and shale which was shimmering in the early heat. There was no doubt that they had come across the scene of some ancient and devastating battle that had left the desert strewn with the wrecks of warcraft of every size and description. The ships settled onto the sand, and once the whine of power units had died away, there was no sound but the song of the wind among the ghostly shapes and low dunes. Streamers of dust eddied among the twisted and broken forms that lay half buried in the gritty soil.

After several soundless minutes the men shook off their temporary paralysis and prepared themselves for a closer study of the eerie scene. While the two scouts lifted to provide cover, a large party from the research ship mounted their crawlers and scooters and followed one another out through the airlocks to reconnoitre. One of the first wrecks they encountered was that of a small aircraft, its nose section pointing forlornly towards the sky. Clambering up the once colourful fuselage, they found the bones of a large creature scattered in the spacious cockpit amidst a host of instruments and controls. Powdery shreds of a costume of some kind were tangled amongst the grim remains and a yellowing shape could be seen through the faceplate of the flaking helmet. Meanwhile, some of the technicians were pulling away fragments of the hull and peering in at the machinery nestling inside. Despite the degree of protection afforded by what was left of the hull, the interior was also in a sorry

One of the first wrecks found scattered in the drifting sands was this small aircraft. Nuclear powered, it was more recent than some of the equipment discovered later.



state, although a nuclear-powered turbine was identified. Only residual radiation was being emitted by the wreck, well within the limits of human tolerance, and equipment was soon being set up to try and assess the age of the craft.

While this was going on, another party set off, the breeze rapidly dispersing the billowing clouds their vehicles raised. Most of the derelict machines they saw were of a gargantuan size, dwarfing the tiny vehicles on the desert floor, and could not have operated in the denser gravity of Earth. The crawlers came to a halt beneath the nearest of these giants, and the ant-sized figures of its crew dismounted, while the comforting presence of a scoutship hovered overhead. The stained and pitted wall of the sinister machine rose up to fill the sky, bright sunlight glinting through the many cracks and holes in the collapsing metal. Access was gained easily through one of the fissures at ground level, and once inside the impression of size was almost overwhelming. The ceiling was almost invisible in the dimness and the whole interior had the air of a cathedral, the gloom heightened by brilliant shafts of light lancing at an angle towards the floor. Most of the many floors and levels had long since surrendered to gravity and debris and wreckage lay in mountainous heaps a third of the way up the machine's height, the jagged fragments softened by drifts of sand. It was almost impossible to determine the machine's means of motive power from the jumble of metal beneath their feet, and they returned to the vehicles to look elsewhere.

At that moment, several large, clumsy shapes lumbered out of the shadows at the opposite end of the hulk and disappeared into another nearby wreck. They were the same species as those encountered before, and with weapons at the ready the party headed for the place they had entered. Stopping just outside the cavernous ruin, the crawlers' external speakers played a standard non-verbal communication tape designed specifically for an initial contact with an alien intelligence, but there was no response. After

discussion with the main craft, holographic projectors were brought by the scoutship and used to project the image of naked and unarmed men, hands outstretched, in front of the breach through which they had entered.

The creatures abruptly burst from the darkness and, heading for the holograph, swung wildly at the images with their makeshift weapons. Confused and frustrated, they stopped and stared about them, then rushed furiously towards the crawler. Left with no alternative, the beamers were set to minimum power and trained on the attackers. When they were triggered, the creatures all tumbled headlong into the sand. A few moments later the crew emerged and walked over to the motionless forms, hand-weapons raised to cover them. Of the five, three had died under the impact of the beams, which were really intended for heavier uses, but two were still alive. The medical team was rushed to the spot, and while they set about establishing the biological nature of the creatures, a temporary research shelter was hastily erected round them. As fast as the equipment could be brought in it was plugged into the bodies, and while a computer was busily working out their physical make-up, the floor was slipped into place, the sand and dust sucked out and the whole airtight unit sealed. Guards stood by in case the creatures recovered before the computer could work out the drug formulae necessary to keep them sedated, but they were not required. By the time the answers were coming it was already clear that both beings had suffered extensive internal injuries and were unlikely to survive long.

Once this was known telepath records were linked to the creatures' brains. By introducing thousands of visual images into their minds and recording the resulting neural response patterns, an electroscopic 'language' could be created. This being entirely a computerized function, a basic neural vocabulary could be established in two or three hours. It was then a case of inputting appropriate groups of stimuli to form specific questions and then decoding the reply in

terms of the established visual vocabulary. Although it is extremely difficult to frame and interpret complex or specialized information by this means, the method is entirely suitable for gaining a generalized insight into background and is widely used in breaking down linguistic barriers between alien races.

Once the 'language' had been established, the lengthy process of interrogation began, and piece by piece a remarkable picture emerged. Bearing in mind that these creatures would probably possess only local knowledge, they appeared to be aware of facts that they were unlikely to have known through personal experience. This suggested that they must have either had strong racial memories or been the recipients of knowledge passed on from earlier generations. In any event the picture that was built up was one which went back a considerable time.

It appears that these creatures were the direct descendants of a sentient and advanced species which had represented the highest evolutionary form existing on this world. They were carnivorous, and the extremely limited resources of their harsh environment had led to the evolution of an aggressive and competitive race. The sparseness of other life forms and the restricted food chains, allied to a high reproductive rate, had resulted in the species becoming primarily cannibalistic. Although the level of technological ability was advanced enough to enable the race to exploit

One of the largest and most impressive ruins was this derelict spaceport. Several ships lay amidst the tangled wreckage, but curiously none of the wrecks investigated had been designed for operation outside the planet and its atmosphere.



the geophysical resources of the planet, it could not create a solution to compensate for the acutely limited biological resources. Science was therefore harnessed to the end of achieving the dominance of one tribal group over another. Inevitably, individual societies had polarized, until virtually all the tribal groups had allied themselves to one camp or another.

The planet had eventually become the battleground for an ever more sophisticated, and apparently interminable war. The litter of wrecks and ruins which can be found over the entire planet dates from many periods of this war, the end of which only came when the protagonists had succeeded in virtually wiping each other out.

Nuclear weapons had eventually

been developed, these ultimately ending the escalation. Even now they were responsible for the uninhabitable and still fiercely radioactive belts in the equatorial regions. The few survivors had been scattered and had eventually regressed. Their already limited resources were now even more depleted and the struggle to survive had become even more intense. As a result even family units failed to develop satisfactorily, and a group of creatures as large as the one encountered proved to be a rarity.

Not all this information was extracted from the survivors, who died fairly soon after the investigation began. But enough had been learned for subsequent explorations and studies to fill out the rest. Although a number of

Terran commercial concerns are now licensed to operate on this unhappy world, there are many sociological teams working with groups of the native inhabitants to help them develop a new society with technological aid supplied by the Federation. It is hoped that in the future they will be able to participate actively in the Federation's affairs. In the meantime the grim debris of an earlier age stands as a warning against the closed circle that can only too easily engulf a civilization.

Even the shallow seas of this bleak world contained relics of the cataclysmic war which had wiped out the civilization of Alshain IV's original inhabitants. This powerfully armed submersible was found on a sandy shelf during explorations by the Federation team.



Children of the Gods

The *Paquita* was a TTA Quantum class frigate dating from the middle of the 24th century. Although a hundred years old, she could still outperform most of the present generation of multi-role ships. Originally intended for military escort and reconnaissance work, the Quantum class ships had served for years before being paid off and made available for sale to anyone who could afford to operate them. Customers were few because their very high performance and restricted cargo capacity did not make for economic operation. Most of those sold went to shipping concerns looking for vessels to carry compact but valuable cargoes, but a few were bought by individuals.

Chalee Sameth was one of these. Born on the fiercely independent planet of Asterion II, which lay some thirty light years from Earth in the constellation of Canes Venatici, he felt confined by the proud but somewhat primitive way of life embraced by his people. Determined to find his fortunes elsewhere, he worked his passage to Earth and entered service with one

of the TTA-operated shipping lines. He learned rapidly, and after a few years had elevated himself to Flight Technician One, with promotion to Captain not far away. But the prospect of further years on local runs was not appealing, and he applied successfully for a posting to deep-haul freighters as a navigator. Unfortunately this too proved less satisfying than he had hoped, and he began to look about for something to suit his temperament.

Although his ability was beyond question, his proud and wild nature had filled his service record with numerous notes which made the coveted captaincy a rather long-term possibility. The decision concerning his future with the TTA was eventually made for him. While waiting for his ship to complete loading on one of the large freight terminals in the Menkalinan fields, he wandered through the more disreputable quarter of the asteroid-based settlement and succeeded in becoming monumentally drunk in a small, dingy bar hidden in a back street. By the time he woke up, nearly fourteen hours later, his ship

had long gone, and as failure to report for duty on an interstellar run is treated as a major offence for a senior crewman, he began to look for new employment. Work for most men is easy to find among the mining fields in this untamed and mineral-rich part of the Galaxy, but work for a spacer is not. All operational crew jobs are open only to approved personnel or licensed private operators, and licences are difficult and expensive to come by.

For this reason space transport hire rates are quite high, but there are a number of ships operating without licenses and at negotiable rates. After a week or two Chalee's money had run out, and he found himself whispering furtively to strangers in grubby little rooms off grubby little bars until one day he walked out of one a navigator aboard the *Grey Lady*, a decrepit and obsolete freighter with an under-the-counter delivery of machine tools to make. The trip was a success, and so were the ones after that. Before long Chalee had earned enough to put a sizeable deposit down on a pitted and battered

In the midst of the city lay a vast alien ship, set about with temples hewn from the rock on which the derelict vessel rested.

Quantum Class frigate, the *Paquita*, and a few trips later he was able to afford to have her reconditioned to the extent that she was in better shape than she had been for some time. Three weeks after trying her out, he had found a crew and had taken on his first contract. Interest on the loans and the instalments due forced him to opt for the highly paid, 'no-questions-asked' jobs. The first two went without a hitch, and Chalee began to think of improvements he could make to the *Paquita*; but the third job went very wrong.

A Federal Law Enforcement patrol ship challenged them as they were preparing for a warp-jump with a highly illegal cargo of nuclear explosives. Although efficient for mining use, they were nevertheless forbidden unless designated by the TTA and used under official supervision. If penalties for carrying unauthorized goods of this kind were severe, those for carrying them in an unlicensed craft hardly bore thinking about. The signal requesting identification from the patrol ship was therefore most unwelcome, and the reaction of Chalee and his colleagues was instantaneous. Every spare piece of equipment drawing on the power supply was shut down and maximum energy was fed to the warp generator, which was in turn jammed into maximum load. As soon as the output touched the line, Chalee threw the ship into the jump, sending men and loose gear flying as the vessel lurched into hyperspace. There had been no time to set the re-entry coordinates, so where they would emerge was anybody's guess. All Chalee could do was to equate elapsed time and warp speed, and hope that the patrol ship would not be equally foolhardy. Though it is impossible for a vessel in normal space to track one in hyperspace, re-emergence into normal space is traceable. But the galaxy is big, and not even the smugglers themselves knew where they would end up.

BOB LAYZELL





Chalee decided to stay in maximum warp for a few weeks before returning to normal space to establish his position and making another jump to somewhere specific. To while away the time, he played with the computer, feeding in speed and drive duration data to assess his approximate position. But without any information on his direction from the starting point, the readout could only indicate a globe-shaped area in which lay millions of stars.

Six weeks had passed before he decided to risk re-entry, and with his heart in his mouth he brought the ship out of the jump. Seconds later the viewscreens were full of the star-studded velvet of normal space and everyone aboard breathed a sigh of relief. But the elation was not to last for long. The urgency of their departure had allowed no time for the main drive to be run down in the normal fashion, and the sudden massive loading on the reactor had caused it some damage, in addition to hairline cracks in the acceleration chamber of the drive unit caused by the abrupt cooling. They would not be able to make another jump until repairs had been carried out, and they would have to find a planet to land on in the hope of finding air, water and food enough to keep them alive while they did the necessary work.

The first task was to establish their position, and the small number of stars visible in this region was not going to make it easy. Chalee picked the brightest in sight and started to take readings. It was a yellow star of spectral type G6, beyond which lay a large local group of galaxies. About 322 light years away lay an A0 sub-giant star and about 103 lights years behind them lay a dwarf star of type F5. Within half an hour the data banks had informed them that the highest probability evaluation indicated that the star ahead was Beta Fornacis, 148 light years from Earth, and the centre of a small system of three planets. Nothing was known about these planets so the crew of the *Paquita* could only hope that one would provide a refuge.

They set course and gently eased the main drive up to cruising speed for the tedious crawl towards the

Beta Fornacis system. If none of the distant planets possessed the characteristics they needed they could virtually write off any chance of getting home, for the ship would never take another jump in her present condition. Every few hours they anxiously checked the scanners for any sign of the planetary bodies in their journey round the increasing brightness of the sun. Then, at last, the long-range monitors registered the positions of the three dark companions, and as they drew nearer data began to stream into the computer's analytical banks. Beta Fornacis I was no more than a ball of lifeless rock about the size of Mercury. Its elliptical orbit took it to the very edge of the sun's photosphere and any atmosphere it might have had was long gone. The second was no more promising, with a dense carbon-dioxide atmosphere and a surface temperature of nearly 500°C. As the readings appeared for number three, however, a sense of mounting excitement gripped the men huddled round the VDUs. The velocity for the escape of gases was 6.8 miles per second, so a suitable atmosphere could be retained by the planet, whose mass was only fractionally less than Earth's. The slightly weaker gravitational pull would be no problem, and the albedo analysis indicated an abundance of water. It would be extremely unfortunate if it contained too many impurities for the ship's equipment to handle. Finally the atmosphere analysis appeared on the screens and a roar of relief rang through the *Paquita* as the crew realized that they wouldn't even need to use stabilizing filters to breath outside the ship.

In a jubilant mood they altered course towards Beta Fornacis III and prepared the ship for the descent, taking one last look before the heat shields closed over the viewports. They strapped themselves in for the ride into the envelope of gas, but this precaution proved hardly necessary, as the ship slid smoothly through the outer layers. About six hundred miles up Chalee halted the descent and started to check the surface for any signs of life. Vast areas of the

surface were very irregular, with evidence of major volcanic activity earlier in the planet's history, while the seas were small and dotted with millions of atolls and chasms. Some of the eruptions must have been considerable, for there were craters up to a hundred miles across providing some of the few satisfactory landing sites, although even these were blanketed with dense vegetation. The *Paquita* made several circuits of the planet in search of any indication of sentient life, but if there were any it was invisible beneath the lush vegetation. Chalee decided to take a chance, for there was certainly nowhere else for them to go. The main drive would never get them up to escape velocity in its present condition, so Chalee looked for the largest crater he could find and allowed the ship to drift down towards it.

It was not the most comfortable landing, the power supply to the anti-grav units being uneven and cutting out altogether during the last six feet of the descent. After all aboard had collected themselves and glanced through the ports at the thick undergrowth all around, they began the tedious chore of a complete systems check. It would take a full two days to run through all the components of the ship and identify the precise location and nature of the damage. Chalee and the first mate decided to take a look outside, while the others busied themselves running the initial computer tests to check that the fault isolation equipment itself was operating correctly. It was a relief to feel a breeze after the still, recycled air of the ship, and the reduced gravity added a lightness to their stride as they hopped over the flattened shrubs protruding from beneath the hull. The first mate wandered round the vessel to see if any external damage had been sustained, but there was nothing obvious. He climbed back through the airlock to see if he could rig up a fracture scanner, and after watching him disappear, Chalee pushed through the wiry plants towards a low bluff that rose out of the sea of greyish-green foliage about a quarter mile away. Although

he had seen no evidence of any local fauna, he was sure that there must be some in an environment as mild as this, and was glad of the blaster that thumped gently against his thigh as he walked. The shrubs grew taller as the slope increased. Then he came to the base of the ridge, where once again they thinned out and then stopped as the ground became rockier. Puffing slightly in the thin air he climbed upwards, glad of the easier gravity after the inactivity of ship-board life. Eventually he came to the top and turned to where the ship lay. Only the upper surface was visible above the coarse vegetation, and the sun gleamed brightly off its surface. He made a mental note to do something about it in case there was anything living on this quiet world. The distant sounds of the men drifted in snatches through the air as he scanned the unending carpet which spread out from the hill in all directions.

The apparent emptiness of the planet stirred him in the same way as the vast emptiness of space did,

and he thought that if he ever settled down it would be in a place like this. As he was musing in this way, his reverie was broken by a change in the intermittent murmur that came from the direction of the ship. Sharp shreds of noise were carried on the slow wind and the buzz of a beamer cut through the medley of shouts. He spun towards the patch of reflected light as the beamer fired again, but no sign of what was happening could be seen from here. Pulling the blaster from its holster, he slid and scrambled down the slope and hurled himself into the undergrowth, ignoring the roughness that snagged and tore at him as he ran. Fifty metres from the *Paquita* he stopped suddenly, gasping for breath. If something was wrong it would not be wise to blunder into the middle of it. For a moment he thought that the Federal

Other pieces of equipment were found, such as this legged land crawler, which must have originated from the ruined alien colonizer, but which were now objects of sacred importance.

Authorities had somehow tracked him to this spot, but the possibility was so remote that he rejected it. It had to be a native life-form attacking the ship, and he edged warily towards the small clearing made by the landing.

Dropping to his knees, he crawled through the tough stems of the plants, his blaster raised to cover the area ahead. He peered through the gaps, searching for movement in the now silent landscape, but there was nothing to be seen. When he arrived by the spacecraft he froze instantly, bringing the snout of the blaster up to bear on the strange figures that stood silently in the shadow of the airlock. They were humanoid, but much thinner and more elongated than a Terran could be, with greyish skin and a single large, dark eye set under a smooth, domed and hairless brow. They were motionless, looking down at one of their number who lay at their feet, cut in two by a beamer. After several minutes, they began to glance at one another and shuffle their feet as though uncertain what



to do next. Something made Chalee lower his weapon and rise to his feet, and as he did so the four creatures turned their faces to look at him. They stared at him and he stared back, the blaster hanging by his side. After several long moments, as if at a signal, the strange, spindly shapes lowered themselves to the ground and lay stretched on their faces in the dust, emitting meanwhile a low and nasal humming noise. Chalee felt curiously embarrassed and took two paces towards them. He suddenly noticed another mangled body lying among the bushes beyond them as he moved uncertainly into the clearing. Edging along the fuselage of the ship he kept facing them while his hand fumbled behind him for the ridge of metal surrounding the airlock. When he felt his fingers brush over it, he rapped sharply on the hull with the butt of the blaster. None of the slender bodies stirred and he rapped again, this time more loudly. There was a hiss as the airlock parted a fraction, and a voice nervously whispered his name. He answered and the lock opened wide enough to allow the thick nose of a

beamer to protrude, followed by the sweaty face of the first mate.

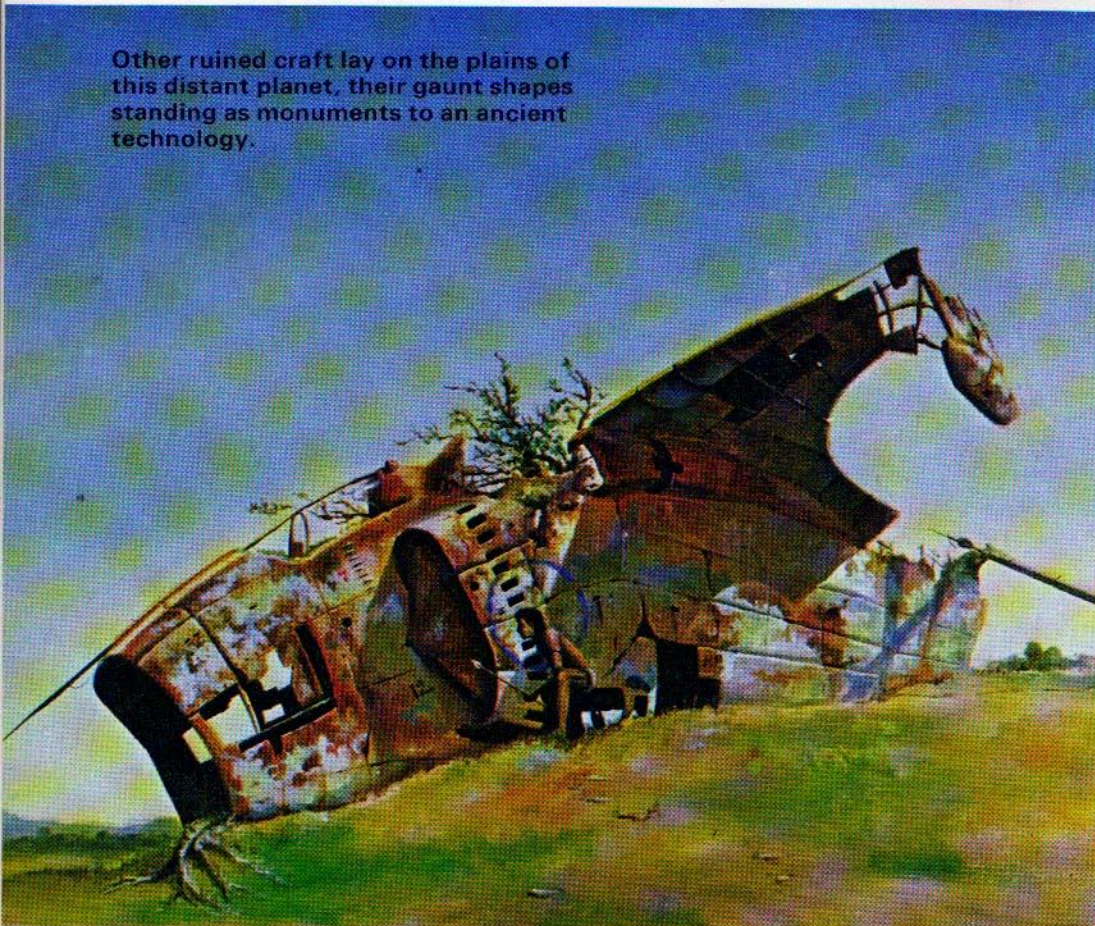
Chalee looked back at the supine forms and indicated them with a puzzled wave of his hand. Cautiously, the mate stepped out to join him and together they waited for a reaction from the silent, unmoving figures. The mate giggled nervously and Chalee cleared his throat, the sound seeming far too loud in the silence that surrounded them. A few seconds later one of the domed heads stirred and a round, limpid eye lifted to meet theirs. Eventually all four creatures had climbed to their bony feet and stood watching them, the dust drifting off the plain robes which hung from their shoulders. A few more uncomfortable moments passed before they parted and stood to either side of the narrow track which led from the clearing, obviously suggesting that the two men should walk down it. Chalee called the others out from the ship and as they bunched round him he ordered two to stay with the *Paquita*.

Checking their equipment, the rest moved between the creatures,

one of which stepped ahead into the shaded path. With frequent backward glances at the three unnaturally slender forms moving quietly behind, Chalee and the crew trailed after the shadow ahead, leaving the two bodies behind. They walked for about an hour before Chalee checked their position with the ship, and shortly afterward the path sloped sharply down, passing through a natural arch in a low rock face. They passed through and found themselves on the rim of a huge hollow. Tree-like plants grew inwards from the lip above them, and vines growing across the crater formed a latticework which would have obscured it from the air. A small city was spread out below them, a long flight of steps leading down to the streets and squares which lay among the stone buildings.

As they descended, a huge crowd of the creatures gathered, prostrating themselves as the party passed by, then rising and joining the growing troop behind, until at last they entered a wide square where the party halted. The men looked at each other in astonishment and then back at the enormous bulk of a derelict spacecraft which lay in the open area. The creature they had been following emitted a series of fluting sounds and gestured towards the huge, rusting ship. Conscious of the great crowd behind, the men moved forward, gazing up at the towering hull. It had been lying there for a very long time and plainly had not originated from any world that Chalee knew of. It was obviously regarded as a sacred object by the creatures that thronged around the crew of the *Paquita*. The rock prominence that the wreck stood on had been cut away to form numerous structures, some of considerable size and looking very like temples or altar places. Chalee walked nearer, accompanied by the grey, robed figures until he reached a wide flight of steps hewn from the stone. He climbed up to where the rusted and flaking hull curved upwards. Above him a rupture in the skin of the ship yawned blackly, about eight feet from the ground. He jumped, grabbing the lip, and pulled himself

Other ruined craft lay on the plains of this distant planet, their gaunt shapes standing as monuments to an ancient technology.



In this decaying wreck wedged high on a rock ledge lay the clue to the origins of the grey people of Beta Fornacis III.



into the fissure. The soft fluting of the creatures swelled loudly, and he looked back to see them all lying face down in the square, the crew men standing out in a knot above them. He pulled a handlight from a pocket and flashed the bright beam into the interior. Mosses and feathery growths swathed the jumble of collapsed floors and buckled bulkheads. Individual pieces of equipment had dissolved into unidentifiable lumps of corroded metal, and plastics had become brittle and discoloured. The floor he stood on suddenly groaned and shifted, and unwilling to venture further into the dark ruin, he returned to the entrance. The huge crowd outside were still lying in the dust, but as he reappeared, their moaning redoubled in volume.

It dawned on him that if this derelict was indeed a holy place for them, the arrival of the *Paquita* must represent a miraculous event, with Chalee and his motley crew as holy messengers if not gods. The

thought of his villainous first mate being regarded as a sacred figure brought a snort of laughter from Chalee as he jumped down. The humming from the square died away as he strolled round to the nearest temple and ducked inside. Lamps burned with an acrid smell round a roughly carved altar at the far end, and he walked towards the objects that lay on its surface. One was clearly a helmet, and there was a fragment of a control board of some kind covered in unreadable inscriptions. Other bits and pieces of gear lay on the dusty table and he examined them carefully. One or two looked earthlike but this was probably coincidence, for he was sure that the ship did not come from any system known to the Terran Federation.

A shadow passed in front of the entrance, and the mate entered, looked at the equipment scattered on the table and asked Chalee what was going on. When Chalee had told him what he thought, he simply

shrugged and went out, and after a moment the captain followed. At least the inhabitants wouldn't be a danger, and they could even be useful in getting the *Paquita* back into space. Back in the square, he spoke to the crew and then led the way back to the ship, a silent stream of the gentle natives trailing behind. Once inside again, they ate and then set about the tasks that had been interrupted by the lugubrious creatures that the mate now referred to as 'Glooms'. It only took a few minutes of gestures before the Glooms vanished, reappearing with fresh water and an endless selection of weird foodstuffs. The analyzer eventually selected a number as being suitable for human consumption, and Chalee was relieved to learn that the food supply was no longer a problem.

The job of repairing the *Paquita* was going to be a long one. Parts had to be replaced as well as repaired, and the means of manufacturing serviceable

replacements had to be laboriously improvized from equipment in the ship and whatever could be used from the remains in the city. During the weeks which passed, Chalee spent a great deal of time exploring the area, intrigued by the presence of the huge alien craft and by the fate of its crew. He felt sure that it had been a colonizer of some kind which had been overcome by disaster in an earlier age. The condition of the wreckage suggested that it had landed here before Man had even attempted to enter space. If this was the case, what had happened to wipe out a people so advanced, and why had no rescue come? Their demise had not been abrupt, Chalee decided, as he had discovered the ruin of a domed metal construction outside the crater which was unlike anything he had seen in the stone-built city. He had also found the broken and decayed remains of small flyers lying in the dense undergrowth, or on the sandy plains a few miles from the city.

The first clue came to light when Chalee climbed a high cliff to investigate a dull metallic gleam he had noticed the day before. At the summit he found another wrecked flyer wedged among the rocks, and made his way to it, peering into the crushed hull. At one end he saw a cockpit, and pulled himself on to the nose of the craft. Sealed into the small space was a skeletal figure wearing the tattered remnants of a pressure suit. A domed skull protruded from the yellow rags and a dark hole gaped where once must have been a large single eye. He stared at the bony face as the realization dawned. The gentle, spindly Grooms were the descendants of an expedition from some distant, unknown world. Something had evidently affected the evolution of their ancient colonial settlement and altered their path. Perhaps disease had ravaged them, destroying most of them and the technological skills they had possessed. As the survivors struggled to master an alien environment with whatever means they had, the intricate web of earlier knowledge would have gradually fallen apart. To those alive today, those early ancestors would seem

strange and separate beings, belonging to another, wondrous existence. Perhaps one day another ship of slender, grey-skinned people would fall from the sky in search of their fellows.

Chalee turned and looked over the plains and woodlands that spread to the horizon in soft, quiet colours and thought of other planets circling other suns far away. Somehow the thought of going back to those jostling worlds did not excite him. There was something here which he responded to, and he felt a rush of affection for the large-eyed and fragile creatures who trailed trustingly after the Terrans wherever they went. Feeling subdued and thoughtful, Chalee made his way back to the *Paquita*, lying cocooned in cables and makeshift scaffolding. The work was progressing well and it would not be long before she was in good enough shape to get them back to civilization and proper repair yards.

Less than two weeks later she was ready for a trial run, and Chalee and

his first mate settled themselves into the couches and ran up the main drive units. They ran through the pre-flight checks without a hitch and fed power into the anti-grav units. The mate sat crouched over the fault-analysis read-out screen as Chalee keyed for lift and the *Paquita*

outside the gravitational field they ran the warp generator up to jump level, set the co-ordinates for the shortest hop and disappeared into hyperspace. Several hours later they reappeared only fractionally adrift from their original position. They could certainly get to within reasonable distance of Federation space, and the mate whistled all the way back to the landing site.

The Grooms seemed to realize that their gods were leaving and started their soft humming again while the humans spent the next few days making final checks and provisioning the ship. Finally everything was ready, and Chalee took a last walk up to the hill where the derelict flyer lay with its solitary passenger. He sat gazing over the soft landscape for over an hour before returning to the *Paquita* and

its impatient crew. The Grooms stood in a big circle around the clearing, speaking softly and staring at the men outside the airlock with their moist, unblinking eyes. They parted as Chalee walked slowly up to the first mate, closing in again behind him like water. The crew filed in through the airlock, going straight to their positions, while the Mate waited for the captain to board. Chalee grasped the edge of the lock to pull himself in, then turned his head to look at the sea of faces fringing the clearing. He sighed, dropped his arms and turned to the man behind. 'I'm staying,' he said quietly, 'I mean it and I don't wish to discuss it'. The Mate stared blankly after him as the Captain walked out of the clearing, then shrugged and climbed through the airlock. A few minutes later the *Paquita* rose into the warm air, hesitated, and then climbed rapidly out of sight, the whine of the anti-gravs drowned in the roar of the main drive units as they pushed the ship out into space.

Several years later a Federal Survey ship landed on Beta Fornacis III. To their astonishment its crew were met by a delegation of spindly grey creatures headed by a naked human carrying a spear. As the robed figures stood outside making a low nasal humming sound, the human climbed confidently into the ship to tell them that they were not welcome. Discussions went on for many days before the man re-emerged and the ship lifted off.

They came again a couple of years later, but this time it was a team of Federal Negotiators, and although there are now a number of engineering and agricultural plants on Beta Fornacis III, they are strictly controlled and do not interfere with the grey people and their god, Chalee.

Disease is likely to have been the downfall of Beta Fornacis III's earlier culture.



The wreckage found on Mars dates from about the 15th century Standard Earth Time but contains no clues as to its origin. Although the hull has broken into two main sections, it is in comparatively good condition, but appears to have been internally stripped soon after it came to grief.

ALAN DANDLES





Strange Visitors

Unidentified Space Wreck—Mars I

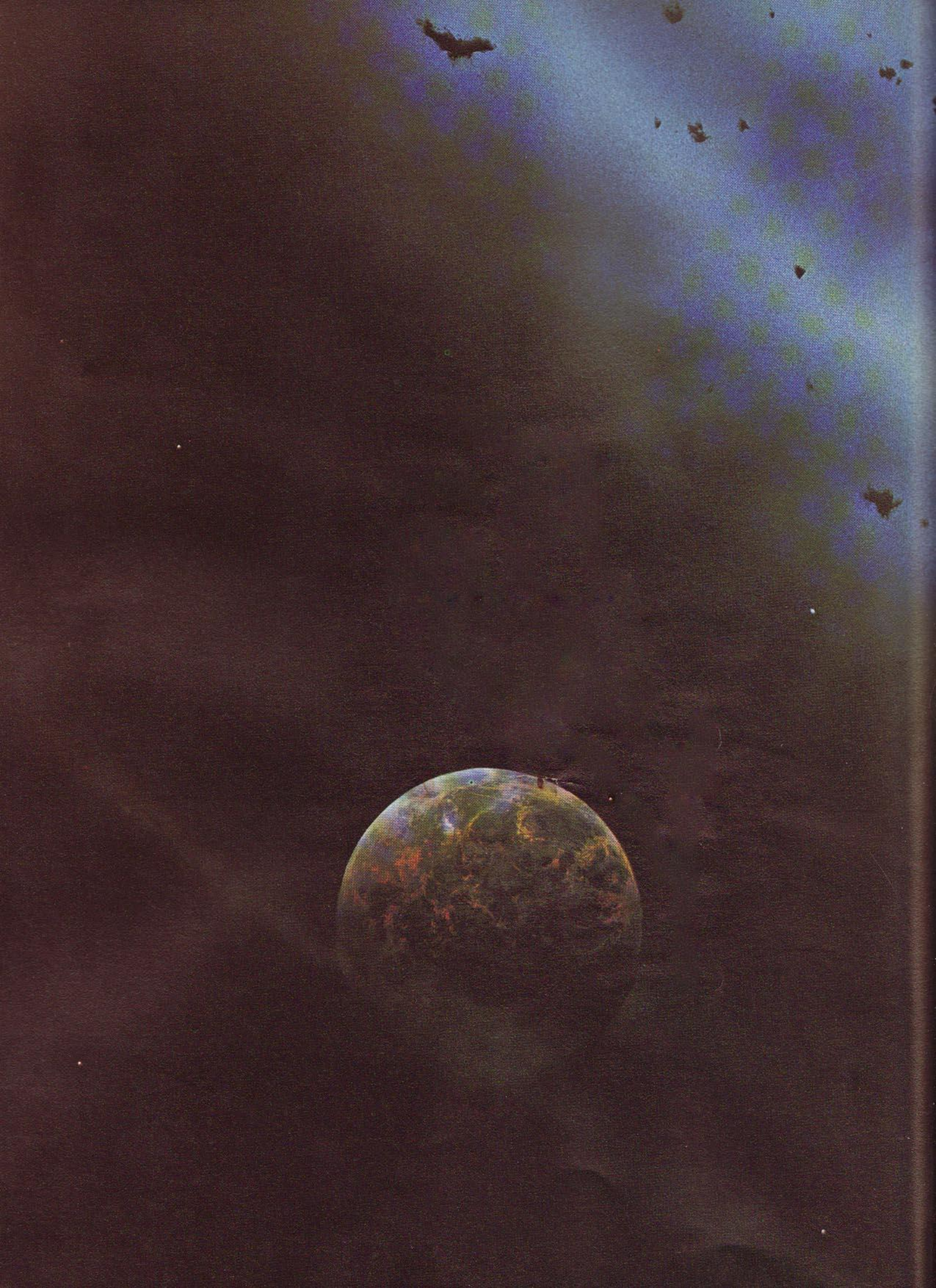
Even by the 23rd century, huge areas of Mars were still relatively unmapped despite the fact that Man had occupied the planet in increasing numbers since the early 2000s. Already an important industrial centre, the number of plants and bases on it increased dramatically in the years 2048 to 2068 as a direct result of the production demands imposed by the Proxima Wars. After a period of relative calm the 'Red Planet' again saw an increase in industrial development during the closing years of the next century, and a constant stream of survey teams travelled across the sands of Mars in search of new development areas.

In 2243 AD one of these teams stumbled on the remains of an alien craft in an area between Cydonia and the Mare Acidalium. Although dating tests made later showed the vessel to be nearly a thousand years old, its actual fabric was in astonishingly good condition. It lay broken in two sections on the sand as though having crashed on landing, and each fragment of the yellow and blue fuselage was

essentially intact. The skin of the vessel was made from a silica-like material, though fairly elastic, and was stretched over a rigid frame. The most curious aspect of the ship was the fact that the interior appeared to have been stripped of all fittings and equipment, as though a salvage team had been at work. None of the mountings where items must have been fixed showed recent tampering as the extent of any corrosion was absolutely uniform throughout the craft. It can only be concluded that the wreck had come to grief in Earth's fourteenth century and been stripped of all its equipment soon afterwards. It is strange that a species so advanced should not have reappeared or made further contact – unless, of course, their technology is now so sophisticated that they can come and go undetected.

Overleaf

The Laguna Wars of the 21st Century took a tremendous toll in life and ships, but never has there been a stranger reminder of that struggle than when one of the lost ships of Flight 217 reappeared 300 years later, only to vanish once more.







Strange Visitors

The Warthog

FRED GAMBINO

None of the perimeter beacons had registered the passing of any craft for several weeks, and there were certainly no Federation vessels scheduled for trans-galactic flights in the near future. Further in the traffic was light, apart from the regular passenger liners and the routine freighter runs, and the next watch on the Local Traffic Control Station looked forward to an uneventful spell. A few minutes after the departure of the previous crew the control computer flashed a signal up on the main monitor screens: UNSCHEDULED CRAFT - CLOSING SOLSYS VECTOR PL884 - HYPERMODE X4.35-MASS CAT GAMMA 23 - TRANSMIT RANDOM NO READ. All automatic and manned substations in Vector PL884 of our system were alerted to watch for a large vessel emerging from hyperspace. This happened as a matter of routine, as it was not uncommon for freighters arriving from the perimeter worlds to be slack as regards identifying themselves despite the fines imposed for failing to do so. It was, however,

rare for a craft as large as this to belong to one of the many owner-operators and the larger shipping lines were usually efficient enough to avoid such oversights. What really decided the Senior Officer to alert the Military rather than the Law Enforcement Authorities was the fact that the ship was traveling at over four times the speed of light, faster than any craft in service anywhere in the Federation.

All military bases in the area were alerted and the interceptor squadrons stood by to scramble. Suddenly the Jupiter network reported the appearance of an unknown vessel in normal space, and the interceptors blasted to the spot under maximum thrust. There, hanging motionless against the giant planet, was a most extraordinary craft. It was covered in warty protuberances and was about the size of a large long-haul freighter. It was transmitting indecipherable signals in a random broadcast and as the interceptors approached it was obvious that the alien ship had suffered considerable damage. A large hole had been torn in the nose





A ghost or just a distortion of time? Whatever the explanation may be, there is no doubt that this image of a crashed PCF 848 and its crewman reappeared after three centuries in oblivion, then vanished, leaving only a depression in the sand where the eerie vessel had lain.

section and several smaller ones amidships, as though the ship had been caught in a sizeable meteorite shower. While the computers started trying to decode the signals still being transmitted from the strange craft, the interceptors drew alongside, transmitting the range of standard contact signals in the hope of eliciting a response. After several hours, the computer had only succeeded in isolating individual patterns in the signals without establishing their meaning, and it was decided to board the vessel. One of the small interceptors moved alongside the gaping hole in the bow section and a landing party suited up and pushed themselves through into the dark interior. It soon became evident that, despite its size, the ship had few bulkheads of any strength, and the fractures in the hull had blown most of them out in the abrupt release of pressure.

The inside was a shambles, with loose equipment and debris scattered everywhere. The entire construction of the vessel seemed far too light to withstand the stresses of hyperspace travel and certainly unsuitable for normal space movement. Most of the main hull was empty, consisting of a single huge area, as though the craft was a freighter of some kind, but there was no sign of its crew. A systematic search of the odd, bulbous compartments attached to the hull began. It was slow and tedious work, as temporary pressure bubbles and locks had to be set up in each place before the compartments could be breached. Most of them held equipment or tanks of various liquids, but eventually one was found which held one of the crew. Lying immersed in a tank of viscous fluid was a strange and rather unpleasant creature, resembling a cross between a jellyfish and a porcupine. Each spine was connected with a delicate tracery of filaments which disappeared into conduits running out of the compartment. Although the find was reported and a specialist medical team dispatched from the nearest base, it looked as though the creature had expired some time ago as it had started to disintegrate.

As the search continued more and more of the creatures were found, in various stages of decomposition, but as the teams neared the stern of the vessel three compartments were opened with their occupants intact and apparently alive. In each case the appearance of the team caused the creature to move inside the tank, its hair-like tentacles waving about in an agitated manner. When this happened various items such as lights and electronic equipment began operating in a random fashion. At the same time the interceptors stationed outside reported variations in the signals being transmitted by the alien craft. It seemed as though the creatures were wired in directly to the ship's controls. No more living beings were found, and those that were expired before the medical team arrived.

It is still not known what these creatures were or where they had come from, although the ship itself has provided many clues. Most of the equipment including the drive units operates according to known principles, although it has not been discovered how the seemingly conventional warp system succeeded in producing the high speeds attained. The few pieces of data retrieved from the navigational system indicate that the visitors had journeyed from outside our own galaxy. One theory as to their appearance near Jupiter is that they were looking for a source of ammonia to replace the atmosphere inside their ship, which had been lost as a result of the damage it had sustained. It is possible that they originated, not from one of the local galaxies, but from intergalactic space, where the theoretical sparseness of matter could account for the fragility of their ship.

The Warthog, as this extraordinary ship was christened, is now in orbit round Mars and is the center of a research station. The years that have passed since its arrival have seen little progress in the unravelling of its mysteries, but somewhere inside the battered hull lie the secrets of an intelligent organism that may have conquered the problems of time and intergalactic travel.

The Warthog entered Federation territory unannounced at over 4 times the speed of light. No known craft was capable of these speeds at this time and its appearance triggered a full military alert. Its exit from hyperspace proved at once that it did indeed come from beyond the Perimeter.



Strange Visitors

Flight to Tomorrow

One of the strangest visitors to appear in recent years was not, in fact, an alien one, but its arrival was as mysterious as that of anything that has materialized from beyond the Perimeter. Although the Proxima Wars ended in 2068 AD with the occupation of the Proxima Centauri system and the capitulation of its government, it was a long time before the Terran forces were able to stand down from combat readiness. The defeated planets constituted a fairly small group, but there were many places on the surface and in local space for determined beings to continue fighting a war officially over, and mopping-up operations went on long after the peace agreement had been signed. In some ways the military authorities were quite happy to prolong a war already won, as this allowed them to test new equipment and techniques without significant risk. Craft developed too late to participate in the war proper could be tried and proved under actual combat conditions without any inadequacy they might have had being a real threat to security. One

such craft was the TTA Cobra, the first prototypes of which were ready some months after the cessation of hostilities. Designed as the first of the true dual-medium strike ships, the Cobra could operate equally well in a dense atmosphere using its nuclear turbines as in space, where it scooped free ionised hydrogen on a ramjet principle. Extremely stable in surface-proximity conditions it was ideal for striking at small surface targets, and proved invaluable in attacking isolated pockets of resistance. Known as 217 Flight, the three craft produced continued in front line service for a number of years, until in 2072 they went into action for the last time. A surveillance satellite had been monitoring a suspected guerilla outpost when two Proximan interceptors struck from a subterranean base, destroying a small TDA supply depot before racing into space. Flight 217 immediately scrambled and were closing with them as they curved round the dark side of one of the planets' moons. None of the ships were seen again. There were no

The Avery PLP230 was the standard medium range patrol vessel operated by the Federal Law Enforcement Authority and was the type used to investigate the phantom craft.

signs of combat, no signals from either group, and no wreckage.

'Echoes' were detected similar to those generated by a warp jump, but none matched the 'fingerprints' of the lost ships. Flight 217 was eventually written off as a COMBAT CASUALTY-UNSPECIFIED. It was therefore with some astonishment that over 300 years later, in 2397 AD, the main Traffic Control Station near Proxima III received the following message: BETA 217 TO OPEN MONITOR REQUEST ASSISTANCE AM IN PURSUIT ENEMY HEADED BELDAM. MY POSITION PROXIMA III SUNWARD VECTOR 440, PROXIMA IV TERMINATOR VECTOR 223. HAVE WARP EXIT OVERLOAD AND BLAST DAMAGE. AM SHUTTING DOWN AND ABANDONING. PLEASE ASSIST. The message was repeated as rescue ships blasted off and converged on the signal to

find the battered remains of a ship that was not supposed to exist. Of its crew, however, there was no sign, despite an exhaustive search.

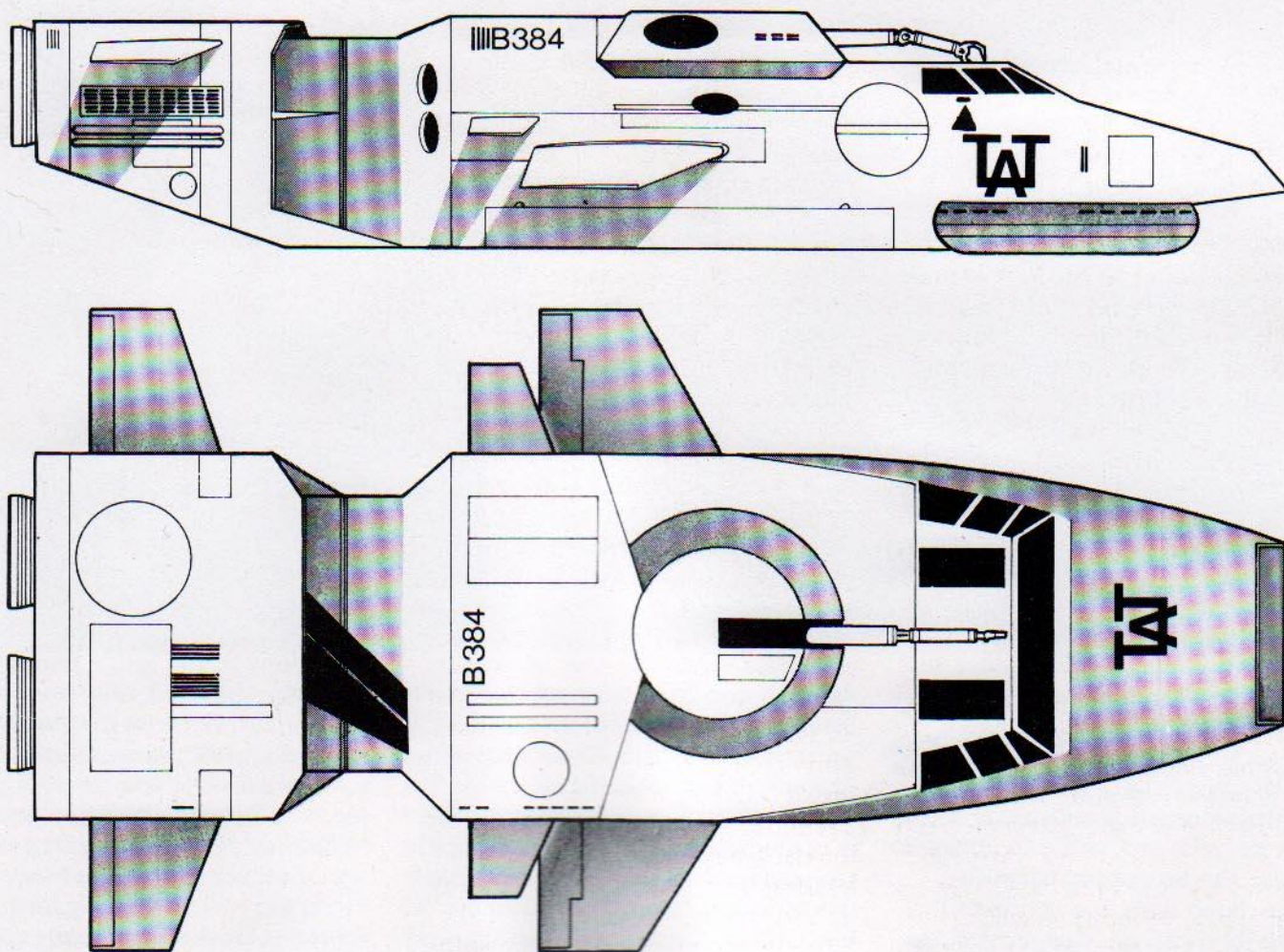
Meanwhile Traffic Control had plotted the path of an unidentified craft heading towards Beldam, one of Proxima's moons, and tracked it down to the surface. A police patrol ship in the vicinity was redirected to investigate and landed close by its landing position to find an even stranger sight. Badly damaged by an obviously heavy crash landing and half buried in the gritty surface lay another craft that should not have been there. It was a PCF 848 low-capacity freighter such as had been adapted by the guerrilla forces of 300 years ago as a short-range strike craft, and which had vanished from the spacelanes by the turn of that century.

As the crew of the patrol ship kitted up, a figure dressed in a long outdated pressure suit clambered from the cockpit and walked

towards them. As they approached, the eerie figure stopped, turned, and walked back to his craft. Seconds later, both man and ship vanished, leaving only a shallow depression in the sand to indicate their resting place.

It later transpired that the empty Cobra had disappeared at precisely the same moment. Monitors on both the police vessel and those of the rescue flight registered 'echoes' of the same pattern as those recorded that day in 2072 AD.

Many theories have been advanced, but none offers an adequate explanation of this phenomenon. These visitors from the past cannot even be dismissed as ghosts, as in their search for the crew of Beta 217 the rescuers actually boarded the ruined ship in case they were trapped inside the hull. Fortunately they had vacated the wreck before it left, for otherwise there might have been extra passengers aboard for the journey to the past.



Strange Visitors

Galactic Sentinel

Although the Terran Federation encompasses a sphere many hundreds of light years in all directions, it represents an almost immeasurably small portion of our Galaxy; a tiny fragment on the rim of a gigantic wheel rolling through eternity. Further in towards the centre the stars burn ever more thickly and billions of worlds wait for men to gaze at them from tomorrow's spacecraft. The possibilities they will represent are beyond imagining, but the force they exert on the imagination somehow falls short of the pull of the void beyond the galactic perimeter. Beyond the mysteries of the void itself turn other galaxies: The Magellanic Clouds, Draco, Fornax and Andromeda, names to stir the innate restlessness of the Terran species. Although Man's foreseeable future lies in the opposite direction, among the countless stars of the Galactic heart, it has proved impossible to advance without the occasional backward glance. Soon after the successful testing of Henri de Vass' first warp generator in 2027 AD the first

extragalactic probe was on its 160,000-light-year journey to the Greater Magellanic Cloud, and further unmanned scouts have followed at various intervals ever since.

The most recent was despatched about 16 years ago to collect data on the Andromeda Spiral, 2.2 million light years distant. Two years ago, having scarcely begun a voyage which was to last for almost as long as Man's entire evolutionary history, the probe registered its first signal since passing through the Rim on the receivers at the Extragalactic Research Station. Data was being transmitted concerning a large, inert object drifting in a stationary orbit around the galactic perimeter. Its mass was unusually low, as was its density, and it was decided to interrupt the probe's journey to investigate further. While a visual link was being established, the stream of data was scrutinized; but it made no sense until one of the technicians jokingly suggested that it was a ship circling our Galaxy. Everything fitted and the entire staff scrambled to the monitor screens.

Hazy and distorted at first, the image suddenly cleared and the room fell instantly silent. Floating in the dense blackness was indeed a ship, gleaming in the galactic glow between the probe and our spiral. Massive and vaguely tubular, it seemed unaware of the presence of the probe; its course remained unchanged. As the men stared disbelievingly at the screens they gradually became aware that there was something particularly strange about the craft. There were areas of intense blackness resembling windows or other apertures at various points along the sleek hull, but no lights. No signals were emanating from it, no power sources appeared to be operating, no variations in the hull's temperature could be detected, and no movement other than the slow passage of the craft along its course. Three days passed before it was decided to move the probe alongside one of the 'windows'. Once it was in position it was discovered that the black rectangle was simply a gap in the fabric of the vessel. Gently and delicately, the probe was



manoeuvred into the space and the screens dimmed as it passed through. Inside there was nothing. The mysterious craft was hollow from stem to stern, the rays of starlight passing from one side of the interior to the other without interruption.

Perhaps it was an unfinished ship which had escaped from some

unknown shipyard further round the Rim, or even from another galaxy across the void. Perhaps it was simply a container for some other vessel long departed. Whatever the case, the Andromeda mission was aborted, and the probe remains beside the empty hull in case the beings which had abandoned it should one day return.

Silently circling the rim of our Galaxy, this strange craft was discovered by an unmanned probe on its way to Andromeda. The probe was left to accompany the empty ship and to watch for any beings returning to claim it.

Strange Visitors

The Return of the *Malmo*

The Laguna War was the last of the major interstellar conflicts, and although considerably shorter than the twenty-year struggle against Proxima Centauri, it was without doubt the costliest in terms of men and machinery. The Laguna system is still littered with the debris and wreckage of that unhappy confrontation, over two hundred years after the Terran forces landed on Laguna IX to discover the awful fate that had overtaken its defenders. All the larger fragments have gradually been removed and salvaged, of course, but there are areas cloudy with atomized metal and with tiny pieces of the ships that came to grief in that dark quarter. Many Terran crews perished in the grim armada of damaged and dying ships left behind during the frantic dash to head the Lagunans off in their unexpected final assault on Earth. One such ship was the *Malmo*, an outdated gunship whose crew, imprisoned in its battered and uncontrollable shell, gasped out their lives as their precious air leaked away through the ruptured

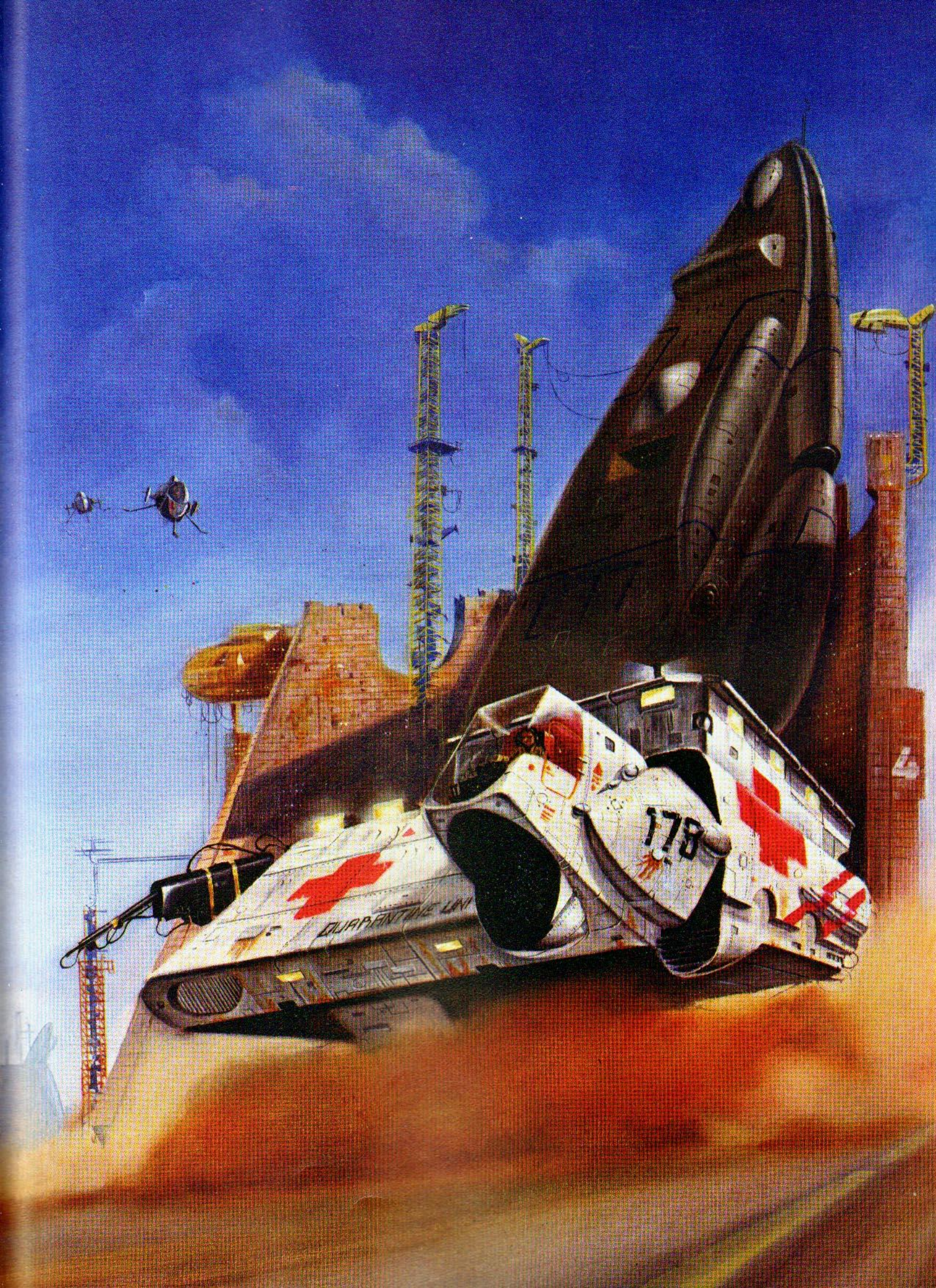
hull. When the pitiful flotilla of which it was part changed course for the nearest base, the *Malmo* and its lifeless cargo continued on their forlorn path, alone and forgotten.

Perhaps the gravitational field of some distant sun swung the *Malmo* round onto a new course, or a small meteorite strike jolted it into another direction. Whatever the reason, this grim reminder of a tragic period in the Federation's history appeared like a spectre in the solar system it had left behind so long ago. Apart from the pitting and discoloration suffered in her lonely voyage among the stars, the *Malmo* was the same as the day her torn frame drifted away from the convoy of stragglers. The rents in her hull made by the laser-lances and missiles of her long-dead enemies were an eloquent testimony to the ferocity of her fight for survival, and she seemed to project a quiet dignity as the sunlight glinted on her dull surface. It was almost as though the ship had returned of her own volition to bear the frozen bodies of her crew back to the worlds they had left to defend

more than two hundred years earlier.

As many of the descendants of the *Malmo's* crew as possible were traced, and after much discussion it was decided that the entire ship and her silent crew would be left untouched, to continue their mournful voyage through the Galaxy. Many thousands died unnoticed in that cataclysmic war, and their bodies still drift through the dark wastes unrecorded. The *Malmo* serves as an epitaph to them as she passes through the void where they lie, and perhaps, in the distant future, she will again return to remind us of the sacrifices made to ensure our survival.

The desperate dash to head off the enemy fleet during the Laguna wars left damaged Federation ships to seek safety unaided. Many did not succeed, and their battered hulls and frozen crews drift on through the darkness. The *Malmo* was one of these, and her extraordinary return to our system was a grim reminder of a historic struggle. The illustration shows a vessel of the same class, now serving as a hospital supply ship.



Strange Visitors

Another Marie Celeste

Early in 2402 AD a distress signal was received by an unmanned monitor station in the little travelled area near the red giant star of Beta Andromeda or Mirach, 82 light years from Earth. The message was relayed to the nearest Federal patrol base about six light years from the position indicated in the signal. The ship was the *Mary Mogab*, a small general-purpose freighter registered on Silvermine in the Beta Hydri system, but apart from registering the ship's position and identification, the transmission consisted of nothing but a series of meaningless pulses. The signal was repeated at regular intervals for several hours before ceasing abruptly without answering the patrol base's acknowledgement and request for additional data.

A rescue craft was dispatched to investigate and a few days later reported the sighting of the *Mary Mogab* before closing up alongside. The vessel seemed intact and undamaged although its power plant had been shut down to minimum level, enough to do little more than feed the internal life support

systems, and there was no other indication of occupation.

Back at the base, the officer on duty resigned himself to the possibility of having to complete a death by disease or misadventure report as the patrol ship signalled its intention to board, and he transmitted a routine running commentary as it executed the necessary operations. Then as the transfer tube was locked on to the stricken vessel and the medical team prepared to enter, all signals abruptly ceased. Puzzled, the duty officer keyed a request for information and acknowledgement but there was no response at all from the Federal ship. After several attempts, he called the Base Commander and briefed him on the situation, then tried to make contact again but with no greater success.

With mounting concern, the Commander ordered the base's second patrol ship to the scene and alerted Central Control, who despatched a Federal Law Enforcement cruiser as support. They emerged from warp almost simultaneously and made their way together to the position indicated by

the original signal. The *Mary Mogab* and the first patrol craft were soon on the viewscreens and the cruiser held position to cover its companion's approach. A tangle of debris drifted in the vicinity of the two silent ships. It soon became obvious that it all emanated from a hole blasted in the side of the patrol vessel, which was still linked to the freighter by the transfer tube and Maglock arm. There was no response to any signals, and no sign of either crew, as the new arrivals edged in closer to the dark hulls. Ominously, the large hole torn in the skin of the patrol ship was on the side nearest to the *Mary Mogab*. The cruiser brought its armament to bear on the paired vessels as the other craft drew cautiously alongside, the captain poised to throw on maximum power at a moment's notice. His ship nosed beneath the space between the hulls as a boarding party nervously suited up and donned jet-packs to avoid having to use the transfer tube themselves. As soon as they were ready, they stepped into the airlock and seconds later moved into sight,

heading for a partially open lock in the side of the freighter.

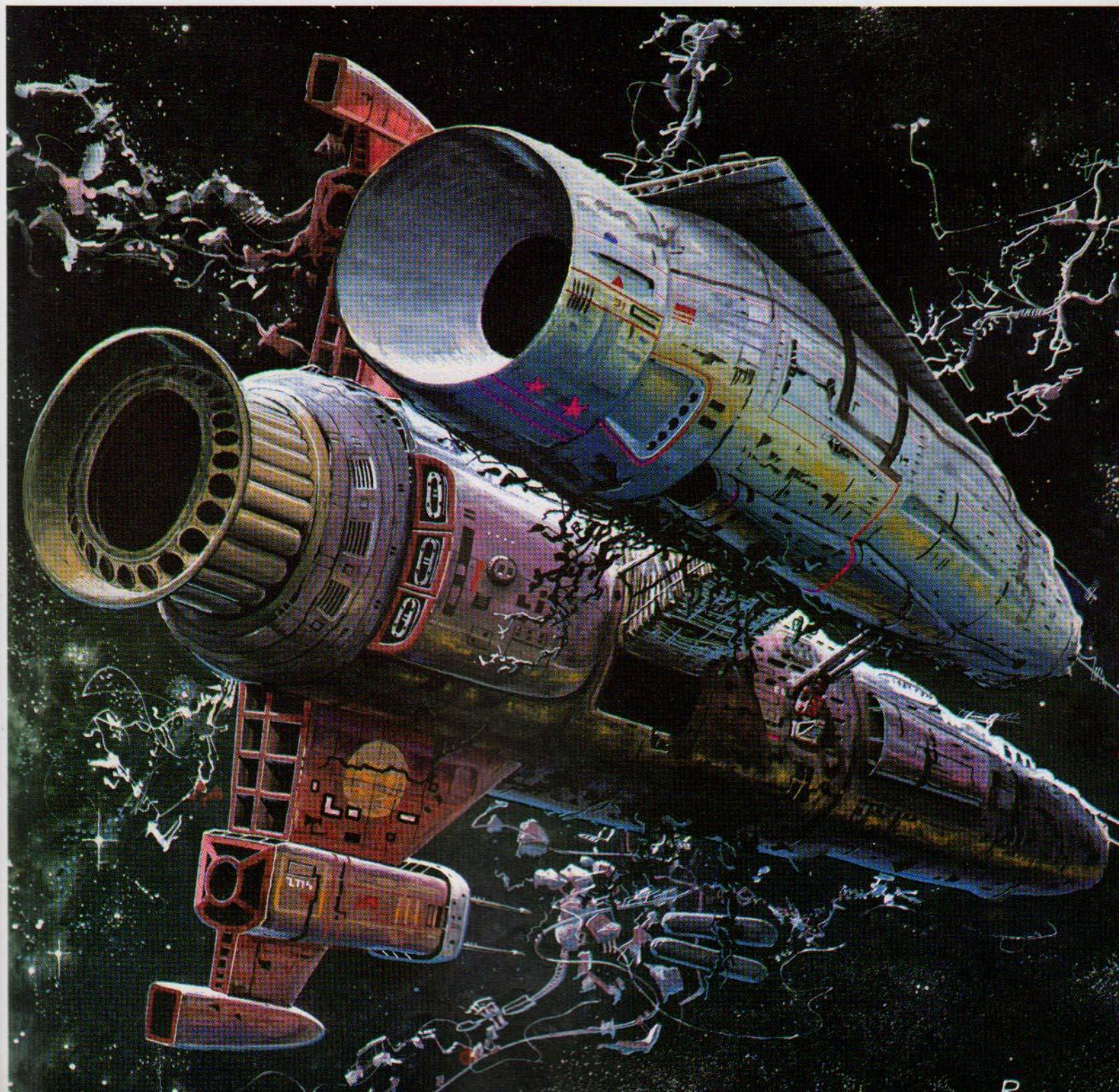
With the clumsy actions of those in free-fall, they clambered tensely into the dark cavity and disappeared from view, their disembodied voices over the intercom the only indication of their existence. The freighter was completely empty. As far as could be seen, no escape gear was missing, there were no signs of a disturbance and certainly no crew on board. Two of the party made their way to the wrecked patrol ship's transfer tube while the others began a primary systems check on the *Mary Mogab*. Everything

functioned perfectly, and no fault could be found which may have accounted for the distress signal. Meanwhile two men had entered the other vessel to find it equally desolate, but with all escape gear and suits still neatly racked, as they were on the freighter.

Although they carried out an intensive search of the area, no bodies were found and all they could do was to take the two empty ships in tow and return to base. On their return they were subjected to careful analysis, which failed to reveal the slightest indication of the fate of the crews, or even the cause

of the explosion which had torn the huge gash in the side of the patrol craft. All that could be established was that the explosion had occurred internally. Even stranger was the fact that there was no indication that any of the crew had been killed or injured in the explosion, which suggested that the ship was already empty when it occurred.

A distress signal from an empty ship is strange enough, but when the rescuer vanishes as well, leaving two craft following their lonely path through space, it seems that our knowledge is more limited than we care to admit.



Killer Planets

The settlement of an alien world is never undertaken lightly. The investment in lives and extremely expensive equipment can never be put at risk without the most careful investigation and preliminary study of the planet in question. Adaptable though Man is, the conditions under which he is able to survive are severely limited. The atmosphere he is able to breathe is a delicately balanced mixture, and the existence of a single toxic gas can render an otherwise ideal world unsuitable. There are, of course, isolated instances where colonies are established in places where the construction of an artificial environment is necessary. For this to be the case, the world must possess resources or characteristics of considerable value, as the import and maintenance of the appropriate technology is costly.

In addition, there must be an adequate water supply, a surface constitution which can be exploited for the provision of foodstuffs and a bearable climate. The mass and gravitational pull is another factor which has to allow for human

occupation, together with a host of minor considerations such as indigenous life-forms with which the colonists may have to compete. This equation reduces the number of worlds where men may work and live very dramatically, and the farther away the planet lies from the heart of the Terran Federation, the more carefully it has to be considered. Few colonies can survive their formative years without reasonable access to the Homeworlds for assistance and supply. And as the Federation cannot afford to fund a new planet indefinitely, its future contribution to the network of interstellar trade is of great importance in any colonial assessment.

Once a candidate world is discovered, a complex and exhaustive study programme is initiated. Unmanned probes and research labs conduct an initial survey before PSR (Pre-Settlement Research) teams are dispatched to carry out a first-hand examination. While this activity is in progress, experts at the Terran Trade Authority data centres are studying

the possible logistics of the new world and exploring its implications in terms of Galactic trade. As a result, by the time the planet is declared suitable for colonization, the range of products or materials the settlers should be seeking to export or even import has been established. This does not, of course, prevent the future inhabitants from being able to exploit any rare or unique commodities the planet may offer, but it does enable them to feel secure in knowing that they have an immediate contribution to make which will help to finance their enterprise.

When the colonizer ships set out with their cargoes, they carry with them a payload of equipment and supplies tailored specifically for the conquest of the world ahead, and the settlers themselves are carefully selected as being the most suitable for that particular project.

This, however, was not always the case. A cautious and carefully planned approach was not the hallmark of earlier endeavours, and the earlier expansion of the



Federation owed more to luck and dogged determination than to anything else. After the horrors of the Proxima Wars of the mid 21st century and the following period of recovery, attention turned to the stars and the virgin worlds which accompanied them. The next one hundred years witnessed a sort of 'settlement fever' with giant colonizer ships plunging off into the unknown as fast as they could be manufactured, their ill-prepared cargoes inspired by a mixture of idealism and opportunism, but with little knowledge of the dangers they would face. It was not surprising

that many of these expeditions were never heard of again. There were instances of ships departing for distant stars without even knowing whether planets existed there, and certainly without data concerning their suitability for human habitation. The fate of a great number of these expeditions may never be known, but as today's probes and survey vessels carry out their systematic mapping of the Federation's slowly expanding boundaries, the outcome of at least a few of these brave but ill-considered adventures has come to light.

The TTA survey ship D-3 rests on the surface of Salamander, the sole planet of the Delta Phoenicis system. Close by lies one of the distinctive ceramic cities of a much earlier and now vanished generation of colonists.

Killer Planets

Salamander City

There are three G-type stars in the constellation of Phoenix in the southern hemisphere as seen from Earth, and these have long been of interest as possible subjects for exploration. The nearest, Alpha Phoenicis, proved to be without any planetary system, but the other two possessed captive bodies. Delta Phoenicis, the nearest at 120 light years, held two planets, one of which was possibly habitable although subject to a brief annual period of extremely high temperature due to its eccentric orbit. Beta Phoenicis was another 60 light years away but was a more interesting prospect, as its system contained nine companions, two of which were prime settlement subjects. It was this system which became the focal point of intensive PSR activity, and the worlds were soon passed for colonization. It was, therefore, some time before any real effort to investigate Delta Phoenicis was made, but in the late 2340s a survey vessel did make the journey.

It found a world which certainly possessed the basic requirements for human existence, though it had little

else to recommend it. Vegetation was sparse and tough, having to survive extremes of temperature at both ends of the scale, for the planet travelled very close to the sun before beginning its long journey through the colder, outer part of its orbit. There were reserves of water, much of it being subterranean, but a landing was necessary to determine what, if any, fauna existed on this bleak globe.

After making its preliminary report, the survey ship D-3 entered a tight orbit prior to landing, and it was then that the strange collection of structures later called Salamander City was spotted. On landing the crew found the curious buildings devoid of life, but there was ample evidence to indicate that they had been constructed by Earthmen as their own dwellings. The buildings themselves were a good example of the ingenuity of men faced with the task of surviving in an environment for which they were not equipped. The vanished settlers had employed the planet's own orbital properties to give the structures a remarkable degree of permanence. The entire

world became a giant kiln once every year, and the clay buildings had thus been fired to the consistency of solid rock. The result was a highly individual and very beautiful form of architecture which is probably unique to this day. Of the men who fashioned this remarkable city, none survive. None that is, that could be described as men. Among the various life forms discovered during this and subsequent researches was one which did not fit the natural ecological spectrum of the planet. Although essentially humanoid, this species was a sub-surface dweller and was lacking in all the normal senses except smell, which was highly developed. The conclusion reached was that these unattractive creatures were all that remained of the blissfully optimistic band of adventurers who had set out on their voyage of discovery so many years ago.

During the early stage of settlement, colonists often lived and worked in protective vehicles.



Killer Planets

Victims of Arachnidia

Sometimes even the best prepared expedition encounters problems for which its members have no answer and which threaten to overwhelm them. Under the present system of exploration and settlement no outpost is so far removed that it is unable to call on the resources of the Federation for help or rescue. Unfortunately the early colonists had no such recourse. Too often their spirit of conquest and adventure took them far beyond contact with their fellows and many were never heard of again. Some of these parties may yet be thriving on distant and otherwise unknown worlds where their isolation from the rest of mankind has allowed their development to continue along a path free from any corporate influence. It is conceivable, even probable, that future exploration may rediscover worlds where human settlers have survived and evolved in such a way as to be unrecognizable to their fellow men. Others undoubtedly failed, in the face of threats against which they had no defence. One tragic example of this was found on the lonely, one-planet

system of Epsilon Hydrae, a G0 type dwarf lying 136 light years from Earth.

Any world possessing a breathable atmosphere is of prime interest to the TTA, and as this solitary world did have an Earth-like mantle of air, a survey ship was dispatched as soon as the discovery had been made. Its report was not encouraging as water appeared to be scarce and the arid surface boasted little in the way of vegetation. Such scrubby growth as existed at all was concentrated at the poles, and although there was quite a high degree of cloud cover over most of the globe, its precipitation rate was extremely low. There was little variation between night and day, as the small amount of light which penetrated the cloud banks from the small sun was weak. However, although the rocky planet lacked appeal as a possible colonial world, the preliminary survey indicated that it could have some value as a mining site, and a specialized research team was sent to carry out a surface study.

The geologists had spent over

three uncomfortable months collecting samples and mapping the planet's surface before they turned their attention to one of the many mountainous regions of the planet. During one of the early treks in this terrain they stumbled across an area containing a number of large cobweb-like structures. They were composed of an immensely strong material which defied analysis, and in places, were so thickly distributed that it was impossible to pass. They seemed to be concentrated in specific areas with clear ground between. After circumnavigating several of these remarkable phenomena, the team saw another ahead of them. They were reluctant to make yet another detour, and were on the point of retracing their steps when one of the party noticed an unusual rock structure in the heart of the webby mass. Whereas the terrain had always been jagged and angular, this outcrop was smoother and stood apart from the jumble of stone surrounding it. They decided to get as close as possible in order to take a Hologrid record before returning to base, and

clambered over the crags towards it. The closer they approached, the more unnatural the object looked, until they suddenly realized that this was no rock formation.

As they stood at the edge of the web-field, they stared in bewilderment at the unmistakable outline of a spacecraft. It was even possible to identify the ship as belonging to a type that had been developed during the earlier years of planetary settlement. Although the ship had obviously made a crash landing, it had not been destroyed, but time and the elements had taken their toll and the portion that was visible was in very poor condition. Whether the webs that enmeshed it were more recent was impossible to tell, but the team decided to return and report their find.

The next day the survey team flew directly to the spot and landed as near to the wreck as the web permitted. Using lasers, they cut their way with difficulty through the tough strands until they were beside the corroded and collapsing ruin. Items of old-fashioned equipment could be seen scattered among the rocks, but only the most durable objects had survived the centuries. The unfortunate passengers had probably died during the forced landing, and those that survived would probably have perished soon after, if not from radiation exposure from the reactor, then from lack of food or water. Knowledge of this planet's existence has only been gained in recent years, so it is likely that the settler ship was already in trouble and tried to land on the first

planet it found.

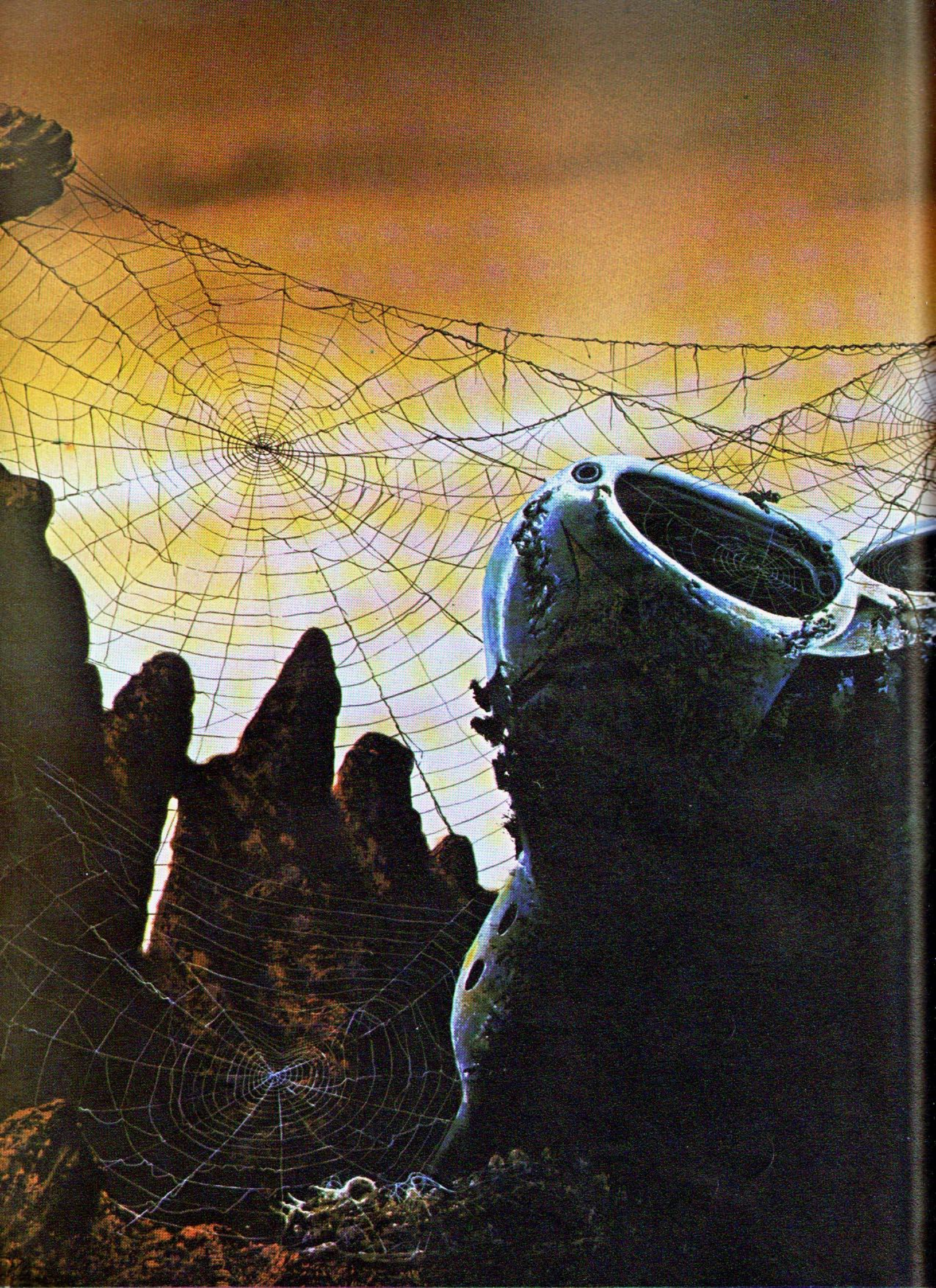
No fauna had been seen on the planet and it was supposed that it was devoid of animal life, but bones found near the wreck demonstrated otherwise, as they did not belong to any species that the colonists would have carried. It was later learned that there were a few nocturnal creatures living among the crags in deep caves and fissures. The idea that one of them was responsible for the curious cobwebs was later disproved as analysis found them to be a plant form which drew nourishment from airborne moisture and particles of organic matter. Nevertheless, their great similarity to the structures formed by the spiders found on Earth led to the name the planet is now known by.

The position of Arachnidia's sun in the constellation of Hydra.



Overleaf

Rearing its battered stern from the jagged rocks of the desolate world of Arachnidia, an empty and derelict colonizer ship from the Federation's early history marks where one of the many voyages of discovery met its sad fate.







Killer Planets

A Deadly Eden

FRED GAMBINO

230 light years away from Earth lies the nearest component of the optical double star of Delta Gruis. Delta One is a sun with similar properties to Sol, unlike the further of the pair which is a red star of the spectral group M4. About thirty-four years ago Delta One was found to possess a planetary system of at least four major bodies and a bypass probe indicated that two of them had the characteristics of habitable worlds. It is not often that a system contains even one such planet, and rare enough for one to contain two for the discovery to excite considerable interest. As a result, a survey team was specially assembled to follow up immediately, instead of the system joining the list of worlds awaiting study. After an uneventful journey, the two ships of the team approached the first of the planets in question, and took up orbit to begin work.

Even the preliminary studies indicated that this was as close to an ideal world as had yet been encountered. There was plenty of surface water, an oxygen-rich atmosphere, a temperate climate

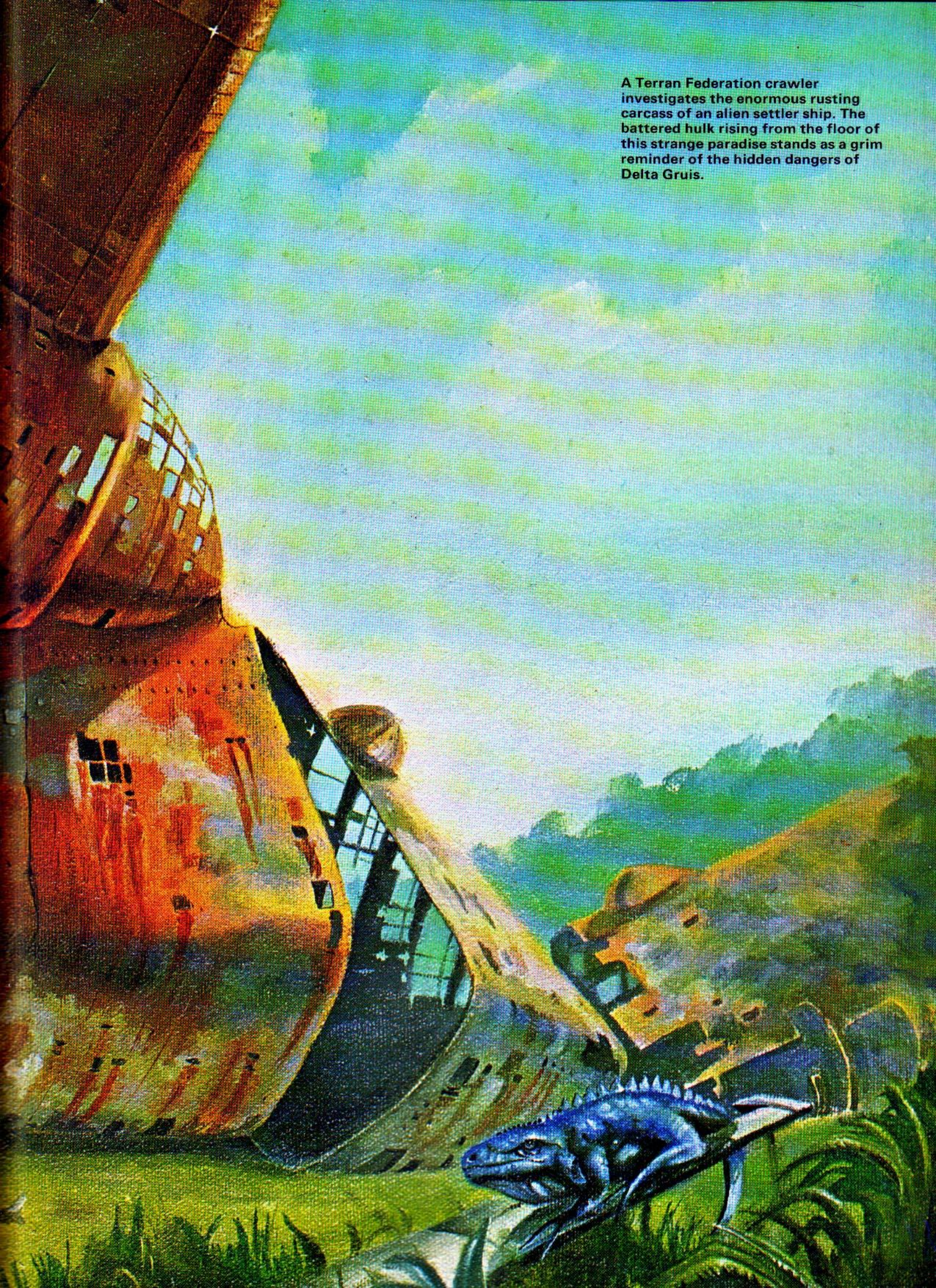
with little variation between the poles and vast areas of luxuriant vegetation. No evidence of artificial structures or works large enough to be detectable from this height could be found, which suggested that any sentient species inhabiting the surface was not made up of large tribal groups, and was therefore unlikely to possess a very highly developed technology. There was, in fact, nothing to suggest that the planet was occupied at all. It was therefore decided to proceed with a low-level survey and to make a surface landing as soon as possible.

It could be easily seen from the low-level study that there were several large species of animal occupying the extensive forests and woodlands and others moving in the seas and shallow lakes that broke up the expanses of greenery. During one of these sweeps, the scanners picked up the shape of a large artificial object lying on the surface. The two survey ships immediately converged on the position, with one climbing to cover the other as it turned to make a slow pass. The Flight Commander kept his speed





A Terran Federation crawler investigates the enormous rusting carcass of an alien settler ship. The battered hulk rising from the floor of this strange paradise stands as a grim reminder of the hidden dangers of Delta Gruis.



and altitude as low as he dared, his crew poised for an emergency ascent at the first hint of trouble.

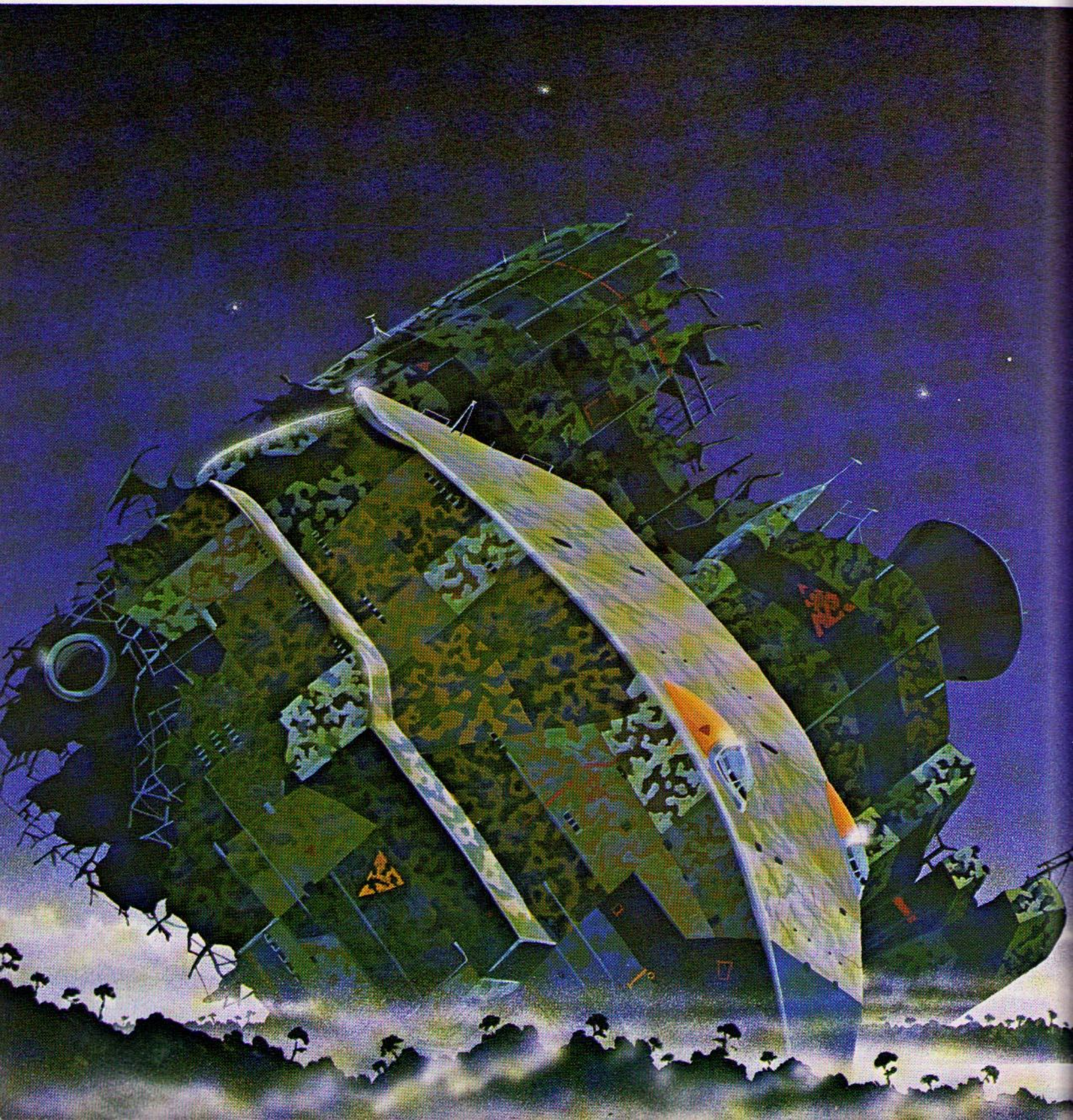
As they moved cautiously towards the area indicated by the coordinates, the members of the research team moved to the viewscreens and peered out at the endless vista of semi-tropical growth. There, towering above its dense tangle lay the rusting bulk of a gigantic spacecraft. Its back broken in several places, the huge

vessel sprawled in a clearing, great fissures showing black against the brightly corroded outer skin.

Otherwise it was essentially intact, having evidently landed without mishap at some time in the distant past. Its present condition was due primarily to the workings of time and the effects of the atmosphere on its fabric. As its frame weakened, its weight was bringing about its own collapse. The ship itself did not fit any known Federation type, but it

clearly had not been designed as a surface operating craft. The nature of the hull was that of a deep-space vehicle and the power that would have been necessary to achieve surface landings would have made repeated use in this way impractical. It could only be a colonizer ship, the question was from where?

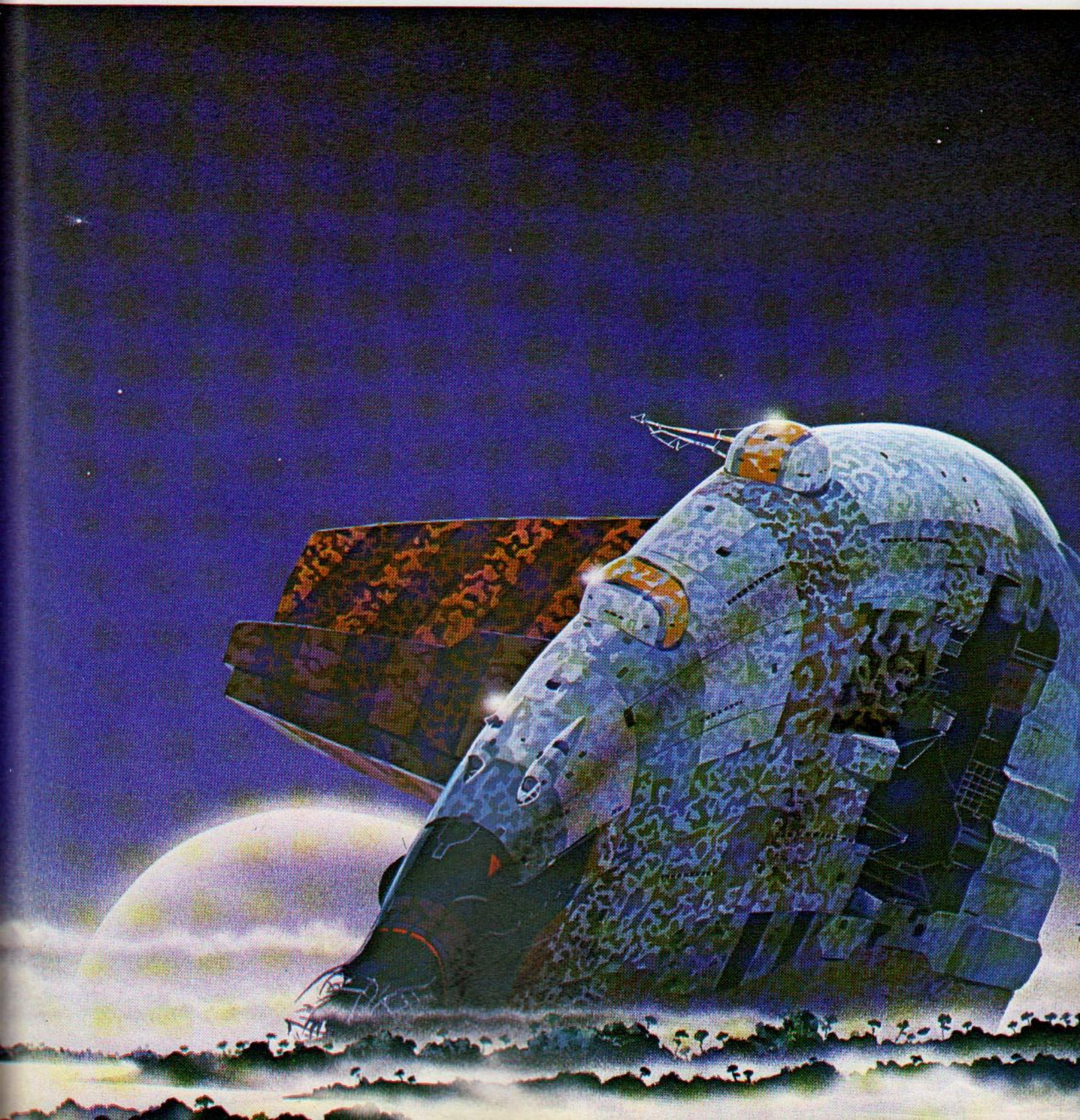
The survey team gingerly climbed in through one of the many apertures, but their cursory exploration failed to yield any real



clues as to the craft's origin, and its dangerous state discouraged them from remaining inside for long. That its passengers had been roughly humanoid in form was established from the remains of a surface vehicle that lay rotting nearby. On returning to their crawler, the team received a signal from the other ship to the effect that another curious site had been detected some distance away, and they lifted off and set course to check.

Alighting on a low ridge, they gazed down into the valley below at the towering shapes of two more gigantic craft, as decayed as the first. They looked out of place among the rich verdant forest, and the trees and shrubs carpeting the surface only served to accentuate the vast alien bulk of the wreckage. They rejoined the others to discuss the next step. The planet itself appeared from the early studies to be an ideal subject for colonization

Where these huge starships came from is not known, but the inability of Terran Federation survey teams to find any trace of the beings which steered them through the vastness of space suggests that they met the same hideous fate as the earthmen who came after.



and its prodigious fertility was obvious from the varied and abundant plant life. While the main group continued their examination of the environment, the others split into two teams to search for any evidence of survivors from the alien ships. It was more than likely that a number had landed safely to establish themselves somewhere on the planet, and in view of the luxuriant resources they must surely be thriving. Everywhere they looked were new varieties of plant and animal life. Herds of creatures of every size and description roamed contentedly among the heavily fruiting greenery, and seemed totally unafraid of the earthmen. But of the descendants of the beings who had brought their ships into this paradise nothing could be seen. Had they failed to reproduce? Had their diet been so different that they had been unable to exploit the wealth surrounding them? Had there been some element in the air or soil fatal to their metabolism? The biochemists had traced a number of elements which had defied analysis but which were by no means toxic and had left test animals unaffected.

Although their own ship-borne supplies would last for some time, the team found it impossible to resist the luscious fruits growing all around them, and once they had been chemically cleared these soon became a regular part of their diet. A month later, all transmissions from the planet ceased.

Attempts to regain contact met with no success and a relief team was sent at once. There they found the survey ships and the base camp lying at their last reported position, but everything was a shambles. Equipment was scattered and damaged and the bodies of the crew lay sprawled in grotesque attitudes all over the site. At first it was assumed that they had been attacked and overrun by another life form, but closer inspection suggested a different story. Some, at least, of the men had killed one another. One had impaled a colleague with the sharp leg of a camera tripod, and his body lay still clutching the weapon, with a neat laser hole in the back of his suit. Another two were locked together with their hands around

each other's throats. Only insane men could have killed each other in such a way.

A military detachment was immediately sent for, and arrived accompanied by a further research vessel. A camp was set up, from which a thorough planetary search was coordinated, but nothing was found which could have explained the fate of the first team. Exhaustive tests failed to find anything to explain their extraordinary behaviour, and baffled, the new force settled down to continue the work in which the others had been interrupted, while the military detachment kept a watchful eye.

A few scientists left to set up a meteorological center on one of the few bleak mountain peaks that reared nakedly out of the green plain at their feet. They were to remain there for a few weeks, but maintained daily contact with their fellows. Living off their ration packs, they listened with envy to the delighted reports of their companions who had at last succumbed to the temptation of the succulent fruits which grew everywhere, and which offered a welcome change of menu. Two days later their daily call-in was answered with an almost incoherent and confused babble. The man whose face gazed out of the video-screen chattered and giggled inanely at them. Suddenly he began to turn, and the image of a heavy hydraulic jack swung into focus, crushing his skull before its momentum carried it into the transmission equipment, and the screen went blank.

The meteorological team hastily packed up their gear, scrambled into the skimmer and hurtled back to base. A horrible scene of carnage met them as they stepped from the vehicle. Their team-mates' bodies lay among the jumbled gear in the same way as their predecessors had. As they stared dazedly at the scene, they spotted a movement among the smashed equipment, and rushing to the spot, saw a man huddled behind a stack of cases, his arm almost severed. They carried him into the ship, pulling another body off the ramp, laid him in one of the medicouches and began attaching the diagnosis and treatment terminals.

One of the scientists on Eden, crazed with terror, sought to escape the inescapable by launching one of the emergency craft, only to hurtle out of control into a rocky hillside.



As they sat in the control room arguing about the disaster there came a piercing shriek from the medical bay and they rushed as one to where they had left the injured man. He had torn out all the feeds and terminals, and lay on the floor, his contorted face staring with glazed eyes at the ceiling. Frightened, they closed all the ship's locks and sent frantic signals back to base. It was some days before they heard the roar of a descending ship, having remained sealed inside the hull the entire time.

They had endlessly discussed possible causes of the horror that had overtaken their colleagues, and the fruit seemed to be the only clue. They had gone over the data already collected time and time again, but the only clues were the unidentified trace acids isolated. Why hadn't these affected the animals who had been fed on them?

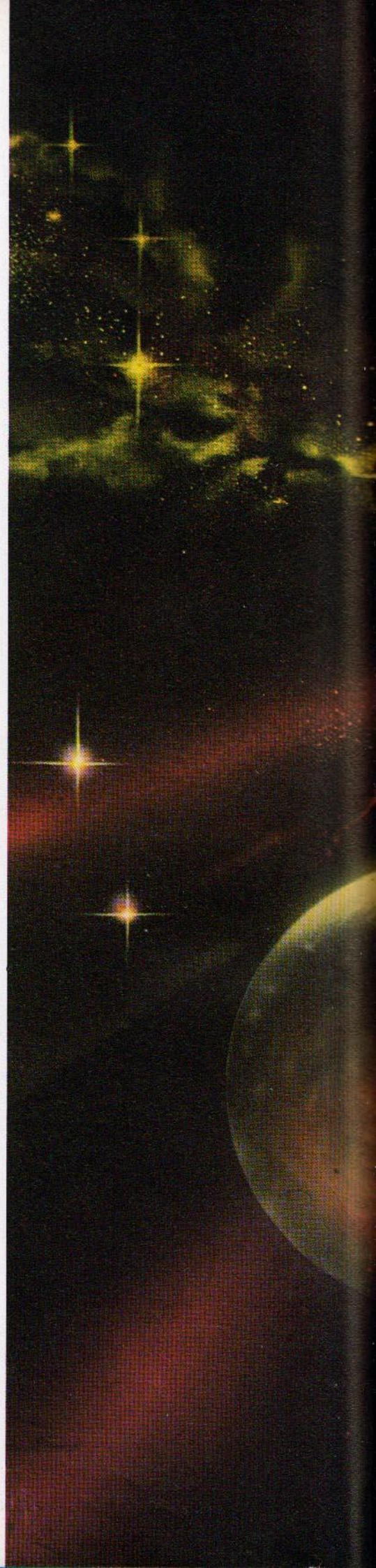
After the grisly task of clearing up had been completed, the planet was abandoned and the scientists and their rescuers returned, leaving one of the ships in orbit around the beautiful but dangerous world. Weeks were then spent in trying to determine what had happened to the unfortunate men whose bodies lay beneath the rich loam of the planet. Test after test proved inconclusive until human volunteers were given minute samples of the fruit to eat. There was no immediate reaction, but eventually the encephalographs recorded abnormally high brain activity, and the subjects became extremely apprehensive and disorientated. Animals, however, continued to be unaffected, and the only conclusion that could be reached was that only organisms capable of the higher brain functions suffered any ill-effects, and the greater the dose, the greater the degree of mental instability.

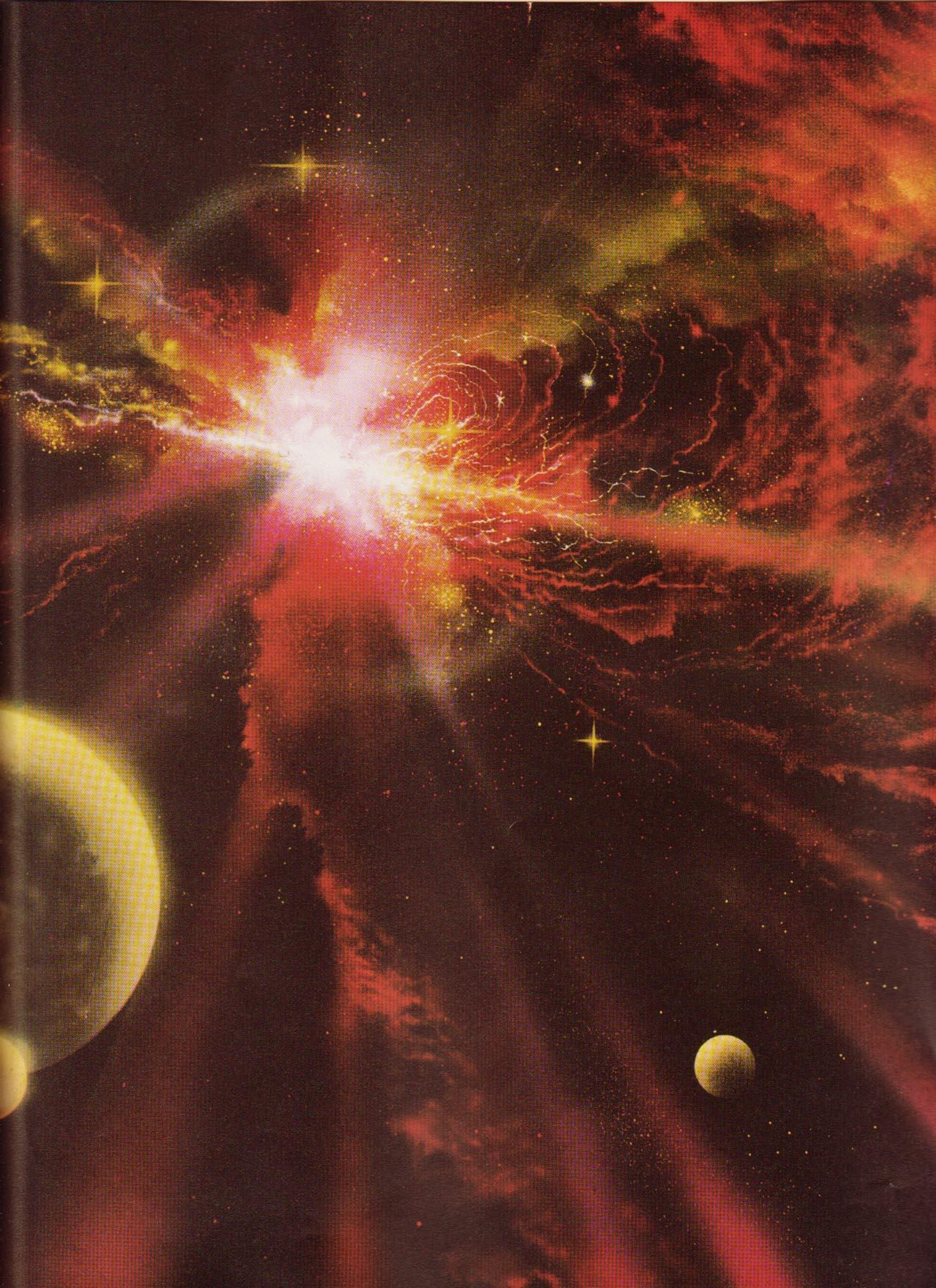
It is reasonable, therefore, to assume that the same fate had befallen those earlier, unknown voyagers as befell our own people. Further examination of the luxuriant Eden of Delta Gruis showed that all plant and animal life there, including the soil itself, was impregnated throughout with the same deadly acids. Colonization would require such elaborate

processes and equipment to reconstitute the soil that settlement was impracticable. Similarly, the second world in this otherwise ideal system proved unusable as, being considerably closer to the sun, radiation levels were unacceptably high and continued occupation would have proved too costly. Both planets have been placed out-of-bounds and orbital sentry modules ensure that no further innocents sample the deadly fruits of Eden.

To the unsuspecting traveller, there is nothing about the system of Delta Gruis itself to indicate the danger that lurks on the surface of the planet Eden. Only the warning beacons that ring this area of space lie between reality and madness.

ANGUS MCKIE





The Graveyard of Beta Pavonis

PETER ELSON

The furthest extremities of any great empire have, throughout history, experienced a greater degree of freedom and independence than those regions closer to the central governing body. Law is harder to maintain and communication is restricted to the essential. Although there may be many advantages for the inhabitants of these outlying areas, there are disadvantages too. It is considerably harder for them to participate in the communal web of trading and commerce, with their obvious benefits, and they are forced to adopt a high degree of self-sufficiency in order to exist. Essential materials and supplies are in short supply, and are often of a type which is impossible to improvise.

The region of space dominated by Alpha Indi, a sun very like our own, was a typical example. Lying 102 light years from the centre of the Terran Federation, it possessed several planets, two of which had been colonized in the recent past. Although both worlds were quite large, much of their surface was barren and inhospitable, and

colonization took the form of numerous, isolated settlements spread throughout the pockets of fertile land. But these worlds were not in themselves the reason why men had journeyed across the void. Scattered throughout the system were several ore-rich asteroid clusters, each consisting of thousands of individual objects. The problem was getting at them. Supply ships from the manufacturing worlds closer to the heart of the Federation seldom called, and when traders did emerge

The graveyard of Beta Pavonis is a truly awesome sight. Countless thousands of derelict ships endlessly circle the lifeless globe of the system's only planet. Almost all the craft originate from beyond the known Galaxy and those that have been identified come from many periods of our history. One of the most remarkable of these is the ancient and almost intact Space Shuttle, which operated in the first days of spaceflight before the Federation had even been formed.





The itinerant Jackers employed some of the larger pieces of debris (such as that shown here) as bases from which to conduct their lucrative and highly illegal salvage operations.

from warp in Alpha Indi, they usually carried essential medical supplies or domestic equipment rather than spacecraft assemblies or mining gear for which the settlers would be hard put to pay. The big mining concerns were at this stage more interested in the fields closer to home with their significantly lower transport costs. It was very frustrating for the colonists to see the opportunity of beating the giant corporations to these rich fields yet

remain unable to exploit them. Their problem was not unique, and the corporations were happy to wait until demand made the new fields viable before moving in their gear. In any case, many of them were also spacecraft manufacturers and limited the supply of craft and equipment to such worlds by mutual consent.

It was therefore with some surprise that they noticed an increase in the supply of certain

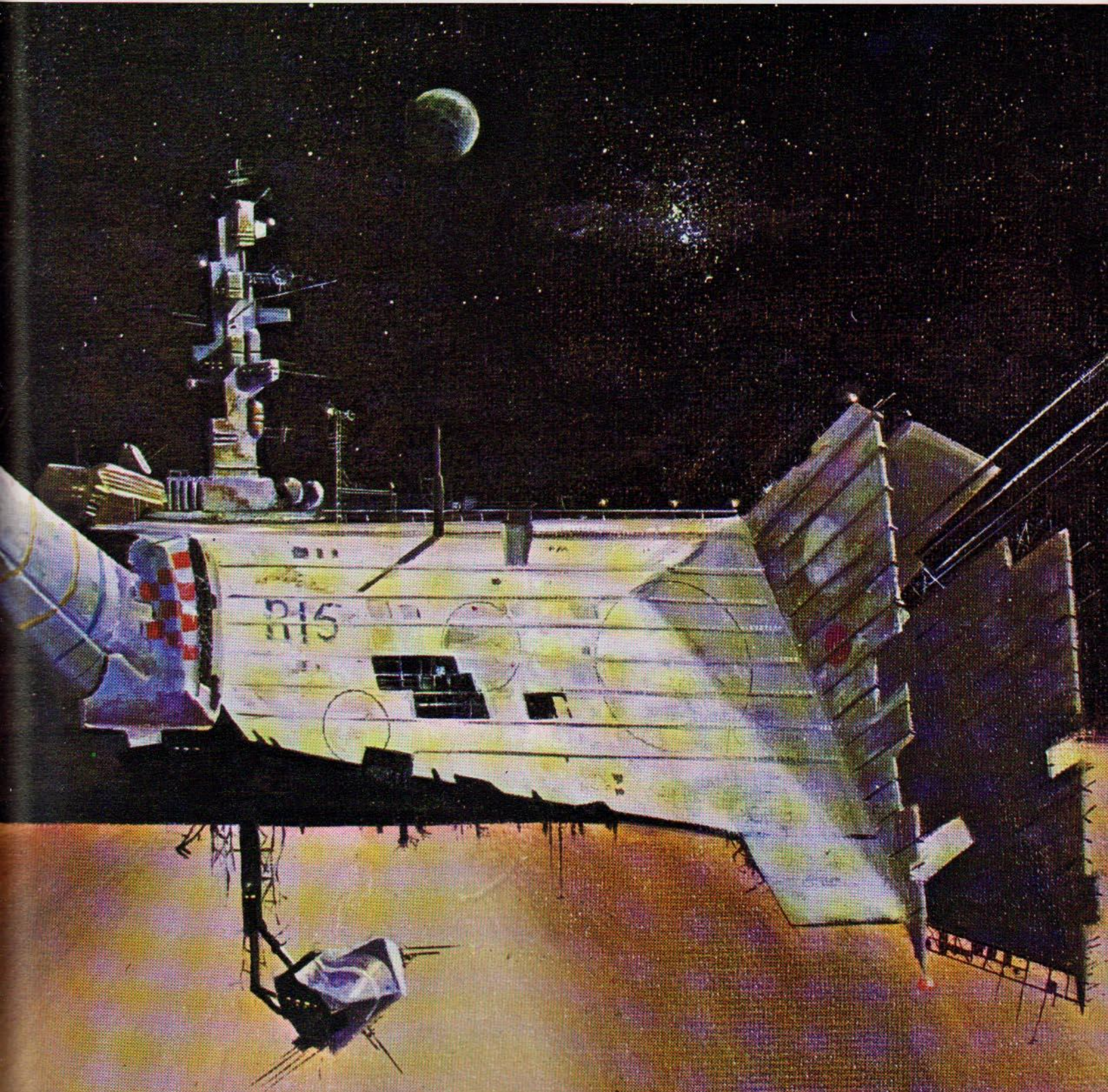


important minerals available in the market, an increase for which they were not responsible. At first the volume was not significant enough to depress overall prices and they paid it little attention. But gradually the trickle increased, and it began to have a marked effect on their profits. The supply was soon traced to Alpha Indi, and scouts were despatched to discover how the settlers there were getting to the source and extracting the materials.

It was apparent that the men of Alpha Indi had ships, but the scouts failed to discover how they had been obtained, particularly as they did not conform to any existing types. The colonists insisted that they had manufactured them themselves, but this seemed an impossibility. They had neither the considerable expertise required to design and build such craft from scratch nor the sophisticated facilities that such an enterprise would involve. Such

factories as existed were no more than rather primitive assembly shops. The construction of finished ships would only have been possible with a high degree of prefabrication, and no registered supplier had shipped in such assemblies.

Nevertheless, the ores were being extracted in ever increasing quantities, with the settlers themselves hauling the ships into the home systems. The mining companies eventually called on the



Terran Trade Authority to investigate, on the grounds that the new colony might be exceeding its production quota, but the TTA was at a loss. Production quotas were set in advance of any mining operation, and none had been established in this case as these fields were not expected to be operational for many years. As for the ships, these were of unique design, but they all conformed to standard safety regulations and had been properly registered.

The fact that there were enough ships to allow for a mining operation of considerable size, was extraordinary enough, but that there were also a large number of craft used as private transport between the two sister worlds, many more than could be accounted for by the increasing wealth of the miners, was quite inexplicable. The TTA was obviously very interested in how an isolated and somewhat impoverished colony had managed to create, almost overnight, a thriving and individual shipbuilding industry without the expensive and elaborate resources considered essential for an enterprise of this kind. Their investigators were received openly and warmly, and were taken immediately to the factories concerned, where it soon became obvious that the inhabitants were being supplied with the basic components in prefabricated form.

The replies to the questions put by the investigators only deepened the mystery, but they insisted that the parts were shipped in by a group of independent 'Jackers', men of no fixed occupation who roamed the stars scraping a living by whatever means came to hand. One day a Jacker vessel had put down on Alpha Indi II for supplies, had learned of the colonists' dilemma and had promised a solution. Several months had passed before the ship was seen again, but when it arrived with another of its kind, the two were hauling a number of large hull sections including a substantial nuclear drive unit. Without waiting for payment they vanished again, to reappear weeks later with further parts, all of which seemed to be from a variety of craft, as though they had raided a celestial scrapyard.

There were enough bits and pieces to assemble an entire vessel with a host of parts left over. Most of the electronics were easily adapted from equipment the colonists already had, and their general skills were enough to rig the fairly simple control systems needed for local operation in the asteroid belts. The Jackers were happy to settle for a share in the proceeds once the ore began to arrive at the storage silos hastily constructed by the elated miners. Once the first ship was operational, it was only a matter of weeks before the colonists were appealing to the Jackers for further vessels, and once again the stained and battered ships vanished into deep space. Soon a steady flow of hull sections and power systems filled the sheds newly erected by the teams on Alpha Indi II, who chose not to question the source of the machinery. In the meantime more and more Jackers, anxious to exploit this lucrative trade, had joined in.

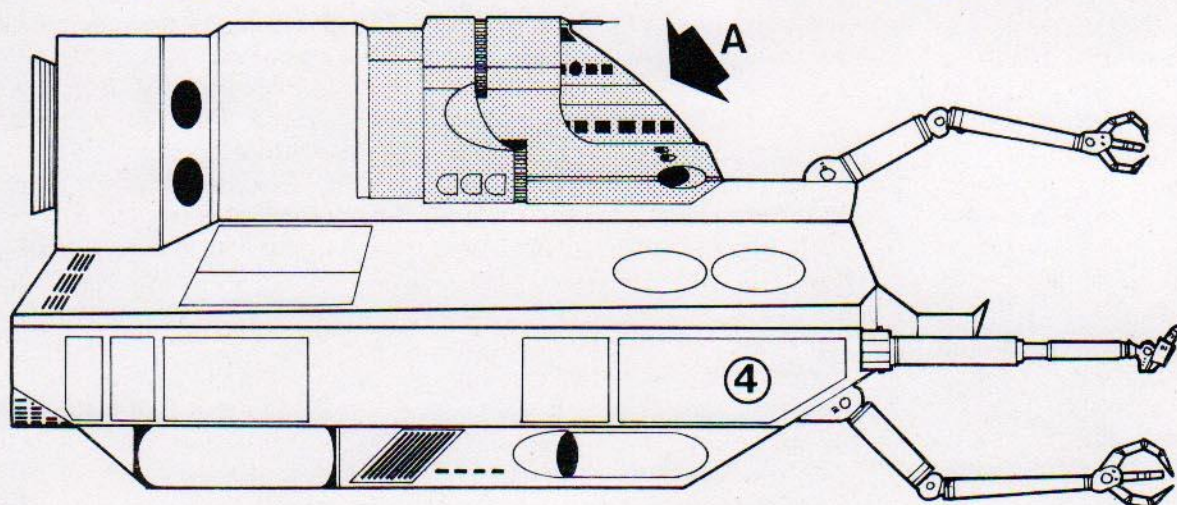
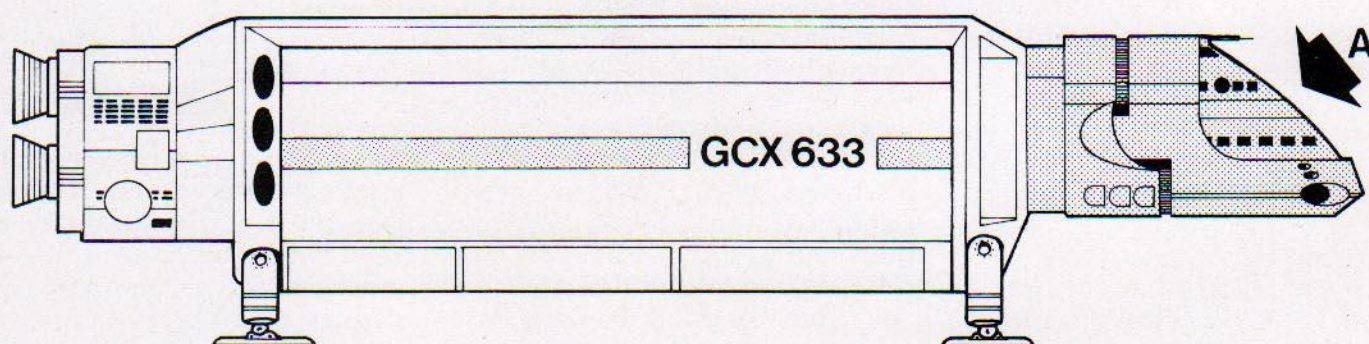
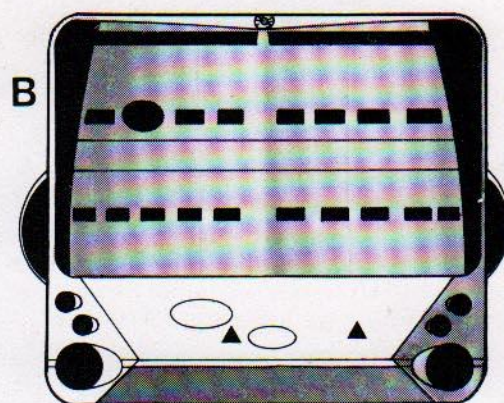
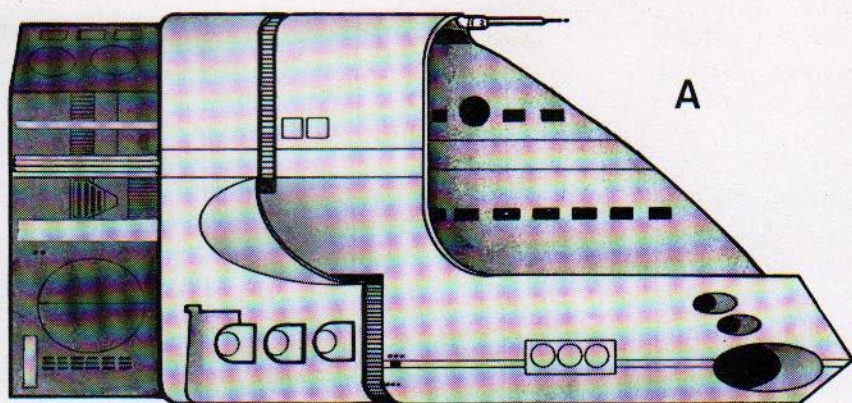
By now the wealth that was beginning to accumulate from the shipment of ore allowed the colonists to buy in expert help in assembling the motley assortment of craft, and the ships became increasingly sophisticated. Some of the miners began to commission small private craft to travel among the scattered settlements of both the Indi worlds, with no two ships the same. It was a bewildering situation for the TTA investigators, and all they could do was to await the arrival of the next Jacker ship. It landed a few days later with a cargo of specialized parts, and the crew began unloading, unaware of the presence of the TTA Officers, who presently confronted them in order to make their enquiries. The Jackers' reaction was swift and unexpected. Three officers died in the blaze of blaster fire as the crew of the freighter ran for their ship and took to the sky. They had entered warp before their co-ordinates could be matched and the officers were left drifting through empty space, transmitting their embarrassed report.

Something was obviously amiss, and ships of the Federal Law Enforcement Authority were dispatched to impound all the

colonists' ships until a satisfactory explanation of their origin could be given. For the settlers this was little short of disastrous, and their dreams of wealth evaporated, leaving them bitter and resentful. Trouble was inevitable, and muttered complaints suddenly exploded into outright rebellion with a swift and ferocious attack on the base set up by the Federal troops. The fighting was brief and the officers were forced to withdraw under the weight of the rebel onslaught, leaving the bodies of nearly two-thirds of their number sprawled in the wreckage of their camp. Their desperate signals for help were acknowledged, and military units were instantly mobilized. Meanwhile the small band of Federal men dodged and weaved among the clusters of asteroids, trying to stay out of the sights of the rebel weapons until reinforcements arrived. It was a long and deadly game of hide and seek, but fortunately the enemy armament was as improvised as their ships, for the need for offensive equipment had not been anticipated, and the quick, manoeuvrable craft of the Federal Officers proved difficult targets among the spinning rocks of the asteroid clusters.

They were, nevertheless, greatly outnumbered and were gradually being forced into a smaller circle, but just as hope was fading a fresh wave of objects appeared on their scanners. The sleek interceptors of the Terran Defence Authority hurtled out of the blackness beyond the yellow sun and struck hard at the makeshift vessels of the rebel colonists. Three rebel ships exploded instantly and a fourth, its stern blown away, spun crazily end over end into deep space, its vital air pressure escaping into the vacuum. The settlers could not hope to match the fast and heavily armed interceptors, signalled their surrender and returned meekly to the surface under close escort.

Their fate was now a matter for the Law Enforcement Authority, which had already dispatched further forces. Of more immediate concern were the whereabouts of the Jackers and their mysterious source of spacecraft parts. It was not going



to be an easy task to track them down, as no fix had been taken on the escaping craft. Only the painstaking piecing together of information could lead to a clue, and this would require the complete co-operation of the colonists themselves. Sullen at first, they quickly realized that they had nothing to lose, as their private shipbuilding venture was now clearly at an end. In any case, it was made clear to them that any assistance they were willing to give would do much to offset the gravity

of their position: outright rebellion and the murder of Federal officers in the course of their duty was an extremely serious offence.

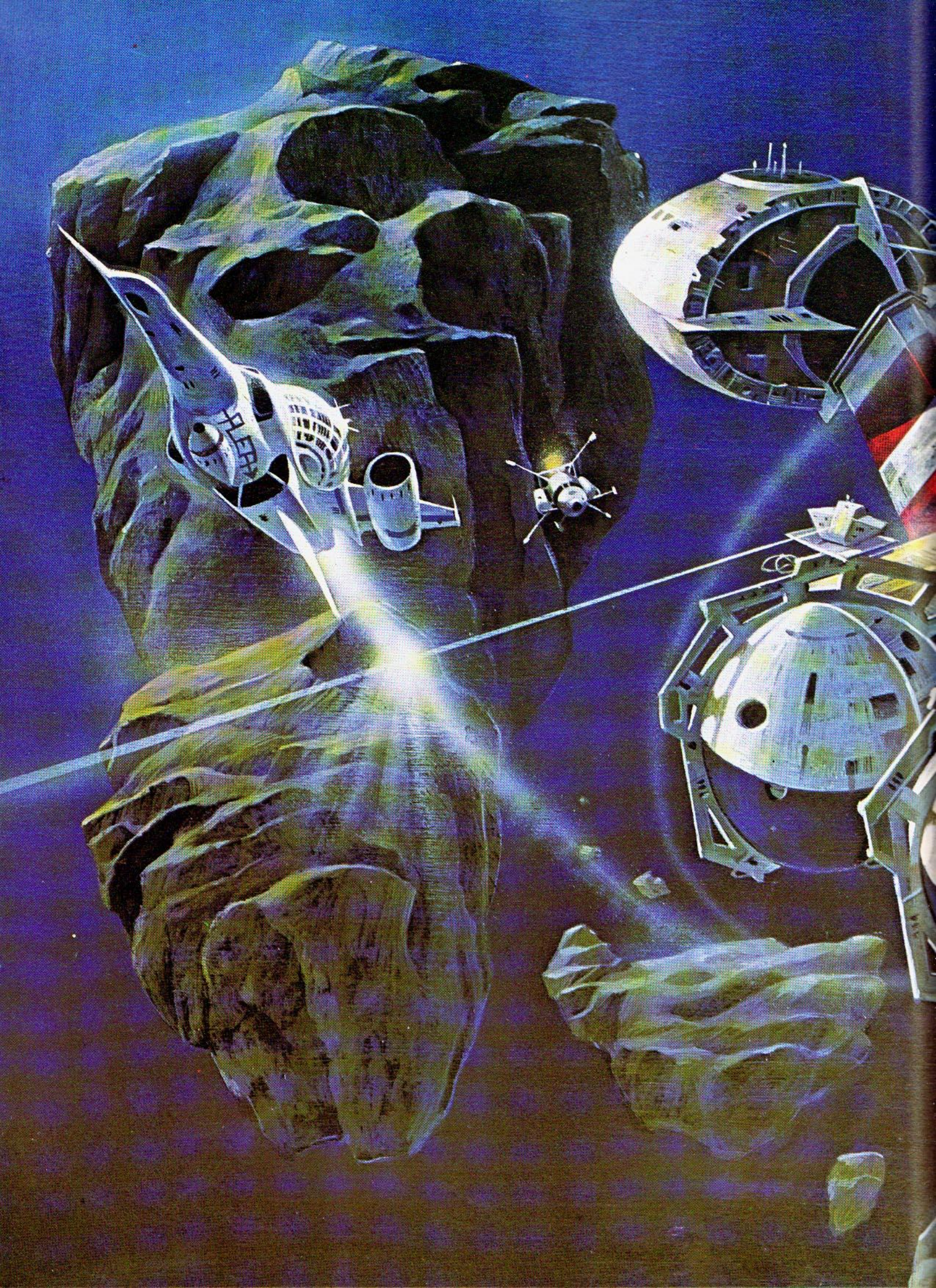
Although they had no notion as to the Jackers' source of supply and had never felt able to enquire, thorough interrogation by the lawman began to yield some indications. Snatches of remembered conversation, occasional references to navigational features and the direction of arrival and departure of the Jacker ships at least narrowed down the possibilities to a general

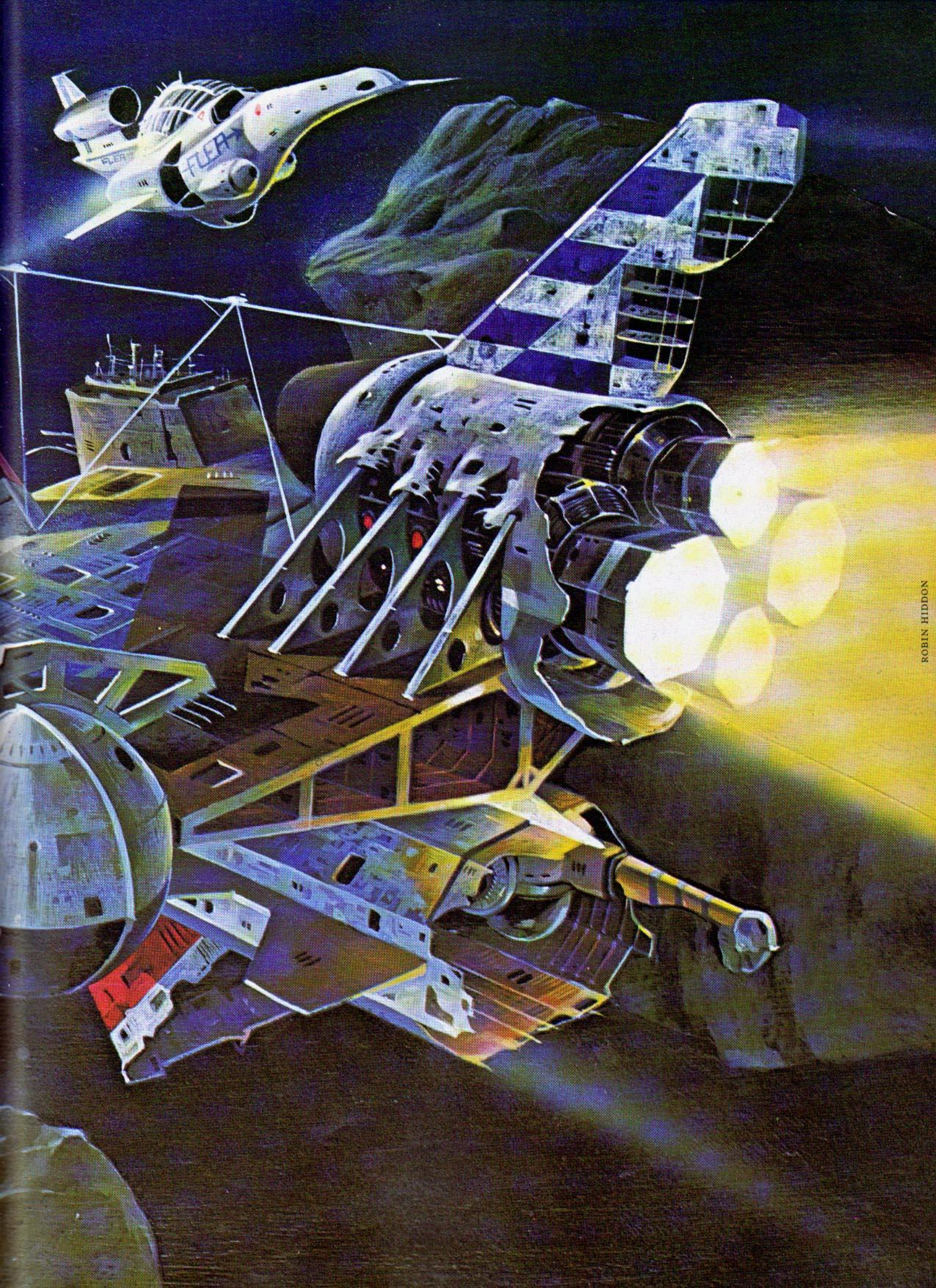
The Jackers manufactured a number of interchangeable control and accommodation modules which could be fitted to a wide variety of makeshift hulls, such as the ore carrier and miner shown here.

A. Side Elevation. B. Front Elevation.

Overleaf

The jacker ships, with their improvised armament, were no match for the federal craft in the fierce battle among the asteroids of Alpha Indi II.



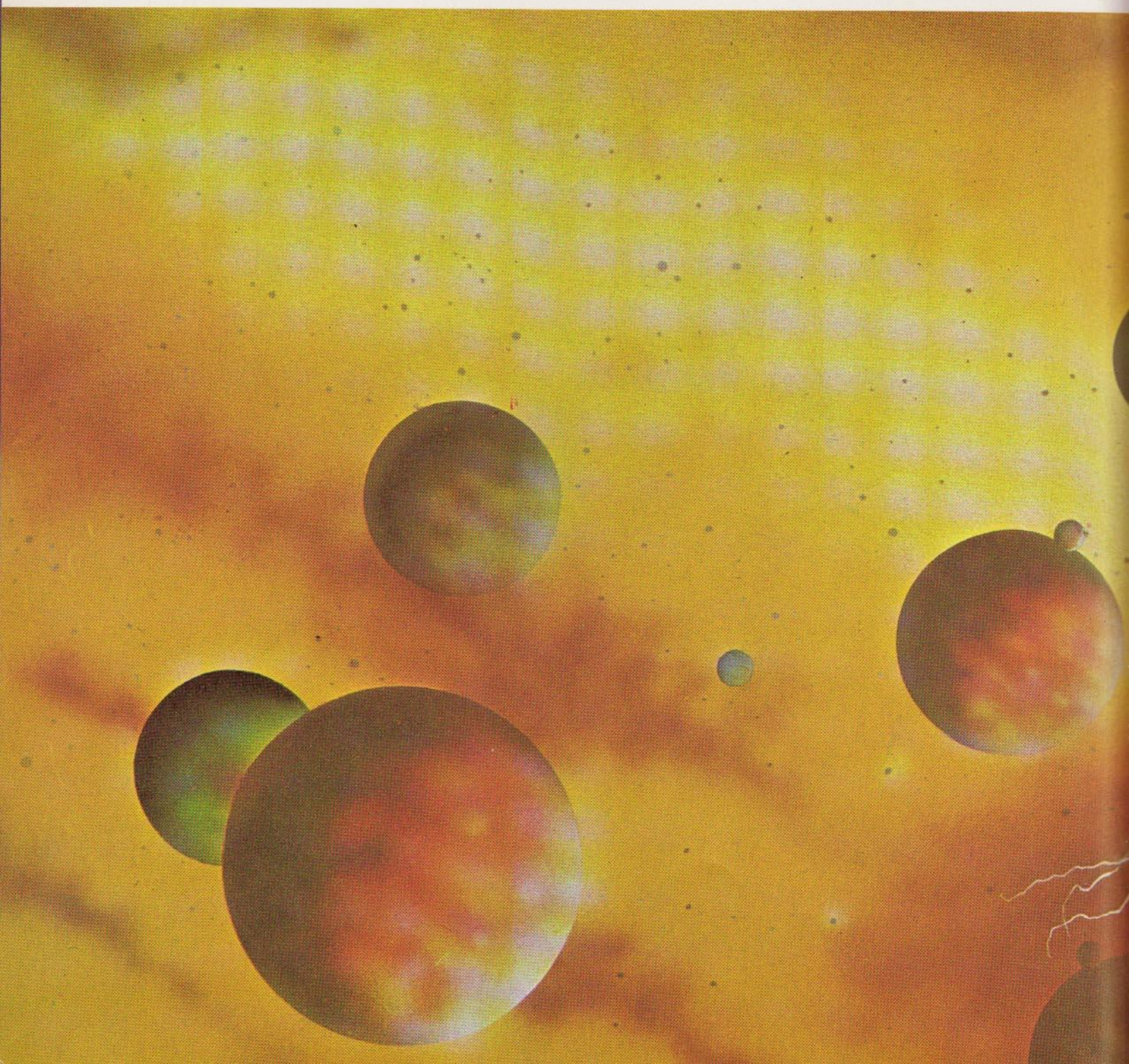


Some of the extraordinary vessels trapped in the Sargasso graveyard were still operational, although the function of such items as this apparently robotic device is still obscure. Ships were not the only objects to be found here, and these odd spheres of pure ore are unique to this area of the orbiting debris. It may be that they were consignments of material prepared for shipment from some distant mining site which escaped and found their way to this stellar backwater.

flight line in the region of the Pavonis constellation. However, this represented an impossibly huge region of space in which a search could continue for hundreds, if not thousands of years before the base was discovered. The answer was found in the frequency of the Jackers' visits. Assuming that they would not have lingered for long because of the value of their cargoes, the gaps between shipments suggested a warp-drive voyage of about ten light years each way, and the nearest star to this point was the helium-type star of Beta Pavonis, 112 light years from Earth.

No-one was quite certain how

many of the Jackers were involved in this lucrative and highly illegal operation. They were usually fiercely independent characters who avoided not only the company of planet dwellers, or 'groundies' as they scornfully called them, but also that of their fellows as well. There was no doubt that a number of Jacker ships were involved in the smuggling of equipment to Alpha Indi as four or five different crews had been involved in ferrying the gear to the colonists. They must have felt that there was enough profit in the scheme to make cooperation worthwhile. More significant still was the fact that for



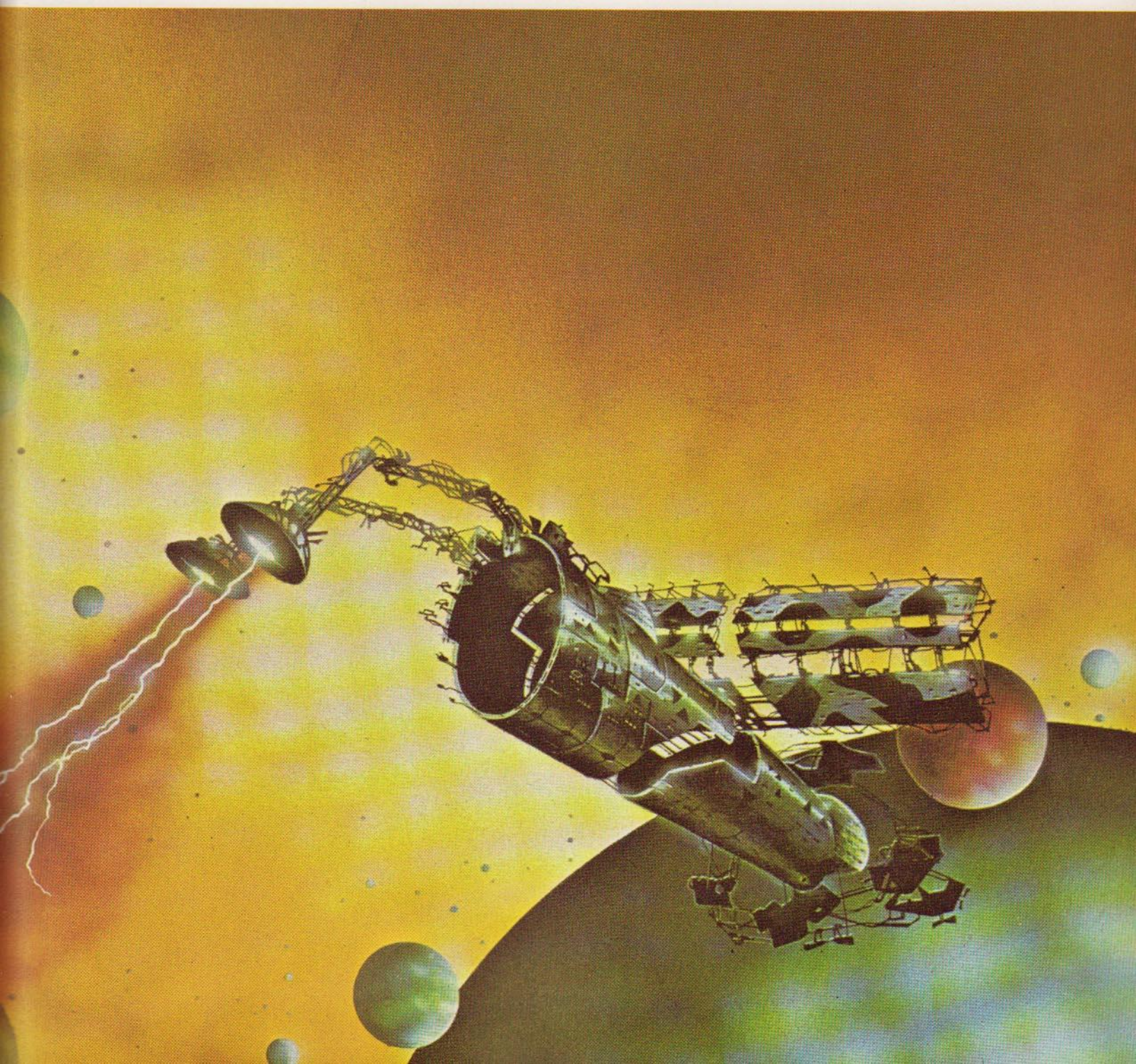
every team involved in hauling the parts across space, there must have been others who were salvaging and preparing the equipment for shipping. But salvaging from where?

Spaceflight has always been an expensive business, even in an age of mass production, and very little is ever wasted. Even obsolete and damaged ships are worth a great deal, and are taken by their owners to TTA Reclamation Centres, where they can sell the hulls and fittings for recycling. The proceeds always go a long way towards the purchase of replacement craft, so no ship is ever deliberately abandoned in space. There are of course, times

when this is unavoidable. Sometimes a ship is so badly wrecked that very little is left to salvage; or the accident occurs so far from a Reclamation Centre that the cost of recovery outweighs the wreck's value. But such instances are extremely rare, and certainly would not account for the massive amount of usable parts produced by the Jackers for Alpha Indi. In any case, the Federal Officers had failed to identify practically all of the components from which the settlers' ships had been constructed. Some parts were even formed from materials unknown to the TTA. The more the authorities considered

the matter, the deeper the mystery became, and the more anxious they became to track down the Jacker band and their apparently endless source of components.

The few interceptors now stationed on Alpha Indi were not going to be enough for a major expedition to Beta Pavonis, as they were not designed for extended operations. A troopship and support and supply craft were dispatched from the nearest military base to provide the facilities such an expedition would require. A week later, the colonists sullenly watched the arrival of the huge vessels on their inhospitable world as the

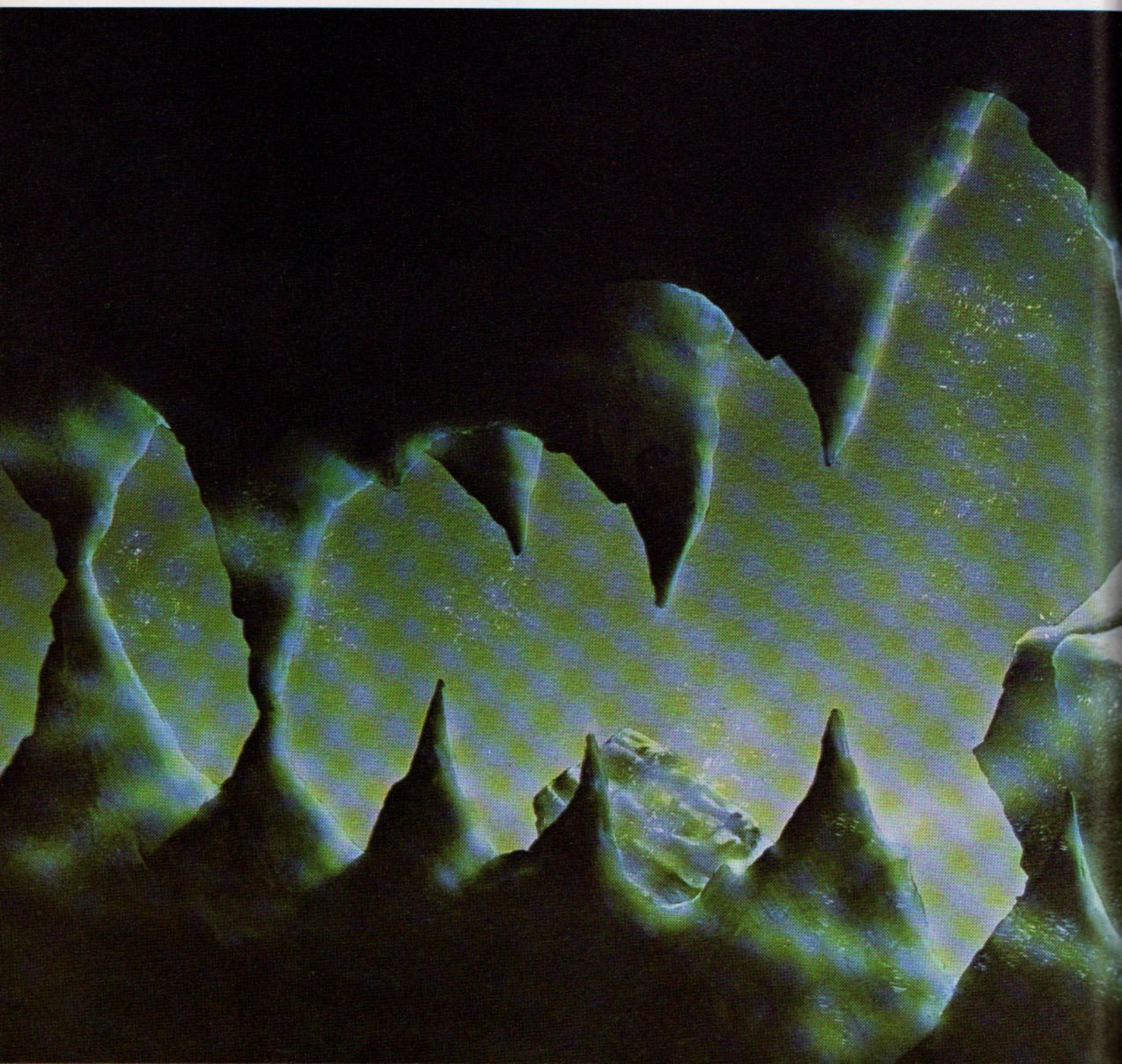


commanders convened to plan the exercise. A few hours later, the interceptors and two of the Federal Law Enforcement Authority's patrol ships were loaded into the cavernous bays of two of the support ships, and the expeditionary force lifted off and blazed into the evening sky towards Pavonis.

The force was commanded by TDA Colonel 'Badger' Brock, and as he assembled his officers for the main briefing, he found himself faced with a difficult task. Little was known of the Beta Pavonis system, if indeed it possessed one at all, and still less was known of the nature of the Jacker base. In any case, it was

highly probable that their nomadic quarry had already vanished into the depths of the Galaxy knowing that their illicit trade had been discovered. On the other hand, if they had stumbled on a source of potential riches, they might be very reluctant to abandon it completely, and could be waiting for the storm to pass before looking for a new outlet. There were plenty of other worlds around the Federation's perimeter who would be delighted to have the opportunity of acquiring cheap ships, illegally or otherwise. They must already have earned themselves a considerable fortune and this news would almost

Some of the makeshift spacecraft constructed by the Jackets proved extremely efficient, and ships like this ore transporter have been officially approved and licenced.



certainly have spread to other Jacker bands, who might have already started to converge on the original group. There could be a large army of them by now, and if they had decided to stay, they would be ready for trouble.

With so little idea of what might lie ahead, it was of small advantage to make elaborate plans, and Colonel Brock could do little more than describe the kinds of vessel that they were likely to meet and remind his officers of standard TDA contingency tactics. There was then nothing to do but wait. After what seemed to be an eternity, the distinctive Beta Pavonis shifted from

the long-range to the short-range scan screens, and grew steadily in size. Within hours the scanners had detected a number of captive bodies circling the helium sun, all but one of which appeared to be well below planetary mass, suggesting orbital asteroids. The exception was a single reddish planet about the size of Earth, orbited by a vast number of small bodies which might have been the remains of one or more moons broken up in an earlier epoch.

There was no sign of the Jackers, but Colonel Brock was a cautious man, and his small fleet spread out in order to approach the planet from different vectors, though close

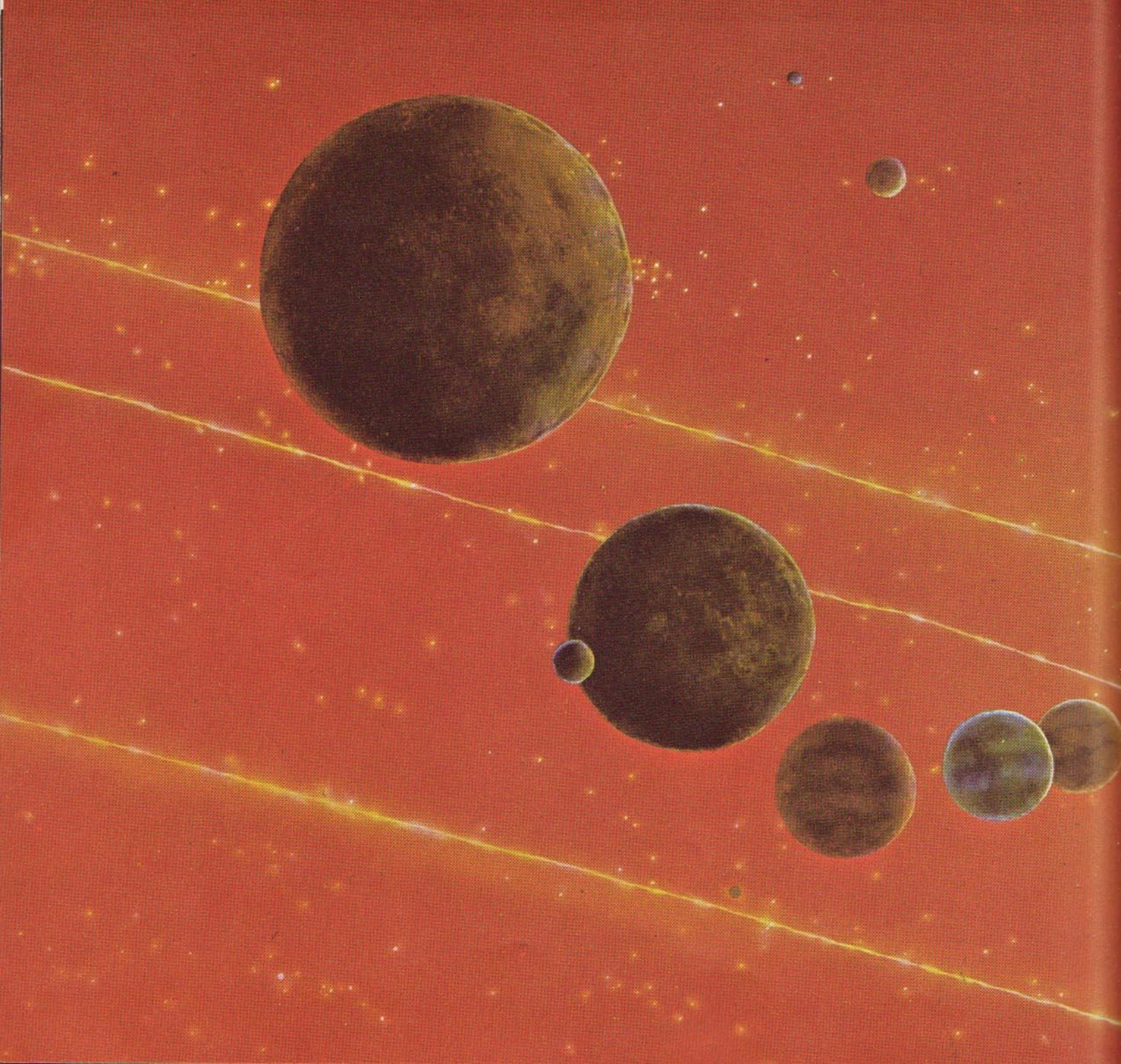
enough together to be able to support each other. Once in position, they began to converge on the unknown world, the scanner operators glued to their monitors, watching for the slightest suspicious movement among the multitude of signals from the asteroid belt.

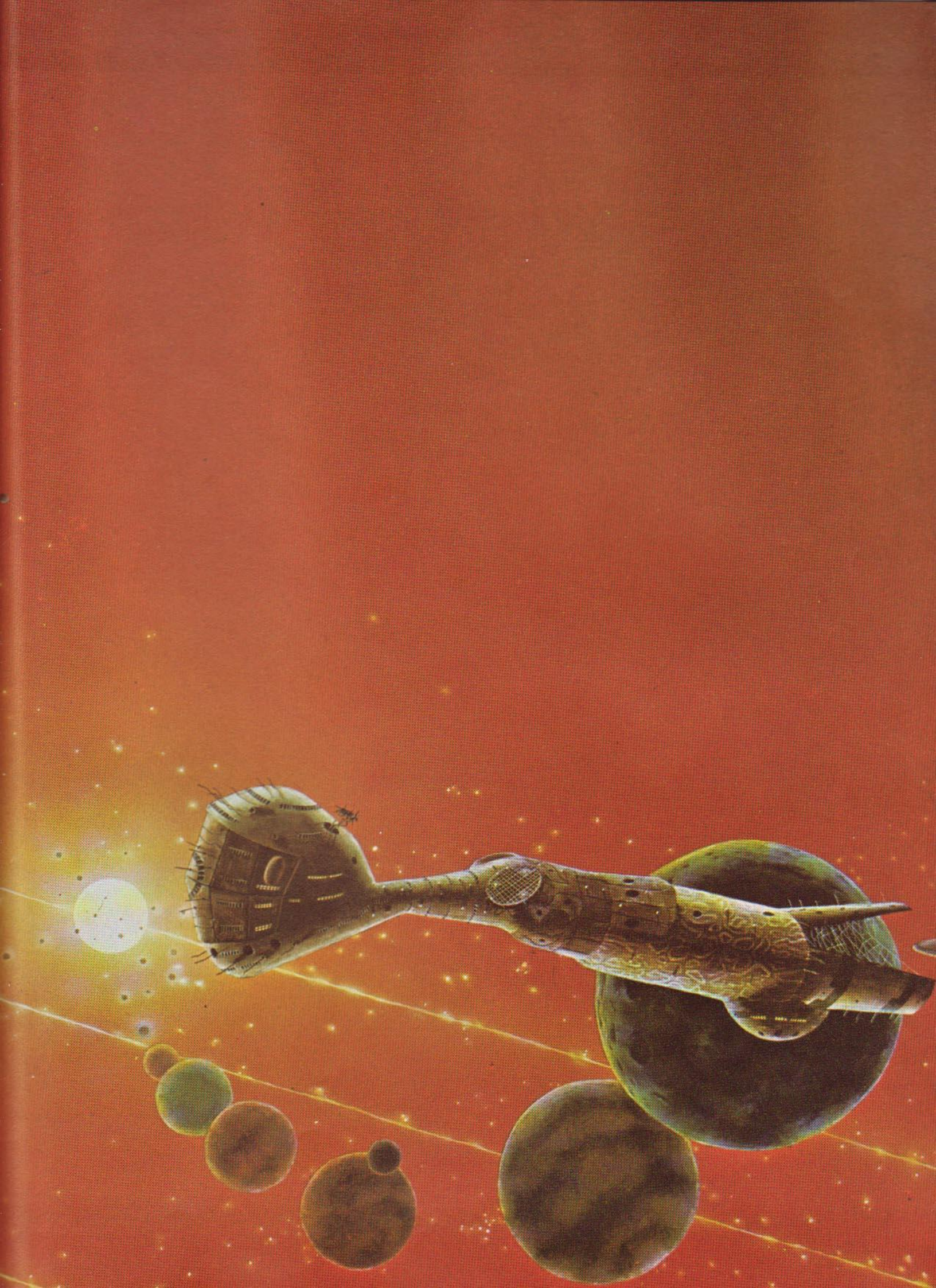
In each ship, at almost the same instant, they suddenly let out a chorus of astonished shouts. The silent communicator relays broke into a babble of sound before the commanders restored order among their crews. Once they themselves had reached the scanners, the reason for the breach was clear. The vast field of objects circling silently



This tiny craft is less than eight meters long and has a hull so thick that the only cavity is a network of tubes about ten centimeters in diameter filled with an inert gas.

TONY ROBERTS





round the red glow of the planet were not asteroids. The scanner and spectrometer readings showed them to be a gigantic fleet of spacecraft of different shapes and sizes, but stranger still was the fact that none of them was under power or even operating any power source or equipment.

The ships were ordered to close up and maintain action stations, and to be prepared for an immediate retreat. If this enormous force decided to attack it would be suicidal to let it close to firing range. Brock decided to wait for them to make the next move. It was too big to be a Jacker fleet, which could only mean that it was an alien fleet from outside the Perimeter. The implications were alarming, as this suggested the existence of a large and powerful civilization, of which nothing was known, with the capacity to travel to the very heart of the Terran Federation in one of the biggest fleets ever assembled.

But there was still no sign of any unnatural movement from the circling mass. Clearly it was up to the Federation men to end the stalemate, and reluctantly Colonel Brock ordered his ships to ease in towards the strange armada. Almost imperceptibly, the TDA ships edged closer, the weapon control computers busily bleeping and chattering as they constantly readjusted the data, and the engineers and navigators fidgeting nervously in anticipation of the order to blast back out into space. But none came. Within minutes they were within visual range, and once again gasps of amazement broke the silence as the viewscreens displayed not a huge and mysterious alien fleet poised for action, but a huge and mysterious alien fleet comprised of nothing but derelict ships. As far as the eye could see thousands of ruined and damaged ships wheeled and shifted in a great arc around the crimson planet, amid skeins of fragments and debris.

Slowly the slender Federation ships nosed their way into the bizarre sea of empty ships, the crewmen's faces pressed against the viewports as they stared in disbelief at the multitude of craft. There

were countless thousands of them, ranging from ships too small even for one man to gigantic constructions that would dwarf even one of the Federation's colonizers. It was a staggering sight, and they cruised for several hours along the orbital path of the wreckage, trying to spot familiar shapes among the thousands of unidentifiable hulks.

Eventually one of the crew pointed to the torn hull of a Proxima K9 Goblin, a ship which had been operated by the Proxima Centauri system over four hundred years earlier. Nearby hung the battered shape of a Colonial IV, which dated from roughly the same period, and gradually more known craft came to light, the most recent being the forward section of a TTA survey ship which had disappeared during a routine deep-space tour. But these familiar objects represented no more than a handful of the innumerable clutter of vessels, some of which bore no resemblance to spacecraft at all, and whose function could only be guessed at.

The crews were so absorbed in the spectacular view around them that the fusillade of laser and disruptor fire caught them in a crossfire. The activated defence systems of the patrol hurled the ships clear, sending officers and crew sprawling across the decks. Frantically they struggled to disentangle themselves from each other in a dash for their proper stations. The Jackers had obviously not departed from what was the biggest scrapyard in known space, and as there was enough raw material here to build enough ships to supply half the Federation, this should not have been surprising. Colonel Brock mentally kicked himself for not anticipating this fact as soon as the huge sea of wreckage had been seen for what it was.

The scanners probed the confusing welter of signals for the position of the Jacker ships as the sleek TDA craft jinked and swerved to avoid the enemy fire. The spectra of the heat-emitting Jacker craft were soon isolated, and Brock regrouped his force, the extraordinary graveyard of derelicts forgotten as he concentrated on the

A few of the vast number of ruined hulks were still sufficiently intact and conventional enough in operation to be returned under their own power to research centres elsewhere. This particular craft appeared to be a transmitting station of some kind, although there is no indication of its origin.



more familiar job in hand. Although marginally outnumbered by the Jackers, the TDA craft were purpose-built fighting ships with superior armament and specialized electronic systems, which gave them a considerable advantage amid the confusion of signals caused by the dense mass of wreckage. Brock's tactics were simple and efficient. His ships darted through the debris, working in pairs to isolate individual Jacker crews, and while one drew the enemy's fire, the other swept in to tear his hull to shreds.

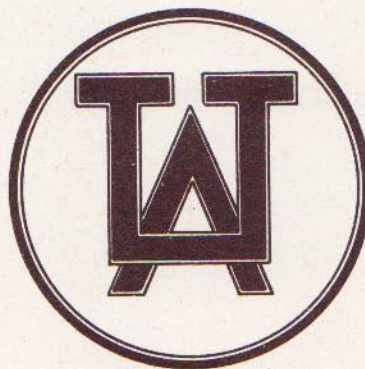
The action was over in less than twenty minutes, leaving the torn carcasses of six Jacker ships spinning to join the circling ghost ships. The remaining three gave up the unequal struggle and surrendered, the total cost to the TDA being one ship seriously damaged and a few laser holes in the others, easily sealed by on-board repair gear. Leaving two interceptors and a supply ship to stand sentry over the eerie scene,

the rest of the force left to report the extraordinary graveyard of Beta Pavonis to the Federation.

As soon as news reached headquarters, an expedition was mounted to make a full report. Probably nine-tenths of the ruined ships orbiting the lifeless planet belonged to no known race, and some had apparently been there for longer than recorded history. The origins of some of these craft have come to light as the margins of known space have crept further out into the Galaxy and new intelligent species have been encountered, but the surface has scarcely been scratched. Why so many ships, some of which must have originated from deep inside the Galaxy or even from beyond, should have congregated in this place has yet to be fully explained. A partial reason might be the intermittent bursts of powerful magnetic pulses from Beta Pavonis itself, but this activity alone could not account for the huge variety of ships and the extreme distances

some must have travelled. There is some evidence to suggest that there exists a barely detectable system of particle movement which follows fairly regular patterns throughout much of the Galaxy. Although this theory has yet to be substantiated, it would do much to explain the objects held captive by the world now called Sargasso, which could perhaps be a sort of backwater free from any movement.

The graveyard is still a rich source of technological information and will continue to be so for some time, as many of the craft there represent a level of technology which is so different from our own or so far advanced that we are not even able to interpret it. Although it is possible to join an excursion to visit this unique marvel, it is far off the usual shipping lanes, and only a very small area is unrestricted and open to public view. Nevertheless it is a staggering sight and must rank as one of the most impressive wonders of the Galaxy.





To
Russell and Sam

And to Kim, my love.
The greatest gift a girl could ever hope for is a
dedication in a book about wrecked spaceships.

- ARRAKIS

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