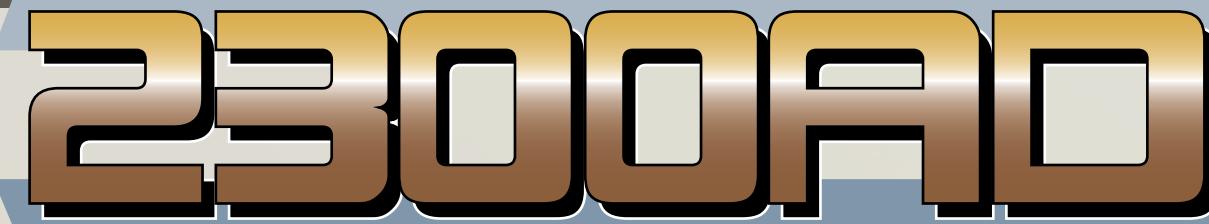


2300AD

PROJECT BAYERN MISSION PROFILE



TRAVELLER®



PROJECT BAYERN

MISSION PROFILE

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INTRODUCTION

Those seven are called by name Alcyone, Merope, Celaeno, Electra, Sterope, Taygete, and queenly Maia. Small and dim are they all alike, but widely famed they wheel in heaven at morn and eventide, by the will of Zeus, who bade them tell of the beginning of Summer and Winter and of the coming of the ploughing-time.

Aratus Poet, 3rd Century BC

*Many a night from yonder ivied casement, ere
I went to rest,
Did I look on great Orion sloping slowly to the West.
Many a night I saw the Pleiads, rising thro' the
mellow shade,
Glitter like a swarm of fire-flies tangled in a
silver braid.*

Lord Alfred Tennyson, Poet, 19th Century AD

Bayern provides source material for the 2300AD referee detailing the historic flight of the starship *Bayern* (Bavaria) as it leaves human space to cross more than 450 light-years of unexplored territory before reaching the Pleiades Star cluster in the constellation of Taurus. Also known as M45, this group of young stars has long been an object of awe, worship, and inspiration for human cultures.

As such, it stands out among the astronomical sights of our portion of the galaxy as a target for investigation. After *Bayern*'s aborted launch attempt in 2297, the AR-I (Astronomischen Rechen-Institut) completed repair and redesign on its vital stutterwarp drive system, and the ship is now ready to set off again for the haunting star group. Now, as the 24th century dawns on humanity, Commander Leopold Schmidt and his international crew of brave explorers make ready to bid farewell to their friends and families for a journey which will last almost half a decade.

This box set contains all of the background data needed to run an ongoing campaign of adventures based around the monumental voyage of this great craft. Details on the ship and its auxiliary vessels are included to give both the Travellers and referee a full understanding of their limitations and capabilities. Background information on the Astronomischen Rechen-Institut will allow the Travellers to identify with the goals of the mission and to understand more completely this unique Foundation. Biographical information on the flight crew and heads of the scientific team provides ready-made Travellers or fully developed NPCs. Furthermore, a section on the Pleiades provides full astrophysical information on the star cluster.

To provide inspiration for referees in the establishment of a *Bayern* campaign, a selection of sample adventures has been included. These include adventures designed to advance the main exploration plot and stand-alone adventures to act as interludes between the main plot points.

WORDS OF THANKS

This book stands on the shoulders of the outstanding work that has come before it. The original *Bayern* adventure, written by William W. Connors, with contributions from Timothy Brown and William H. Keith Jr., forms the bones of the box set you read now. Without their work I would not have been able to produce the expanded version you see here.

Several changes from the original version have been made to the *Bayern* herself and the mission she undertakes. Many of these changes were prompted by 20 years of scientific exploration and advancement, and discussions with members of the 2300AD community. The concept of a *Bayern* flotilla was originally suggested by Bryn Monnery. I would also like to thank Colin Dunn, Ian Stead, J.R. Thomas Jr., Stephanie McAlea and Jen Farrant for their advice and encouragement during the writing of these books. German translations were provided by Matthias Hofmann, and Constantine Thomas assisted with many areas of scientific detail. Any errors that appear herein are in spite of their advice and guidance, and are mine and mine alone!

The authors of the original *Bayern* adventure gave thanks in that version, and it is repeated here as well:

This book is not the product of a single mind. In a way, it began with the publication of *Traveller: 2300* by GDW. When Rob Caswell and Tim Brown provided overviews of both the AR-I and *Bayern* in *Challenge*, it

became clear to me that a book of this nature would be interesting to many people. With the additional help of Gary Thomas, Deb Zeigler, and (especially) William Keith, *Bayern* was put together piece by piece. I hope that it will provide you with an interesting, exciting, and educational campaign.

**WARNING: IN ORDER TO PRESERVE
SUSPENSE, ONLY REFEREES SHOULD
READ BEYOND THIS POINT**



ADVENTURE OVERVIEW

*Canst thou bind the sweet influence of the Pleiades, or loose the bands of Orion?
Canst thou bring forth Mazzaroth in his season?
Or canst thou guide Arcturus with his sons?*

Job 38: 31-32

*...the great and burning star.
Immeasurably old, immeasurably far.
Surging forth it's silver flame,
Through eternity...Alcyone!*

Lapman, Alcyone

In addition to the source material which *Bayern* provides for the establishment of an ongoing campaign based around the voyage to the Pleiades, adventures have been included to help the referee get started.

It is important to remember that the *Bayern* is not only non-military in nature, it is totally unarmed. Thus, an adventure in which the crew was confronted with a violently hostile alien species that opened fire on them at once and would not listen to negotiations would probably be very short and somewhat frustrating for the Travellers. *Bayern* adventures should stress scientific problems and investigations of the unknown as their primary focus.

For those who find this constraint to be too limiting, *Bayern* can easily be modified to include a light offensive and defensive capability, although this is somewhat out of character for AR-I missions and may take away from the ‘feel’ of the campaign.

The supplied adventures are split into two types, Plot Points and Interludes. Plot points advance the main story of the campaign – *Bayern*’s trip to the Pleiades and the discoveries therein. They also advance a subplot of a saboteur on board *Bayern*, trying to foil the mission for their own reasons.

The other type of encounter is an Interlude. These are standalone adventures that can be dropped into the narrative at any point. They do not have a direct

Troupe Play

Troupe play is a concept whereby Travellers may have more than one character active in a campaign. At the beginning of the campaign they create several Travellers, each with different roles within the mission. Then, at the start of each new chapter the Travellers, in consultation with the referee, decide which they will be using during the adventure. It also allows referees to conduct adventures where the *Bayern* crew may be split up without having Travellers sitting out adventures because they are in another solar system.

If so desired, each Traveller may also run a senior member of *Bayern*’s crew and make the major decisions that can affect the whole crew (see Mission Board on page 18 for more details on *Bayern*’s command structure) and at the same time still have a lower rank Traveller who is able to engage in the front-line adventures that would not be appropriate for the captain, chief engineer or head of the science team.

The default assumption for the campaign contained herein is that the main Travellers will form the command crew and mission team of the *Entdecker* encounter craft and that most of the crew of *Bayern* and the other ships will be run as NPC’s by the referee. As ever, the referee is under no obligation to conform to this and may allow the Travellers to take control of, or replace, any of the crew of the flotilla.

impact on *Bayern*’s core mission, and referees can move them around chronologically and spatially, modify them or ignore them completely. There are also several encounter outlines to act as seeds for referees to develop their own Interludes.

PLOT POINTS

The Message Drone

Bayern launches her first automated messenger ship back towards human space. A malfunction, or the activities of the saboteur, causes the robot drone to fly

out of control and threaten *Bayern*. The Travellers must think quickly to avoid the ship being damaged and the drone destroyed.

The First Crossing

Bayern encounters her first rift, requiring one of her charged stutterwarp drives to be discarded and another brought online. A series of accidents or sabotage during the unloading of the message drones means the drive tuner is damaged and the engineering team must work to find a solution to bring the drives back online.

The Daughters of Atlas

This adventure takes place in the Pleiades itself and is intended as the climax of the mission. The Astronomischen Rechen-Institut has discovered evidence of very unusual goings-on amid the stars of the M45 cluster. It is this aspect which has been at the heart of planning for the *Bayern* mission, although that fact is known only to a very few at the start. As the scientific crew of the starship makes routine surveys of the Pleiades area, they will eventually come to the conclusion that the unusual happenings here are guided by an alien intelligence far beyond human understanding. Further investigation will result in limited contact with very alien beings vastly superior to humanity. Some members of the crew may return profoundly changed, both physically and mentally.

The Weeping Sisters

This encounter encompasses a series of shorter vignettes as *Bayern* travels through the scattered stars of the Hyades cluster. The Hyades are an open star cluster closer to Earth than the Pleiades, but they have been well studied. The AR-I is keen to see if there is AGRA-type activity within this star cluster. The *Bayern* crew will discover that it is also the site of an ancient conflict.

The Gambit

The saboteur undertakes one last ditch effort to ensure their agenda is completed and *Bayern* loses a valuable member of her crew.

The Return

Bayern's journey is over and her crew are returning home. This section deals with the consequences of their actions, and discusses further adventures for the crew.

INTERLUDES

The Wanderer

A drifting alien spacecraft of a familiar design needs the Travellers help, but also harbours a dangerous enemy.

Death Throes

Routine investigation of a system indicates that there is, or at least was, intelligent life present. Closer examination reveals that a mechanistic civilisation on a garden world has nearly bombed itself out of existence. The best bet for investigating further is for *Bayern* to travel to one of the moon bases, where the crew will find a stranded colony of aliens at odds against their own war machines. Some difficult decisions will have to be made by the crew of the *Bayern* – especially by the captain – when mission directives interfere with aid to the struggling colony.

The Messenger

Bayern encounters a unique alien species and has the opportunity to conduct a first contact mission the likes of which humanity has never seen before. Personal ambition and a hidden agenda threaten delicate negotiations and even the safety of the mission.

Cold

A mysterious ice base on a frozen moon requires the *Bayern* crew to race against time and the deadly conditions to uncover the secrets of an apparently vanished alien species. Their actions in the base trigger a series of deadly booby traps and they may struggle to emerge unharmed.

A Long Way from Home

The flotilla rush to the aid of a stranded human starship – hundreds of light-years deeper into space than humans have ever ventured before.

The Relic

A short exploration mission following the discovery of an anomaly in an uninhabited system leads the Travellers to one of the last examples of a vanished species' technology.

Tides of Blood

Exploring a devastated world leads to clues about the Relic's builders and their eventual fate.

The Raiders

Hostile aliens have seized one of *Bayern*'s sub-craft. The crew must race to recover it before the aliens are able to breach the defences around the ship's databanks and the location of the Earth is exposed.

SUGGESTED CAMPAIGN SEQUENCE

The suggested sequence of events for the default campaign is shown in the *Bayern* Campaign table. Mission Elapsed Time (MET), Cumulative Mission

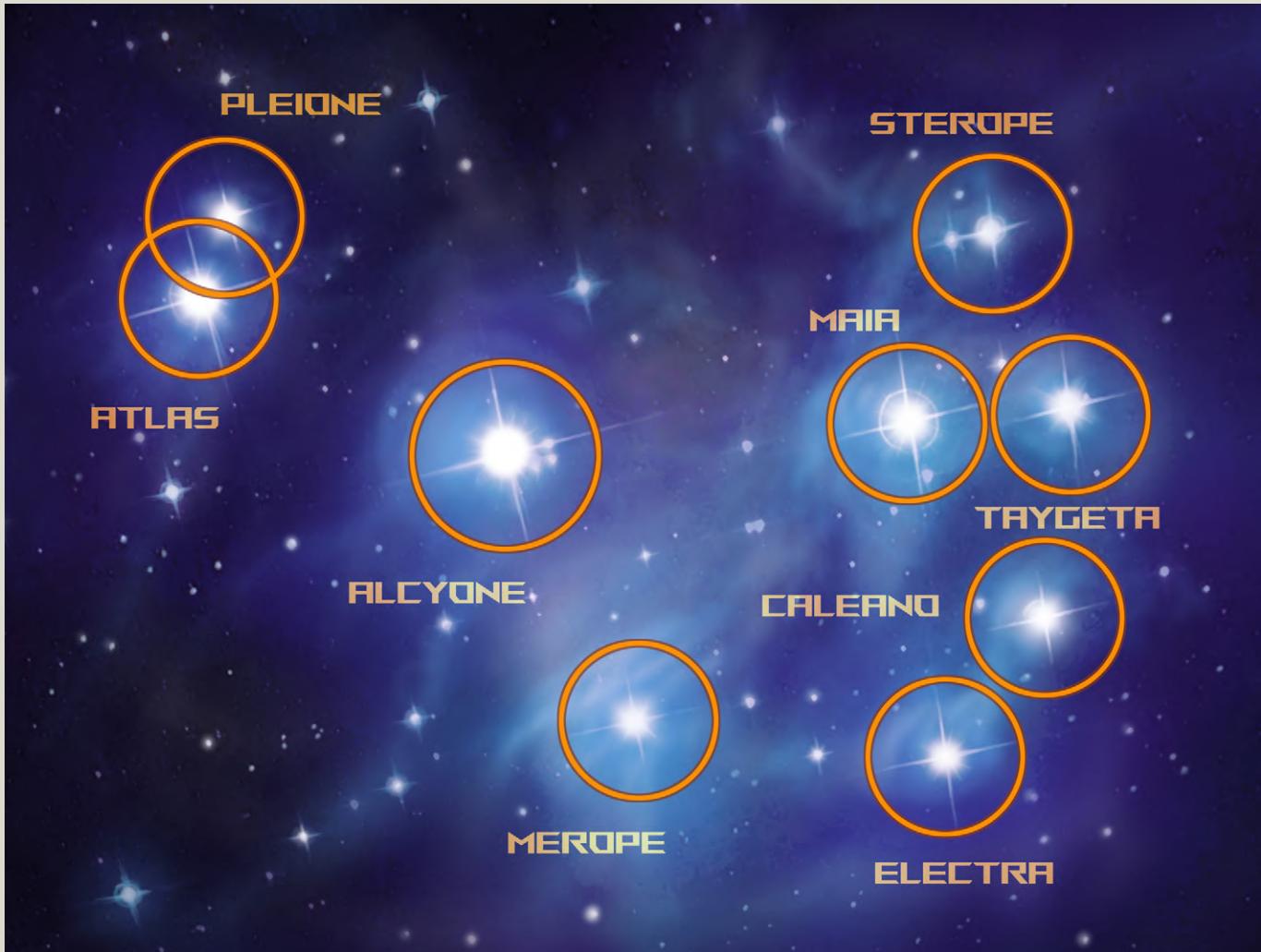
Distance (CMD) and BPC numbers are discussed in The Mission (see page 22). Referees can freely move or remove any of the Interludes or Adventure Seeds without affecting the main thread of the campaign. Interludes and adventure seeds can be substituted for the referee's own adventures. The referee can also add additional interludes between those listed below, using the MET, CMD and BPC values as guidelines.

Interludes six, seven and eight form a short mini-campaign and should ideally be run together, one after the other.

Bayern Campaign

Chapter Title	Encounter Order	MET	CMD	BPC No.
Departure		55	84	n/a
Interlude 1 – The Wanderer	1	64	100	BPC230341
Plot Point 1 – The message drone	2	92	143	BPC232004
Interlude 2 – Death Throes	3	108	167	BPC233406
Plot Point 2 – The first crossing	4	113	175	BPC235143
Interlude 3 - Messenger	5	160	248	BPC239134
Adventure Seed – Derelict	6	231	356	BPC244142
Adventure Seed – Disaster	7	335	517	BPC247180
Interlude 4 – Cold	8	594	916	BPC247955
Plot Point 3 – The Daughters of Atlas	9	653	1007	BPC253762
Plot Point 4 – The Weeping Sisters	10	1036	1597	BPC258105
Interlude 5 – A Long way from home.	11	1039	1601	BPC259979
Interlude 6 – The Relic	12	1134	1748	BPC260050
Interlude 7 – Tides of Blood	13	1143	1762	BPC260379
Interlude 8 – The Raiders	14	1147	1788	BPC260697
Adventure Seed - Aldebaran	15	1200	1849	BPC261958
Plot Point 5 – The Gambit	16	1274	1964	BPC262078
Plot Point 6 – The Return	17	1312	2022	BPC262566

THE PLEIADES



Nebulosities

Several of the brightest stars within the central cluster are embedded in swirls of nebulosity: hazy patches of dust. The clouds glow a frosty blue-white by reflected light. Long, photographic time exposures show strands and smudges of the nebula throughout the cluster's central regions. The clouds are most pronounced around Maia, Merope, and Electra. The nebulosity appears to be aligned in parallel, slightly curvy streaks, giving the appearance of high altitude cirrus clouds on Earth.

The Merope cloud has an area of approximately 2x3 light-years and is catalogued as NGC 1435. It was previously believed that the nebulosity was a remnant of the nebula from which the stars of the Pleiades formed, however observation has revealed that the stars are in fact passing through two separate clouds of gas and dust and it is the radiation pressure of the stars passage that has shaped the cloud into the wispy streaks and bands that so resemble earthly clouds.

The Pleiades have long been a source of wonder and inspiration to humans who observe them in the fall and winter skies of Earth. The name is probably derived from the Greek *pleios*, meaning “many,” though a more romantic tradition holds that the name is derived from *pleie*, “to sail,” an indication that the Pleiades’ rising marked the beginning of the safe months for navigation in the ancient Mediterranean. They are visible as a fuzzy patch on the back of Taurus, the constellation of the bull. Individuals with sharp eyes can make them out as six, eight or more closely spaced stars arranged in a shape sometimes called “the Little Dipper,” though that name is properly reserved for the stars of Ursa Minor. When Charles Messier assembled his catalogue of deep sky objects not to be confused with comets, the Pleiades were 45th on the list, and so are also known as M45.

Ancient myth and legend is rich with lore about the Pleiades. In Western tradition, they were the seven daughters of Atlas saved from the amorous pursuit of Orion by being transformed into a flock of pigeons by Zeus. One persistent tradition drawn from myths on both sides of the Atlantic links their midnight culmination in mid-November with the sinking of lost Atlantis. The brightest of the Pleiades have been given the names of Atlas and his daughters. In order of brightness, they are Alcyone (pronounced “al-SIGH-oh-nee” and also known as Eta Tauri), Atlas, Electra, Maia (MY-uh), Merope (MER-oh-pee), Taygeta (Tay-jeh-tuh), Pleione (PLE-ohnee), Celaeno (Si-LEE-no), and Asterope (A-STER-oh-pee). The name Pleione does not figure in the original myth, but is probably drawn from the Greek word for “full” or “many”.

The Pleiades have, since antiquity, been numbered at seven, which has given rise to a minor astronomical mystery. Earthbound observers can usually make out either six or eight stars in the group, due to the fact that eyes good enough to spot seven stars are good enough to see eight. This has given rise to the legend common among the astronomical lore of cultures all over the world, of the “lost” Pleiad - a member of the cluster which must once have been brighter than it is now. Greek myth suggests that the missing Pleiad is Electra, who fled when the city of Troy, built by her son Dardanus, was burned. A modern theory holds that Pleione, known to be a variable possessing a shell of gas thrown off by past eruptions of its surface, may once have been slightly brighter and hence visible to human eyes unable to make out Celaeno, the next dimmer star of the cluster.

COSMOLOGY

The Pleiades comprise an extremely young star cluster. Unlike the huge, ancient and well-known globular star clusters (such as M13 in Hercules), M45 is an open star cluster - a family confined to the galaxy’s spiral arms and representing some of the galaxy’s youngest stars. The cluster’s individual stars condensed out of the dust and gas of a stellar nebula beginning approximately 75 -150 million years ago, while the brightest members of the cluster, those visible to the naked eye from Earth, are only about 20 million years old.

Although the unaided human eye can make out only a handful of the cluster’s brightest members from Earth, even a small, wide-field telescope reveals hundreds of stars in a region nearly seven degrees across - 14 times the apparent width of the Moon. About 1500 stars are linked to the cluster’s family by their shared motion throughout the galaxy, all occupying sphere 40 to 50 light-years across. The nine brightest stars form a visible asterism of the Seven Sisters, but are actually distributed across the width of the cluster, being some 70 Ly apart in some cases of the cluster. None of the brightest stars are expected to possess planets, of course. All are of spectral class B or Be and far too big, too hot, and too young to have evolved planetary systems, though signs of planetary disks comprised of asteroids (chunks) and belts of dust and debris have been observed around at least a dozen of the stars in the core of the cluster alone.

The cluster contains other stars than B-class giants, including every main sequence spectral type down to class Y and T brown dwarfs, which may form up to a quarter of the total mass of the cluster. No members of the cluster are old enough to have formed worlds with ecosystems of their own. The mission leaders are aware of the possibility that older star systems, possibly systems possessing Earth-like worlds, may exist within the boundaries of the cluster, and the discovery and surveying of such systems is one of the primary objectives of the *Bayern* expedition.

WHY GO?

The sponsors of the *Bayern* expedition have several motives for exploring the Pleiades, and most of these reasons will be known to the player characters before they embark on their mission. Actually, the reasons for the mission are less clear to the general public; it is important to the AR-I to encourage public support without boring them with details. These reasons are summarized on page 9.

Appearance

The view from anywhere within the cluster is spectacular. From within the central core of the cluster, all 10 of the brightest stars would appear brighter than Venus when at its brightest as seen from Earth. At least 50 other stars would be as bright as or brighter than Sirius, and the naked eye would be able to make out the streaked and filamentary traceries of the nebulae. The brightest stars rotate quite rapidly on their axes, and from close up, all would show distinct flattening at the poles. Pleione, especially, would offer a dramatic sight to explorers. Rotating 100 times more rapidly than Sol, it would appear almost saucer shaped, embedded in a disk of hot gas thrown off in much the same way as water from a lawn sprinkler jet. Many of the Pleiades are multiple stars. Asterope consists of two widely separated stars. Alcyone and Taygeta are extremely close spectroscopic binaries, and many of the lesser stars are double, triple, or even quadruple systems. Everywhere the players look in the Pleiades, they will see fantastic, beautiful and astounding sights.

Because It's There

The Pleiades represent an easily described and easily popularized goal: the centrepiece for an expedition, which will gain widespread media exposure for the *Bayern* and the various corporate groups and industries that built her. This is similar in concept to a sports equipment company paying an athlete to compete in a widely broadcast event while wearing or using that company's equipment replete with highly-visible corporate logos. "First carried aboard the *Bayern* in her epic voyage to the Pleiades" is likely to be a popular and powerful sales pitch to the purveyors of *Kenntnis* landers and orange-flavoured, reconstituted breakfast drink.

Because it is a Long Way Away

450 light-years is a much longer voyage than any made by man heretofore. With the Pleiades as a target, *Bayern*'s newly designed stutterwarp drive system will get a thorough testing. Success will popularize the concept of long-range, deep galactic exploration, as well as provide Trilon, the drive manufacturers, with the invaluable advertising of their product as described above.

Because the Cluster is Young

M45 is the closest open galactic cluster which is in an extremely early stage of its evolutionary development. The Hyades are closer (130 light-years) but at least four times older, with few B-class giants and numerous white dwarfs. *Bayern* will visit them on her return trip. Cosmologists interested in the evolution of stars, the creation and aging of clusters, and related galactic processes would like a close look at a number of the Pleiades members. It is expected that numerous stars within the cluster are in the process of accreting planetary systems of their own, giving scientists a close look at planetary genesis. Also, astronomers would like a close look at, and precise measurements of, the nebulosity surrounding the cluster's central stars, as well as observations of the magnetic fields and radiation pressures which are shaping them.

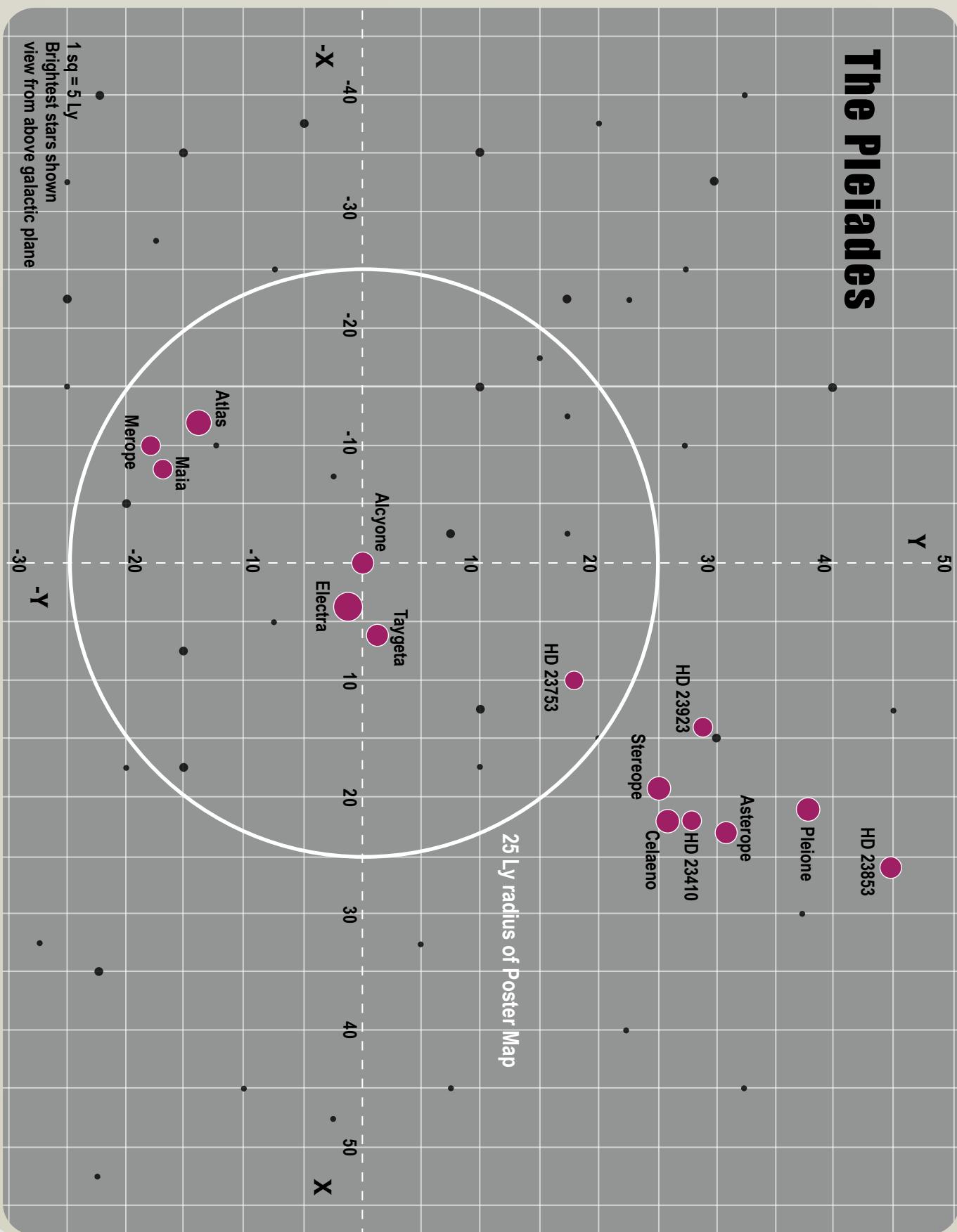
Because There are Stars About to Explode

The youngest, hottest members of the Pleiades have reached the point in their evolution where they will begin throwing off large amounts of mass in successive outbursts or as supernovae (indeed, Pleione may already have begun this process). Cosmologists interested in how stars evolve and die are anxious to observe the process close up. Instruments placed in orbit around several of the brightest stars, coupled with close-range observations of those stars, will tell us much about stellar evolution.

CODE AGRA

There is also a top secret motive for voyaging to the Pleiades. This motive is expounded on in the section of this module entitled The Daughters of Atlas. It is left to the referee's discretion whether the player characters know about AGRA before the mission departs Earth, whether they are informed about AGRA en route, or whether they learn of AGRA on their own later in the mission. While en route to the star cluster, a number of minor mysteries will come to the attention of *Bayern*'s cosmologists. These include unusual shifts in the spectra of Alcyone, Maia, and Pleione, gravitational anomalies in the form of unusual gravitational waves apparently emanating from around Merope, Maia, Alcyone, and Electra, and, possibly, inexplicable increases in radiation flux and bursts of radiation at radio and infrared wavelengths.

The Pleiades



COSMOGRAPHY

A map has been provided below to show the relationship of the brightest stars within the core of the Pleiades to one another. The map shows the core area in with a scale of 1 square = 5 light-year scale, viewed from an angle looking "down" on the central portion of the cluster from above the galactic plane. In terms of the X, Y, and Z axes, the map shows the X-axis running left to right and the Y-axis running up and down. The Z axis is above and below the page and is not represented herein. Earth is to the "southwest", being in the direction of both negative X and Y.

The map does not show any of the approximately 1500 stars associated with the cluster. Those stars included on the maps are the brightest, hottest members of the cluster, and consequently, those of special interest to the *Bayern* expedition. The other stars of the cluster can be mapped by either the referee or the players, and a poster map is included showing the stars within 25 light years of Alcyone. A large number of these are listed as IRS for Infra Red Source stars. These are stars that have not had detailed studies completed, so can be considered as unknown stars ready for the crew of *Bayern* to discover. The majority are likely to be small M class stars or Brown Dwarfs, though smaller K and G class stars are possible.. Part of *Bayern*'s mission is the discovery and mapping of all of the stars within the cluster. This, obviously, does not mean the *Bayern* must visit each system, though many will be stutterwarp stops along her journey. Details of her stellar surveys are covered in further detail in the Daughters of Atlas encounter.

The principal stars of the Pleiades are listed on the Pleiades Main Stars table, together with their spectral types and X, Y, and Z coordinates on a three-dimensional map centred on Alcyone.

Planetary Information

Before they set off on their mission to the Pleiades, the player characters of the *Bayern* mission should all be aware that it is not expected that they will discover planets in the cluster. The stars of the Pleiades are too young (and the principal members too large and hot) for planets much less for the evolution of the life forms required to convert a poisonous, pre-biotic world into a habitable, Earth-like world. It is possible that older stars, some possessing Earth-like worlds, might exist within the boundaries of the cluster. The discovery and survey of such systems would be of additional value to the *Bayern* mission sponsors, and the possibility of discovering such worlds is one reason that the *Bayern* is equipped with a small flotilla of interface capable starships, space planes and landers. However, once she reaches the cluster, the primary mission of the *Bayern* is to survey the cluster as a whole and to make astronomical observations of the cluster's stars - not to discover Earth-like worlds.

Each unit on the X, Y, or Z axes represents 5 light-years. The distance between any of these stars can be determined by using the formula:

$$D = \sqrt{(X_1 - X_2)^2 + (Y_1 - Y_2)^2 + (Z_1 - Z_2)^2}$$

For example, the distance between Atlas and Electra is:

$$\begin{aligned} & \sqrt{(-12.437 - 4.242)^2 + (-14.383 - -1.190)^2} \\ & + (-8.805 - 0.665)^2 = \sqrt{275.96 + 174.06 +} \\ & 89.68 = 23.23 \text{ Ly} \end{aligned}$$

Name	Spectrum	X	Y	Z
Alcyone	B7III	0.000	0.000	0.000
Electra	B6IIle	4.242	-1.190	0.665
Taygeta	B6IV	5.532	1.711	4.834
Maia	B8III	-8.206	-17.193	-6.522
Atlas	B8III	-12.437	-14.383	-8.805
HD23753	B8V	10.319	18.490	3.909
Merope	B6IV	-9.782	-18.200	-10.349
HD 23923	B8V	14.282	29.041	11.097
Sterope	A0Vn	19.424	25.182	17.738
HD 23410	A0Va	22.189	28.612	8.104
Celaeno	B7IV	22.793	26.315	17.001
Asterope	B8V	23.139	30.346	20.867
Pleione	B8V	20.941	37.671	19.512
HD23853	F5	26.298	45.392	-0.383



MAPPING STARS

The maps included in the section of this module entitled The Pleiades Star Group show only the brightest and most important stars in the cluster. There are approximately 1500 more stars, scattered across a spherical region of space 40 to 50 light-years across. The referee is responsible for determining the locations of the other stars as they are needed. Obviously, Bayern does not possess the resources or personnel to visit every star. The Pleiades possesses a full range of stellar types and classes, from the B III giants listed, to the far more common G, K, and M-class type Vs. Basically, the referee is free to make up the location of stars within the cluster as he goes along, subject only to the following rules:

- All stars properly belonging to the cluster are quite young. They are either devoid of planets or possess families of barren, airless, and meteor-impacted masses similar to the Earth's moon, and orbit within flat disks of dust and meteoric debris. Very few stars encountered will not be cluster members, but will happen to occupy the region through which the cluster is now passing. These stars are as likely to possess planetary families as are other, non-cluster stars. It is possible to determine from as far as 50 light-years away whether a star is young and probably lacking planets, or old, with its own planetary family.

- Cluster stars will be relatively few and far between at the outer edge of the cluster and quite thickly strewn at the inner heart. On the average, stars at the outer boundaries will be seven light-years apart. In the inner core of the cluster, among Alcyone, Maia, and the other B giants, stars will average one light-year apart. There will always be a selection of stars of various spectral types within a 10-light-year range of any point within the cluster.
- Stars which *Bayern* or her probes visit can be mapped at the referee's discretion, allowing the characters to return to sites visited earlier. Use X, Y, and Z coordinates, basing new star coordinates on the map provided for the inner cluster, with Alcyone at 0, 0, 0. These coordinates will allow the players to determine distances between cluster stars.

It should be remembered that mapping the exact location of every star in the cluster is the CHARACTERS job, not necessarily the PLAYERS. The referee should use his discretion when deciding how much stellar cartography the players will be happy with. It is not necessary for the completion of the campaign to plot the position of any additional stars if the players are not so inclined. Knowing that there ARE many more stars should be sufficient for those groups who do not wish to undertake an extensive set of star system design. The referee may also wish to make use of any number of computer programs which will automatically generate star systems. Many can be customised to skew stellar populations, as would be appropriate for a cluster like the Pleiades with its multitude of young, hot stars.

THE MISSION

Bayern's mission has many objectives beyond the ultimate goal of surveying the Pleiades. She is carrying some of the brightest minds from all over human space and has been equipped with the most sophisticated equipment available. Her journey will take her beyond the farthest reaches of human-explored space, and her crew will be expected to take every opportunity to further humanity's understanding of the cosmos.

Her five primary, public objectives are:

1. Explore the Pleiades

The reasons, both overt and covert, for exploring the majestic star cluster are described in greater detail under their own section, The Pleiades on page 7.

2. Investigate changes in the interstellar medium beyond the Local Interstellar Cloud

Bayern will be travelling into an area of space which is expected to have a markedly different composition of the interstellar medium (ISM) from local space. The ISM is the particular mix of gas, dust and radiation that exists between the stars and most of human explored space lies within a cloud of thickened medium known as the Local Interstellar Cloud. *Bayern* will be passing beyond this region into an area expected to have a markedly different composition, known as the Local Bubble.

Bayern will then pass through several more changes in the ISM before her eventual arrival at the Pleiades. Study of the changes in the ISM and the effect on communications, observation and especially stutterwarp travel will form a key part of *Bayern's* journey.

3. Survey for life

Humanity has always looked to the stars and wondered 'are we alone?' We have created equations to try and calculate how many other civilisations there were amongst the stars, and then explanations for the paradox of why we had not discovered them. The meetings with the Sung, Xiang, Eber, Pentapods and Kaefer have shown us that the galaxy does contain other sentient life, and humanity has become a member of a galactic civilisation. One of *Bayern's* primary objectives on her trip to the Pleiades is to search for

other alien species and civilisations. Any possibility of alien civilisations is to be thoroughly investigated and, if possible and judged to be safe, contact attempted.

4. Assess and evaluate potential planets for colonisation

As well as a purely scientific venture, the AR-I recognises the value of the survey information it will bring back. Trilon has partnered with the AR-I and donated a great deal of valuable equipment and expertise in order to get a first-look at the survey data. Whilst the AR-I themselves do not expect to be profiting directly from the information, they recognise the value and importance it holds for governments, foundations and corporations back in human space.

5. Investigate the effects of long-term human space travel in an unsupported environment

Although humanity has been travelling through the stars for centuries, no mission has ever had the scope for long distance travel in such an isolated manner as *Bayern*. There are no space docks or hospitals to repair and treat *Bayern* and her crew should anything go wrong. Although the mission contains ample supplies, they will run out eventually and have to be replaced. Certainly fuel and raw materials for the five year mission will need to be gathered along the way. As well as being self sufficient, the health and wellbeing of the crew will be closely monitored throughout the mission to observe the long term effects of space travel.

The referee can add background texture to the adventure by referring to these objectives as the mission progresses. The exploration of the Pleiades and the mysteries discovered there is the focus of its own encounter, but Travellers will overhear the scientists aboard *Bayern* discussing the other topics of interest.

The changes to the ISM will not provide any startling new insights into stutterwarp travel, nor will *Bayern's* drives or performance seem to be noticeably affected by the changes in the medium as her journey

progresses, but the astrophysics department will nevertheless be thrilled by the observations and samples they obtain. The gasses in the lower density areas that *Bayern* travels through tend to be hotter, and thus have higher energy states. The expected changes in the rate of charge of stutterwarp coils due to annihilation events with the ISM are therefore no different in low-density areas than in higher density. There is less annihilation, but the particles involved tend to be of higher energies. The expected link between stutterwarp range and the density of the ISM is thus – to the engineers' and scientists' consternation – neither proved, nor disproved.

Interactions with alien species form several of the interludes but it will become apparent during *Bayern's* journey that life is far sparser amongst the stars than the relative density around Earth would suggest. In the 50 light-year sphere around Earth there are six sentient civilisations that humanity is aware of, yet on the circa 1,000 light-year round trip to the Pleiades the *Bayern* will either encounter or find evidence of only a handful.

This is an unusual and troubling discovery as extrapolation of the local population density to the whole galaxy suggested that there should be hundreds of new civilisations. Xenobiologists and sophontologists will be left wondering if there is something special about the systems near Earth that causes this clustering of civilisations, or if there is instead perhaps something preventing them developing in the wider galaxy. Discussions regarding the lack of life in the *Bayern* corridor will begin quite soon after the visit to the Vitruvian homeworld and by the time *Bayern* has reached the Pleiades and it is clear that there is a significant difference in population density, many of the scientists will have begun discussing the possible causes for such a difference.

The criteria for what makes a planet suitable for colonisation can vary widely. Many of the systems that *Bayern* passes through will have at least one body that will be flagged for further study, be it because of favourable conditions, a scientific curiosity or a potentially valuable resource. However, the discovery of a true 'garden' world is always cause for discussion, even though worlds like Beta Canum and Tirane are in the minority. In the early stages of the mission the more Earth-like the world discovered, the greater the buzz will be. However, as the journey progresses and the number of systems discovered rises into the thousands, a certain amount of familiarity will begin to creep in, and it will take a truly intriguing or spectacular world to spark the crew's imagination.

The mission's ability to remain self sufficient will be proven early and often. Using *George Bauer* as a repair tender and mining ship will prove to be very efficient. Supplies of fuel and materials will rarely be problematic, as most systems *Bayern* visits have raw materials that can be mined. Even the smallest of asteroid bodies usually has far more raw material than *Bayern* could use in her entire mission. As the mission progresses, scientists and engineers will also develop new and innovative solutions to problems that crop up, for instance creating plastics from perchlorate contaminated soil by extracting chlorine to make PVC and recombining this with the soil to make a strong building material.

The only real disappointment will be the performance of the carniculture vats. Many of the crew will have opted to adopt a mostly vegetarian diet rather than consume the rather unpalatable and unpopular artificial meat substitutes, despite many creative and imaginative attempts to make the fake meat more appetising. The AR-I's *Bayern Cookbook* will nevertheless be inevitably popular, even if the recipes bear only a passing resemblance to the actual meals eaten.

STANDARD OPERATING PROCEDURES

Cryonics

Bayern is equipped with the very latest in cryogenic hibernation systems. She is equipped with 178 non-vitrifying cryonic suspension units which use a special fluid known as an oxygenating cryoprotection buffer. This fluid, plus the gradual cooling and thawing, helps to prevent both cold damage to tissues directly, through the formation of ice crystals, and tissue damage due to restricted blood flow, known as ischemic trauma. Chilling and freezing times are extended to prevent rapid formation of ice crystals within the cells, and the buffer prevents intra-cellular damage as well. Because the process is not foolproof the medical team will always take extra time when freezing or thawing a crewmember, and prefer not to revive frozen crewmembers for trivial reasons. Doctor Bernhardt, as chief medical officer, always has the option of vetoing the thawing of a crewmember if he believes the reason is unsound.

Chilling and cooling each take around 24 hours and require an Average (8+) Medic check (1Dx8 hours, INT). The difficulty of the task, along with the sophistication of *Bayern's* medical systems and expert

programs results in an overall DM+2. A marginal failure indicates the process has to be aborted but can be attempted again 24 hours later, with no detrimental effects. An average failure indicates the patient suffers from cryonic induced ischemia. The patient suffers dice of damage equal to the Effect divided by two, rounded up. The chilling/thawing attempt fails and can be attempted 24 hours later. A significant failure (-6 effect) indicates a medical crisis. If frozen, the patient has to be crash-thawed. If chilling, the process is abandoned. The patient immediately takes 3D damage and must pass an Average (8+) END check. A failure requires them to roll on the Injury table in the *Traveller Core Rulebook*, page 49.

Flotilla Operations

The *Bayern* mission primary goals are set out on page 13. Captain Schmidt has a wide degree of latitude in his choice of route and the pace at which he advances those goals. The unique, multi-ship nature of the *Bayern* flotilla means it is capable of conducting both a broad range of investigations along the route to the Pleiades, or can remain coupled and make best speed directly to the distant start cluster.

In a situation where *Bayern* is taking a more leisurely pace the flotilla will be split up. *Anton Dohrn* will survey a likely system ahead of *Bayern*'s route. These systems are usually picked well in advance using readings previously collected during *Bayern*'s transits. *Anton Dohrn* will warp into the system and then spend some time, up to a week, transiting the system and cataloguing interesting finds for *Bayern* to investigate further. At the end of the week, *Bayern* will enter the system and begin her drive discharge. The crew will convene a mission board and the results of *Anton Dohrn*'s surveys and any likely exploration objectives for *Bayern* will be discussed. *Anton Dohrn*'s next objective will then be decided and the pathfinder ship despatched.

Bayern will then proceed to survey the system, paying particular interest to any of the items that the crew of the *Anton Dohrn* deemed worthy of further investigation. Planetary probes and the *Entdecker* encounter craft may also be used to investigate. Under normal circumstances, the mission board will have agreed the next rendezvous and as this time approaches *Bayern* will collect her charges and warp on to meet with *Anton Dohrn* again in the next system.

If *Bayern* finds anything of particular interest or encounters a problem that will delay her, she has several options. Firstly, the *Telegrafiern* message drones can be used as couriers to transmit messages between star systems and can be sent to

rendezvous with *Anton Dohrn* to deliver new instructions. They can be considered disposable, as *Bayern* is able to construct more using her autofactories and resources collected by George Bauer and her asteroid mining drones.

Secondly, *Entdecker* can also be used as an interstellar courier vessel if required. Finally, a timetable is established and procedures agreed for rendezvous in the event that no communication is received. Likewise, if *Anton Dohrn* encounters a threat or situation that forces them out of the system then a protocol for ensuring that *Bayern* is advised before she enters the system is also in place, usually involving a simple radio buoy with a coded message.

Anton Dohrn is also equipped with grapples capable of carrying one of the drone sub-craft whilst under stutterwarp. This facility can be used to allow two craft to survey a system, or allow *Anton Dohrn* to use the grappled craft as couriers to return information to *Bayern*.

Quarantine and Contamination of Alien Worlds

The Melbourne Accords set out many of the treaties regarding space exploration. They have strict guidelines regarding the possibility of contaminating alien biospheres and transmission of possible alien contamination back to Earth. The Orbital Quarantine Control strictly enforces these guidelines in an attempt to keep the biosphere of Earth free of alien contamination.

Keeping other worlds free of human contamination is less strictly adhered to. Whether it is the constant influx of humans, livestock, pets and plants or the import of earthworms and nematodes to seed alien soil for human crops, humanity has fallen far behind the original principles of space exploration that required probes to be baked sterile before they could land on even the most hostile world.

Nevertheless, the AR-I was keen to ensure that the *Bayern* mission had as little impact upon the worlds she would be visiting. They also sought to ensure that *Bayern* and her sub-craft could return to Earth with as little risk of contamination as possible.

To this end, the bays and hangars for *Bayern*'s sub-craft and planetary probes are equipped with a dry heating system that allows the craft to be sterilised between missions. A constant, dry heat is applied for several hours at levels that, theoretically, should kill

any alien microbes or bacteria. In addition, *Bayern* is able generate a hydrogen peroxide plasma that can hug the surfaces of the probes and sub craft and has proven to be remarkably effective at decontamination.

Entdecker is obviously too large to dock in any of *Bayern*'s hangers, so cannot be baked in the same way as the *Reisende*, *Orkan* or *Kenntnis*. However, *Bayern*'s forward grapples do contain the equipment necessary to generate a conformal hydrogen plasma field, which allows *Entdecker* to be decontaminated whilst grappled to *Bayern*.

Under most circumstances *Entdecker*'s crew undergo quarantine assessment aboard ship before transiting back aboard *Bayern*. If necessary there are sufficient quarantine suites aboard *Bayern* to house *Entdecker*'s crew, but in the event of a possible contamination, it is more likely that *Entdecker* herself would be isolated before docking with *Bayern*. Decontamination of ground teams from the *Orkan* or *Kenntnis* craft is conducted using the quarantine suites in the forward hull.

Remote Exploration

Bayern's fleet of robotic probes are designed to extend the reach of her human explorers, not replace them. Although the robot brains within the probes are specially tailored to their tasks with sophisticated decision making capability, they cannot replace a human explorer.

The *Reisende*-class interstellar probes are capable of transit to a single system, plotting a 'grand tour' course and cataloguing worlds. They are programmed to look

for certain key signatures; worlds with evidence of a biosphere, especially a biosphere capable of supporting human life; worlds with evidence of present or past volcanism that could indicate valuable mineral deposits; worlds with evidence of current or past intelligent life, such as radio emissions or atmospheric pollutants. During a tour of the target system, the *Reisende* will build a catalogue of data that can be analysed by *Bayern*'s teams of scientist upon its return. Indeed, a lot of the work of the science team is in analysing remote data recovered from *Reisende* and *Suche* probes.

The *Suche*-class remote landers are usually deployed directly from *Bayern* into the local system and not normally sent on interstellar missions. Although they are capable of interstellar flight, the sensor systems are geared towards orbital surveys and surface exploration, and the probes have performed poorly in previous interstellar missions. In most cases they are used to extend *Bayern*'s reach in whatever system she is in.

The landers are naturally designed to interact directly with the surface of alien worlds and have a small set of sample return containers on board. These sample containers can be extracted from the probe in a sealed transport unit for delivery to *Bayern*'s environment labs. The probe bays also contain specialist equipment to use radiation sweeps and high temperatures to sterilise the probes between missions – keeping *Bayern* free from contamination and avoid spreading contamination between alien worlds.

Bayern also carries a stock of small, simple, short-range *Kolkrabbe* inspection drones. Typically four to six of these are deployed around *Bayern* whenever



she is not under stutterwarp, used for a variety of tasks including assisting with remote repair work, remote observations, providing additional pairs of eyes and moveable lights for EVA teams or to assist in docking operations. These drones have a maximum range of around 500 km.

Science and Research

Bayern is fully equipped with multiple suites of scientific sensors and advanced navigational and detection sensors equivalent to a full military sensor system. There are multiple sets of most survey systems so that scientists can study more than one subject at a time. Her computer systems also feature improved signal processing software and Expert programs to support data gathering and sensor tasks. The advanced DSS grants DM+5 to checks to survey a system. The survey sensors quality, signal processing and expert systems confer DM+4 to any Electronics (sensors) tasks. Various checks for common Electronics (sensors) tasks can be found on page 32 of the *Aerospace Engineers' Handbook*.

Her laboratories are designed to be general science labs but there are also specialist dedicated labs with equipment for every speciality. In addition, *Bayern* has a dedicated science computer core which is loaded with Expert systems for each speciality along with advanced data manipulation tools. The sophistication and enhanced facilities aboard *Bayern* provide DM+4 to Science checks.

Throughout the campaign there will be notes on specific scientific discoveries that can be made, and the referee should reward Travellers for recognising other opportunities for general scientific progression. The referee can further introduce additional background colour by describing, or asking the Travellers to describe, other background research projects they are undertaking alongside the events of the plot points and interludes.

Mining Operations

Although *Bayern* has ample fuel in her fusion reactor for the anticipated duration of her mission, many of her sub-craft rely on processed hydrogen fuel for their operation. Even the efficient fuel cells used in the drone ships require topping up from time to time. Likewise, although *Bayern* begins her mission with ample supplies of raw materials and spare parts, her autofactories will eventually need to be resupplied, especially if the mission suffers losses among the remote vehicles.

The *George Bauer* has the dual role of being the flotilla's ice and rock miner as well as being a repair tender. Under normal circumstances she will detach from *Bayern* as the ships enter a new system and make for any bodies that *Anton Dohrn* has identified as being a good source of fuel or raw materials. Typically this will be asteroids, ring systems or long period comets in the Oort clouds. Because many of the bodies that the *George Bauer* may be visiting are in deep space and may not be massive enough to generate gravity well of sufficient power to discharge her stutterwarp, she may pause with *Bayern* first to ensure her drives are fully discharged before beginning mining. Likewise, she may often have to return to the rendezvous point early to discharge her drives before setting off with *Bayern* to the next system.

George Bauer's reaction drives are also important for mining operations as the stutterwarp drive imparts no actual velocity to the ship, and the *George Bauer* is required to match course and velocity with the asteroid or comet before mining can begin. *George Bauer*'s objectives are firstly to secure and process water ice into hydrogen to keep the *Bayern*'s reserves topped up, and secondly to acquire minerals and raw materials for *Bayern*'s autofactories.

Bayern's full load of hydrogen fuel, including reserves for sub-craft, secondary power plant and thruster fuel, are just over 800 tons. The *George Bauer* can typically deliver this in four full loads, but a situation where *Bayern* had completely used up all of her fuel reserves would be rare indeed. Usually *George Bauer* will be topping up fuel reserves and gathering useful minerals. Working at full capacity the mining drones can usually accumulate 200 tons of ice, a full load for the *George Bauer*, from a reasonably rich C-type asteroid or comet in a day. The *George Bauer*'s fuel processor will typically begin breaking down the ice as it is brought aboard, but will usually leave the bulk of the actual processing to *Bayern*'s higher-capacity system.

When prospecting for raw materials *George Bauer* will target metal-rich M-type or stony-iron S-type asteroids. Mining from these asteroids takes longer, as the geology of the body is usually more complex than an ice asteroid or comet and the materials harder to extract. Around 200 tons of useful ore – a mix of the resource to be mined and waste rock – can be extracted per day and will need to be processed by *Bayern*'s autofactories before it can be used. The actual yield of useful material from the ore varies by mineral and may be as high as 80% for common materials like iron and nickel or much less than 1% for rare materials such as tantalum, platinum and gold.



Mission Board

Although Captain Schmidt is the leader of the *Bayern* mission, most decisions are made through discussion in the mission board. The board consists of the captain, first officer, chief scientist and any heads of department necessary, chief medical officer, chief engineer, groundside security officer and the captains of the three flotilla vessels, if the ships are present.

Regular mission board meetings are convened to discuss the current objectives, ship status, course proposals, progress or breakthroughs in the science department, updates on previous actions and any other business. Assignments for the flotilla ships and interstellar probes are also discussed and agreed, and any proposed changes to the crew roster by chilling or waking hibernating crew are discussed.

Scientific decisions, such as which sensor system will be allocated to study a certain star system, are usually left in the hands of the chief scientist. Decisions on *Bayern*'s path are made by the captain in conjunction with recommendations from the chief engineer and science team. Tasking for the other flotilla craft is the responsibility of the 1st officer, the captains of those

Running a Roughneck Adventure

Although the focus of the *Bayern* campaign is on exploration, as a change of pace a referee may choose to set one of the chapters aboard the *George Bauer* during a routine ice-mining operation. The ten MERV robots working together can extract 1Dx10 tons of raw material per day and each of the two HERC robots another 1Dx10 tons. If mining water ice these figures are doubled. This means each day of mining operations will typically process 3Dx10 tons of raw materials and 6Dx10 tons of ice. The referee may choose to request a Profession (belter) or Electronics (remote ops) check, with exceptional successes granting richer yields and failures resulting in lower yields or potentially damage or destruction of the mining robots.

Asteroid and comet mining is a dangerous business, however, and the referee can use this as an opportunity to introduce challenges into the adventure. Not all asteroids are solid structures and many comets are especially fragile. Mining operations could easily lead to the disintegration or fracturing of a body, potentially risking damage to the mining robots or even *George Bauer*. Trapped pockets of volatile gasses, unexpected out gassing, fissures and voids are all potential hazards that deep space roughnecks face.

craft and the head of science. The captain and chief medical officer have a veto on any decisions and the groundside security officer has a veto on any missions which he feels may be too hazardous.

The mission board is a convenient way for referees to let Travellers have a direct hand in the conduct of the whole mission, without having them play the *Bayern*'s senior staff. Temporarily allowing them to assume roles on the mission board when key decisions are to be made allows them to be involved in top-level decision making, yet return to their regular Travellers to perform actual mission where it might not be appropriate for the captain or senior scientist to be involved.

Captain's Authority

Bayern's planners recognised that there would be times when the flotilla vessels would be out of touch with *Bayern* for extended periods, and the captains would

Ranks and Roles

Bayern, and all the vessels of the flotilla, are civilian ships and whilst there is a clearly defined hierarchy of responsibility they do not have a military rank structure. Captain Schmidt is overall commander of the flotilla but still insists on being referred to as Captain, despite his position on *Bayern*'s Masters Certificate being listed as Flottenadmiral, or Flotilla Admiral.

The masters of the *Entdecker*, *George Bauer* and *Anton Dohrn* are all listed as Kapitän im Raum or Captain in Space, indicating their subordinate positions to Captain Schmidt. The rank also has a double meaning in German, also meaning Captain in the room. The German members of the crew find it amusing to ask 'Oh, where? I do not see them?' whenever the rank is mentioned.

In reality, ranks are rarely used in day to day conversation off the bridge. Whilst the master of a vessel is on the bridge they are always referred to as Captain and upon meeting each other the four ships captains will greet each other using their titles, but tend to slip back into using their names, a much more relaxed form of address.

Diane Kamahmo is *Bayern*'s first officer and also holds the rank of Captain in Space, indicating her equivalency with the masters of the flotilla vessels but, again, she refuses to use it, preferring to be called Mate. Some crew are unsure if this refers to her position as *Bayern*'s First Mate under Captain Schmidt or the traditional Australian term of familiarity. Many suspect that this is exactly the way Diane wants it.

be required to make decisions without the support structure of the rest of the mission board. The captains of the three flotilla vessels are given wide latitude in their conduct when away from *Bayern*, but have five broad directives which they are expected to adhere to:

1. Do not allow, under any circumstances, information regarding the location of Earth or human systems to be disclosed to any alien species.
2. Maintain the safety of the ship and crew at all times.
3. Investigate evidence of sentient alien life.
4. Investigate evidence of potentially colonisable worlds.
5. Conduct routine scientific observations at Captain's discretion.

WEAPONS AND SECURITY

The AR-I has as a core principle that their vessels be non-military in nature and should not be armed. Likewise, although they recognise that the crew have a right to defend themselves from hostile life forms, it is not common practice to carry military grade weapons aboard AR-I ships. *Bayern*, however, is in a unique position. She will be travelling many hundreds of light-years from the nearest human world, and there is no backup should she or her crew have hostile encounters.

To this end there is a selection of weapons stored aboard *Bayern* and her crewmembers that will form part of the ground team are permitted to bring their own firearms aboard. Under normal circumstances crew are not permitted to hold weapons in their cabins or on their person. *Bayern* has an armoury, which contains her stock of firearms and any personal weapons may be stored there. Captain Schmidt is not expecting to engage in protracted combat and will not allow Travellers to bring their own high energy or explosive weapons aboard. He does not expect his field teams to be toting grenade launchers and plasma rifles. However, the *Bayern* does contain a stock of heavier weapons, should the need arise for them. The weapons are usually distributed out between *Bayern*, *Entdecker* and *Anton Dohrn*, as needs dictate. *George Bauer* is not expected to operate away from *Bayern* for extended periods, so her crew usually go unarmed.

Bayern's armoury contains a variety of personal armour, small arms and ammunition. The autofactories contain blueprints for supplying replacements if required and for construction of heavier, support weapons if the situation requires additional firepower. The autofactories are programmed not to produce these weapons without a senior officer's authentication.

Most weapons on board have been provided by Stracher Arms and include their Model 6 pistols, MP-67 PDW's, the M-33 pump shotgun and a small number of SK-19 assault weapons. There are also a selection of laser weapons on board including Rorrtman LK-1 laser carbines and Rorrtman LP-3 laser pistols (a license built copy of the Muller-Riviera P-3). Laser weapons are preferred for ship security as they stand less chance of puncturing the ship's hull. A selection of non-lethal weapons including Quinn Optronics Restraint Carbines, tranquiliser guns and the Stracher-Faustus CD Gas/baton round launcher are also available, along with various nets, cattle prods and batons. There are also four Rockwell 12-81 Magnum hunting rifles for especially tough opponents. Thomas Austin Ferris also has a beautifully decorated pair of Meisterwork Stracher Double Express rifles.

STARSHIP SECURITY

Directive 1 of *Bayern*'s standard operating procedures demands that the location of human systems be kept secret from any alien species. Since the disastrous meetings with the Kaefers in 2295 and their invasion of Aurore in 2298, humanity has become more wary of sending probes and missions with directions to find Earth.

The AR-I are aware that a technologically advanced, hostile, space faring civilisation could pose an existential risk to humanity, so have instituted certain safeguards to ensure that *Bayern*'s origins and the location of human systems are safeguarded.

The first of these is a multi-layered series of safeguards around the data cores on board *Bayern*. These consist of a set of the strongest possible encryption and security programs available at the time of *Bayern*'s departure. AR-I was able to negotiate with the Bundeswehr Military Intelligence Service to obtain military grade security and encryption technology. This has been applied to each of the vessels within the flotilla.

The second line of defence is to restrict the availability of information that could lead an aggressor back to the home systems. Navigational logs, astrogation systems and database information regarding the location of human worlds are restricted to only those systems where it can be safeguarded. The portacoms and data slates used by *Bayern* field teams use specially edited databases that have been sanitised of any potentially compromising material. These slates and portacoms are able to reference central databases when queried by an authorised user but if out of transmission range, for instance if left behind after a vessel has departed, they will be useless to a hostile alien.

The third level of safeguarding is reserved for a time when the vessel has been compromised. The captain, first officer and computer officers aboard each vessel have the ability to selectively destroy certain discrete elements of the ship's databanks. These elements are located separately from the main databanks and encased in tamper-proof enclosures. Within these enclosures the holographic data arrays can be physically destroyed using a combination of one-shot high energy plasma charges and directional pulse-compression EMP, the two conveniently being combined into a single device and being capable of destroying the majority of the holographic media and wiping EM signatures from any media not destroyed.

Weaponising Message Drones

Bayern's message drones could conceivably be modified to become crude guided missiles. The explosive devices contained within them are powerful enough that they could be used as a weapon against another starship, although they would likely have to be in very close proximity. Against another ship moving under stutterwarp they would be next to useless. However, against a stationary vessel, or one using all but the most advanced reaction drives, their stutterwarp would allow them to bypass almost any defences and detonate right alongside the hull. They also have sufficient payload space, if the databanks and scuttling explosives are removed, to carry one of the nuclear devices.

Tashima Matsika will begin writing her own software to act as guidance and targeting programs after the events of the first plot point. If she becomes aware of the nuclear scuttling charges she will petition the Captain to prepare a message drone to accept the scuttling charge as a warhead.

Piloting a message drone to attack a ship under stutterwarp is simply not possible. Even dedicated space missiles have to saturate multiple probability cones with laser fire to achieve a hit in space combat and a single projectile has no chance of success. However, attacking a stationary target using a stutterwarp equipped drone requires an Easy (4+) Electronics (remote ops) check (1D seconds, INT). A marginal success inflicts 1D damage, average success 3D damage and an exceptional success inflicts 6D damage. For vessels manoeuvring using reaction drives, the check becomes Difficult (10+).

If a nuclear device is used, a marginal success indicates detonation at close range, but will still inflict 2Dx2D damage and inflict 4Dx10 rads on the crew. A standard or better success indicates a contact or very close proximity detonation that will destroy any vessels of less than 10,000 tons outright and render those less than 20,000 tons inoperative.

The final level of safeguarding is the ultimate sanction, and known to only seven members of *Bayern*'s crew; *Bayern*'s captain and first officer, *Bayern*'s chief engineer, the captains of *Anton Dohrn*, *Entdecker* and *Georges Bauer* and the head of the science team. Contained within the structure of *Bayern*'s fusion power plant is a 150 Kt thermonuclear scuttling charge. The charge is small – about the size of a modern day fire-extinguisher – and yet is powerful enough to completely destroy the ship if it seems it would fall into the hands of an aggressor. *Entdecker*, *Anton Dohrn* and *Georges Bauer* are all equipped with similar scuttling charges and their captains have likewise been briefed on the presence of the devices.

The *Bayern*'s message drones, by their very nature; have to carry the navigational information on how to find their way home with them. Considerable effort has been given to encrypting and securing this information and the difficulties in ensuring a secure database almost consigned them to the scrap heap several times. However, the computerised guidance system has been programmed to destroy the drone, using a combination of the same devices used to secure the computer cores and sufficient conventional explosives to destroy the drone several times over, in the event that unauthorised access is attempted.

THE BAYERN PLEIADES CATALOGUE

A new stellar catalogue will be developed during the voyage, the *Bayern* Pleiades Catalogue. Newly discovered stars will be allocated a reference number within the catalogue as will any existing stars that are updated following the survey. Reference numbers start at BPC230001. Multiple stars in a system are given capital letter suffixes starting with 'A' for the primary. Planets in a system are given lowercase letters starting with a 'b'. Satellites of a planet are given Roman numerals after the planets letter. For instance, the only moon of the second planet of the companion star in the binary pair BPC230754 would be BPC 230754Bci; BPC 230754 for the system, 'B' for the companion star, 'c' for the second planet around the companion star and 'i' for the first moon.

The full catalogue includes many useful pieces of information on the stars observed and the unique opportunities of faster than light stutterwarp travel means that stars can be observed at several different points in their lifetimes. It is also possible to skip back to an earlier observation point if an interesting event is observed, allowing it to be observed again. Each star

may have several entries based on different observations as the *Bayern* moves at FTL speeds along its journey. For those stars with multiple entries, a decimal digit is added to the entry to indicate that the entry is one of a series; BPC 23754B.2, for instance. Only where a particularly interesting event is observed or the values fluctuate outside of expected variable patterns is a new entry created.

Where is the Star Map?

Mapping the route that the *Bayern* follows presents a number of challenges to the referee, both in terms of game play and logistics.

Firstly, our current knowledge of the stars that lie along the *Bayern*'s route is incomplete. Surveys of stars have tended to concentrate on brighter stars, since they are easier to find, so catalogues of dimmer stars are far less complete. The Pleiades cluster is estimated to have between 400 and 1,000 stars that have not been catalogued in any survey, and it is fair to assume that there are an equal proportion of un-catalogued, dim stars along the route to the Pleiades.

Secondly, the Near Star List was drawn from a star catalogue that has now been superseded by surveys that are more accurate. There is some conflict between newer data and that data in the Near Star List, which makes using current data problematic, as it may contradict established facts in the 2300AD universe.

Finally, our current best star catalogues also show that there is not a complete stutterwarp traversable route to the Pleiades, as there are many gaps of more than 7.7 ly between stars. This actually presents less of a problem for the referee, as it can be assumed that these gaps can be bridged by the un-catalogued, low luminosity stars and brown dwarfs that were presented in the first problem.

From a game perspective, the referee also has the challenge that the route to the Pleiades is *long*. Although the Pleiades are 450-500 ly away in a straight line, the *Bayern* will rarely be able to travel directly towards them. Her course will snake around in three dimensions and there will be several large detours to avoid gaps of more than 7.7 ly. Even with the addition of extra low-luminosity stars mentioned above there will still be at least one gap of greater than 7.7 ly that cannot be avoided. Just getting out of human space is a journey of nearly 100 light-years to the end of the Chinese arm. *Bayern* could easily travel 800-1,200 ly on her outbound trip to the Pleiades and an equal distance on her return.

There are also a *lot* of stops along the way. Using just the stars we currently know about, and assuming *Bayern* could make more than one 15.4 ly jump, the journey would require visits to more than 120 different systems to get to the Pleiades, and we can expect this number to increase as newly discovered stars are used to bridge the 15.4 ly gaps with shorter 7.7 ly legs. *Bayern* is also expected to take a different route on her return to her outbound journey, taking her to the Hyades cluster, the orange giant Aldebaran and potentially the nearby multiple star system, Capella.

Plotting and detailing what could be upwards of 1,000 stars for the entire journey is beyond the resources of this box set and probably the resources of most referees. Instead, two abstract indicators are used to show *Bayern*'s progress along her course: Mission Elapsed Time (MET) and Cumulative Mission Distance (CMD). These two values serve to show how far *Bayern* has progressed in terms of both duration and distance in lieu of an actual star map. Each plot point and interlude has a MET and CMD allocated to it to indicate how far along *Bayern*'s journey the event takes place.

In the case of interludes, these are suggestions only, and most can be shuffled around to accommodate the requirements of the referee's own campaign. Plot points can also be moved as long as they still occur in the same chronological order.

The addition of the undiscovered stars and the sheer volume of systems that the *Bayern* flotilla will pass through also allow referees to add systems to the journey to suit their needs. The journey will encounter almost every type of main sequence star from tiny cool brown dwarfs to supergiant A type stars. Although it is less likely that the more luminous classes of star have not already been catalogued, it is reasonable to allow the referee to add systems to the route as they feel necessary. When an encounter is required within a system, the referee can arbitrarily decide if it is a new system, or a previously detected one.

Referees can also refer to systems using their BPC notation to avoid the necessity of defining exactly which system the encounter takes place in. Knowing that an encounter is at MET D+367, CMD 567 in the F0v system BPC231298 should suffice. BPC numbers will naturally increase the further along journey the characters are.

For referees seeking to add real star details to their games, there are several available databases such as Simbad and Vizier that can be queried for stars along the *Bayern*'s path and many database engines will allow the user to specify distance, spectral type and if the system has exoplanets. The *Bayern* corridor is an arc roughly 20° across, centred on the axis to the Pleiades. Many of these databases will ask for a search target, and Alcyone is a good one. They may request the astronomical co-ordinates which are Right Ascension 03h 47m 29s, Declination 24° 06' 18".

The Route

Bayern's journey will start in the Core systems, at Earth. She will then transit along the Chinese arm to Austin's World where she will leave her tender and undergo final checks. After this her route takes her towards the Pleiades, passing through Pi3 Orionis, Ross 41 and onwards. On the outward leg there is a single gap of 12.9 ly to cross at CMD 194, just after the Vitruvian home world. Arrival at the Pleiades will be at CMD 1007, around day 653 of the trip.

Calculating MET and CMD

Ultimately, the MET and CMD are chrome for the referee to add to their campaign. *Bayern*'s supplies are sufficient to last for significantly longer than the duration of the mission and she has the ability to resupply and recycle along the way. However, Travellers and referees will find value in knowing how far they have progressed, and may wish to adopt traditions and celebrations for passing significant milestones, 1 year of mission, 500 and 1,000 ly travelled and so on.

The aggregate distance that *Bayern* has travelled so far during her mission is known as the Cumulative Mission Distance, the CMD. CMD is calculated from the departure point at Earth and *Bayern* has already clocked up 84 ly on her trip from the core to Austin's World. The CMD is abstracted from the straight line distance travelled between each of the major objectives of the mission.

Because the route to the Pleiades is not straight and meanders around, switches back and deviates away from the straight line course, each light year closer to the Pleiades will require 2.4 ly of actual travel. This also takes into account any side trips and detours to rendezvous with the pathfinder and logistics ships.

CMD = straight line distance x 2.4

Key Stages

From	To	Distance (ly)	Straight line?	Suggested MET at destination (d)	Suggested CMD (ly)
Earth	Austin's World	84	Actual	55	84
Austin's World	Alcyone (Pleiades)	385	Straight line	654	1,007
Alcyone	Gamma Tauri (Hyades)	246	Straight line	1034	1,597
Gamma Tauri	Aldebaran	105	Straight line	1200	1,849
Aldebaran	Capella	37	Straight line	1258	1,938
Capella	Austin's World	35	Straight line	1312	2022
Austin's World	Earth	84	Actual	1367	2,106

The Mission Elapsed Time is the total number of days that have passed since *Bayern* left Earth and is usually noted as D+X, where X is the number of days since departure from Earth. *Bayern* can travel an aggregate of 0.649 ly per day if cruising at top speed and then spending 46 hours in system to transit to a suitable world, discharge her drives and then exit the system. The minimum amount of time it takes for *Bayern* to traverse this distance can then be found by multiplying the CMD by *Bayern*'s average travel velocity, 0.649 ly per day.

$$\text{MET} = \text{CMD} \times 0.649$$

Bayern's transit from Earth has taken her nearly three months, so she leaves Austin's World with the MET clock already set at D+55

$$\text{CMD} = \text{straight line distance} \times 2.4$$

$$\text{MET} = \text{CMD} \times 0.649$$

So, for instance;

Alcyone is 385 ly distant from Austin's World, so the actual distance travelled will be $385 \text{ ly} \times 2.4 = 967 \text{ ly}$.

Added to the 83 ly from Earth to Austin's World the CMD will be 1,007 ly

MET at Alcyone will be $1,007 \text{ ly} \times 0.649 \text{ ly/day} = 654 \text{ days}$

Bayern's daily speed is not set in stone, although Referees may wish to modify the daily travel rate if they feel that *Bayern* should spend more time in a system. Lowering the figure from 0.649 ly/day would indicate spending more time in each system. Likewise, if the referee feels that the route should be more or less direct, the CMD multiplier can be increased or reduced from 2.4. Likewise, the MET does not take into account any extended stops, such as for encounters and interludes. The referee should add these extra days to the running MET total, or just assume the lost time is made up during other parts of the trip.

Some sample distances for the journey and suggested MET and CMD are included in the Key Stages table.

It is worth noting that the straight line distance from Earth to Austin's World is a little over 19 ly but the limitations of stutterwarp travel mean that the circuitous route actually requires 85 ly of travel. This demonstrates that a short straight line distance between two systems may actually require a much longer route if using journeys of less than 7.7 ly.

Ultimately, the CMD and MET are tools for the referee to indicate to the Travellers how far the mission has progressed to and from the Pleiades, and can be safely ignored if this level of detail is not required.

THE SABOTEUR

The saboteur is an optional plot thread that the referee can introduce during the *Bayern*'s mission. The plot is designed to be played out over several encounters and the referee has an option of choosing the potential level of the saboteur's impact on the *Bayern* mission. At the most basic level the saboteur is a meddler, trying to get the mission to fail without actually harming anyone. At a medium level the saboteur is prepared to kill to get the mission to fail, but the death of the crew is not their primary objective. Finally, the last option presents a scenario where the saboteur does not care what they have to do to get the mission to fail. This presents an individual that would be quite prepared to destroy the entire ship to prevent it reaching or returning from its ultimate destination.

THE OPERATIVE

The Operative saboteur is driven to foil the mission out of either a sense of misplaced national pride or duty to a patron organisation that rivals the AR-I and possibly Trilon. The Operative does not seek to destroy *Bayern* or cause any harm to come to her crew, but does want the mission to fail and put the AR-I, and by extension the newly re-united Germany, or the corporate behemoth of Trilon in a bad light. There are several potential options for a strongly nationalist Operative amongst the crew; the most obvious is Nicole St. Nicholas, the French imperialist computer officer. She may be too obvious a choice, however, so the referee is advised to instead use her access to the ship's systems and well known opinions of French superiority to steer the Travellers towards her as a red herring. Another suitable choice would be Dr. Zhong Hui, the Manchurian astrophysicist. His belief in Manchurian superiority, and his last moment addition to the crew at the 'request' of the Manchurian government would also make him a good choice. Any of the crew could have been compromised by a corporate rival of Trilon.

However a more interesting option would be to make the saboteur someone the Travellers would have no reason to suspect. For this option Dominique Raymonde may be operating undercover for the French MSIF intelligence division. She has, for years,

led a double life as a scientist and an asset for the French government, sending them scientific information from the AR-I. She has received her extra training in espionage, computer and technical skills and some self defence, all completed whilst allegedly away from her brother and colleagues at 'conferences'. She uses her 'spinster' persona to cover for a career meddling in the affairs of others to the betterment of French interests.

THE FANATIC

At the root of the Fanatic's desire to see *Bayern* fail is a need to protect a set of beliefs. The Fanatic believes in something so strongly that they feel *Bayern*'s mission cannot be completed. It could be that they believe that the money invested in the mission should have been spent elsewhere; they may feel that *Bayern* is exposing humanity to a risk that is unacceptable; they may know about AGRA and feel it threatens humanity, or that humanity must be the foremost life form in the galaxy and proof of the existence of AGRA would preclude this. It may be that they follow a religious ideology they feel is threatened by *Bayern*'s mission.

The Fanatic's goals are to stop *Bayern* from succeeding in its mission to the Pleiades or, if unable to prevent that, ensure it never returns home. They are not afraid to kill or injure to accomplish their mission and are likely to start small and then escalate as the mission progresses. The Fanatic is probably not as skilled as the Operative, since they are an 'amateur', but bearing in mind the strict selection guidelines for the *Bayern* mission, they are also unlikely to be just a thug.

Potentially, anyone could be the Fanatic. There are several members of the crew who are religious, Angelica Mendoza and Abu Al-San, for instance. Tashi Matsika strongly believes in arming AR-I vessels, which could be expanded to a strong paranoia regarding aliens discovering the home systems. For an especially dark twist the referee might consider that Christopher Bentley believes that a tragic story of struggle would make for better ratings and has decided to sabotage the mission, never really having cared for its scientific goals.

THE DESPERATE

The Desperate is at the same time the most dangerous and the least malevolent of the saboteurs. Something in this person's past has damaged their psychological equilibrium and they are suffering from a profound mental disorder. They are exhibiting a level of high-functioning psychosis that will slowly degrade throughout the mission. They have an internal rationalisation for why *Bayern* should not be travelling to the Pleiades, most likely due to a phobia or trauma connected with aliens, space and space travel. Referees should consider carefully the sensibilities and experiences of their Travellers when considering including a character with a mental illness and strive to treat the subject with respect and responsibility.

George Stahl is clearly a candidate for this role, as the recent upsets in his personal life have already resulted in one attempt to take his own life. The extra stress of the *Bayern* mission, especially as the Pleiades approach and *Bayern* encounters more dangerous situations with potentially hostile alien species, are likely to exacerbate his paranoia. George will develop a form of dissociative identity disorder, where he is consciously unaware of his acts of sabotage, even if presented with overwhelming evidence; it will be as though they were performed by another person. Eventually the stress will become too much and the second personality will take over. By this stage the only goal of the submerged personality will be to stop *Bayern* at any means, even if it requires George's and everyone else's death. Yvonne Vanessa Rourke, one of the four small craft flight crew on board *Bayern* is presented as a fearless pilot, but her fearlessness could be masking a more serious post traumatic reaction to wartime experiences with the French Peloton Rapide. The response to this trauma is to experience more and more extreme actions and place herself and others in dangerous situations.

THE AGRA-AFFECTED

One of the more unusual options for the Desperate is an individual who has been affected by the AGRA intelligence. The AGRA intelligence is believed to be a multidimensional being, whose abilities are beyond the understanding of humanity. Instantaneous travel over vast distances, the ability to alter the fundamental building blocks of our reality, direct matter to energy conversion and an ability to manipulate space-time in ways humanity can barely comprehend are just some of its abilities. AGRA, for reasons of its own choosing, has decided to imprint a member of *Bayern*'s crew

with memories of a trip they have not yet undertaken. The manipulation of human brain electro-chemistry is a trivial task for AGRA, and its multidimensional nature means that it does not perceive time in the same linear fashion as humans do. AGRA has taken a 'snapshot' of memories and experiences stored in the brain electro-chemistry – the mind-state – of a member of *Bayern*'s team that it encounters in the Pleiades. This encounter was traumatic, exceedingly frightening and almost shattered the crewmember's grasp on reality.

AGRA then took these memories, travelled back along the individual's timeline to an earlier point and overlaid the transplanted mind-state on top of their current mind-state. The combination of two sets of memories, feelings, emotions and innermost thoughts will be extremely debilitating for the crewmember, and the moment it happens will be a brief window into the future. The crewmember's brain will quickly adapt, with a little tweaking from AGRA, and the transplanted mind-state will be 'submerged' into the subconscious. The transplanted memories of the future seem like dreams and weird *déjà-vu*, and the crewmember will experience nightmares that seem prophetic. The closer to the AGRA encounter that *Bayern* gets, the more their mind-state comes to resemble the overlay and the more vivid these will become. The result of this will be a subconscious desire to avoid the looming horror, expressing itself as the sabotage events. The saboteur will be able to use the transplanted memories to aid their sabotage, as they will seem to have foreknowledge of events, peoples' movements and how best to turn situations to their advantage.

Time Travel

The activities of the AGRA influenced saboteur are not an attempt to introduce time travel to the 2300AD universe. Many of the abilities of AGRA are as far beyond the understanding of humanity as the operation of a modern day fighter jet is to an ant. Referees should feel free to ignore this option if they feel it deviates too far from the scientific frameworks established in their campaign. The *Bayern* mission and the AGRA encounter are a once in a generation event and the same set of circumstances are extremely unlikely to ever occur again.

RUNNING THE SABOTAGE SUBPLOT

After the referee has decided which of the characters will be the saboteur, they will need to adjust their published profile slightly to represent the changes that their role requires.

The Operative

The Operative saboteur has received additional training from their government or organisation on how to subtly circumvent *Bayern's* systems. During the course of the mission they will use manipulation of *Bayern's* computers and the addition of several doctored components to cause minor and major breakdowns. The Operative will be the most persistent and effective saboteur but will be the least malevolent – they do not have a death wish and merely seek to discredit the mission. If they are able to steal actual discoveries and plant false data, they will. The Operative's skills should be adjusted to increase their Electronics (computers), Deception and Stealth to 2. They will also gain Melee (blade) 1 and Gun Combat (energy) 1 if they do not already have them.

The Fanatic

The Fanatic has received little or no additional formal training and is an opportunist saboteur. Referees should be watchful for opportunities for the saboteur to cause trouble – Travellers are notorious for assuming that other characters are simply foils for their interaction, rather than having agendas of their own so will usually provide ample opportunity. The Travellers may find that survey equipment is missing as it has not been loaded correctly, and minor damage to essential equipment renders it inoperable, such as seals on space suits being damaged and power cells on weapons or equipment are drained or shorted out. This saboteur will actively be working against the Travellers and seeking to stop the mission. Under most circumstances they will act from the shadows, but if a clear opportunity to fatally sabotage the mission arises and they feel they have a good chance of success, they may strike in the open. Travellers may also hear from other characters of minor annoyances and inconveniences in tasks happening elsewhere aboard *Bayern*, showing that the sabotage is general, rather than directed specifically at them.

If the Fanatic discovers the nuclear scuttling charges built into the expedition ships, they will attempt to detonate them, which could lead to a tense standoff with the saboteur desperately trying to arm the bomb

and the Travellers trying to prevent detonation. At the referee's discretion the Fanatic may have trained themselves, or been trained by their ideological peers, with some additional skills. These will focus mainly on physical acts of sabotage, sneaking into places where they can break items. The Fanatic should have their ratings in Stealth, Electronics (computers), Mechanic and Deception raised to level 2 if they do not already have them at that level. They will also gain Gun Combat (slug) and Melee (unarmed) at level 1.

The Desperate

The Desperate has had no additional training, but has instead developed an alternate persona that is undertaking the sabotage without their primary persona being aware. The secondary persona has access to all of the primary persona's skills and abilities and the referee may decide to gift additional levels in non-technical skills such as Stealth, Investigate or Deception to the secondary persona to reflect its more clandestine abilities. No more than 1 or 2 levels should be added to any one skill in this way.

The AGRA Affected

The AGRA-Affected saboteur will have the same profile and strategies as the Desperate, but gain an additional ability, called Prescience, based on the foreknowledge gifted by the AGRA memory overlay. This is used to see if the saboteur is able to use the memories of events that have yet to happen to predict current events.

Whenever there is a situation where foreknowledge of events could be used to the saboteur's advantage, for instance knowing when a certain computer terminal will be unoccupied, or knowing what the captain changed his password to on a certain date, the referee should have the saboteur test their Prescience. The saboteur's ability to tap into their buried memories is not an exact science so each time the ability is used the referee should determine success by rolling 1D. On a 4+ the saboteur is able to correctly predict the future. On a roll of 1, however, they predict wrongly and instead potentially expose themselves; for instance being caught using a terminal when they were sure it would be unoccupied or remembering and entering the wrong password and potentially alerting security.

The referee should seek to add additional, minor, sabotage events to the campaign as each adventure is run. Most will be no more than inconveniences, lost data, broken or damaged equipment, but as the mission gets closer to the Pleiades they will increase in frequency and severity. Several examples of sabotage have been added to the plot points and they can easily be incorporated into interludes as well.

THE SHIP'S COMPLEMENT

TO: All AR-I employees

FROM: Prof. D. Anna Zeigler, Chief Administrator

The members of the Crew Selection Committee (CSC) for Mission M45A to the Pleiades Star Cluster have been decided upon. Any AR-I employee or volunteer who wishes to be considered for a position aboard the starship *Bayern* should transmit a copy of their resume to the AR-I Foundation Headquarters on Earth. Requests for membership must be received no later than December 30th, 2294. After a review by the CSC, initial selections will be made and qualified applicants will be transferred to Earth for testing and further evaluation.

For further information, contact any AR-I Primary Office.

Sincerely,

Professor D. Anna Zeigler

The next several pages of this book are taken up by descriptions of *Bayern*'s most important crewmembers. For referees establishing a campaign around the flight of *Bayern*, these may be used either as Travellers or NPCs. It is also perfectly permissible to replace any character listed in this section with already existing ones from an established campaign. Crew profiles are not provided for the senior staff of *Entdecker* as it is assumed that these positions will be filled by Travellers.

It is important to remember that there are no rookies or passengers aboard *Bayern*. Every member of the crew was carefully selected because of their extensive experience and high qualifications, and must be able to contribute to the mission. Once initial applications for positions aboard *Bayern* were received and candidates selected, extensive testing of all sorts was administered. The vast majority of applicants were found unsuitable for the mission and rejected. Those that remain are considered, for one reason or another, the best of the best. Many of the crew have expertise in more than one field of study.



When creating Travellers for the campaign, they should have spent at least some time in academic institutions to learn the necessary scientific skills to make them useful crewmembers and obtain a place aboard *Bayern*. Just like the multiskilled astronauts of the pioneering space age, *Bayern*'s crew will be true scientist-explorers. Even the crew of the ship's vehicles are expected to be able to double as field scientists if required. The one exception to this is the support and engineering staff. Keeping *Bayern* running is considered to be their first and only priority, so whilst many may be enthusiastic amateur scientists, it is not a requirement to secure a place aboard, only excellence in their chosen field.

Bayern carries a total of 222 crewmembers. Roughly one quarter of these are scientists not required for the operation of the vessel from day to day. When the ship reaches the Pleiades, or at other points along the voyage when their skills are needed, the scientists will be revived from suspended animation. For example, Jacqueline Bohranian (the ship's senior xenobiologist)

would not be awakened while *Bayern* investigated an unusual stellar formation. All told, 94 of *Bayern*'s crew are normally retained in cryogenic sleep during the voyage to and from the Pleiades. *Bayern* also contains sufficient suspended animation pods for the crews of the three flotilla sub-craft, *Entdecker*, *Anton Dohrn* and *George Bauer*.

Perhaps the most important section of the ship's complement is the command staff and bridge crew. Without them, *Bayern* would be unable to operate, and the mission could not even begin. There are 12 crewmembers assigned to this section and six command staff, ranging from the ship's commander and executive officer to the flight controller and remote pilot. The latter two crewmembers are normally kept in cryogenic tanks until auxiliary crafts are to be employed. Other members of the command staff are the head scientist, mission security specialist and heads of engineering and medical. Also included in this section are the sensor technicians.

Of potentially equal importance is the engineering crew. These 37 individuals, directed by the chief helmsman and chief engineer on the bridge, maintain and monitor the conditions of *Bayern*'s fusion power plant, nuclear thrusters and stutterwarp engines. In addition, the engineering crew is charged with the overall maintenance and upkeep of all the equipment aboard *Bayern*.

The vessel support crew consists of 27 highly skilled and well-trained individuals responsible for the piloting, maintenance and repair of *Bayern*'s fleet of auxiliary craft. Ranging from space planes and surface landers to interstellar probes, these craft are vital to the scientific success of the entire mission. However, as auxiliary vessels are not constantly in use and thus usually stowed away, those assigned to vessel support will spend much of the voyage in cryogenic suspension. This section also incorporates the EVA teams responsible for work outside of *Bayern* in the *Gremlin* cargo bugs, *Erkunder* hardsuits and the standard worksuit.

The media section aboard *Bayern* is considered by the AR-I to be of vital importance to the public popularity of missions such as this. As such, they are revived whenever *Bayern* comes across something of potential interest. There are five persons in this section. One of their numbers, Chief Journalist Christopher Bentley, is awake at all times. When not in suspension, members of the media unit will almost always be taking pictures and asking questions. It is certain that sooner or later they will begin to get on someone's nerves.

The science section of *Bayern*'s crew is made up of 12 of the AR-I's finest physicians and scientists. Each of them has served as the senior medical or science officer on another survey vessel for at least six months and is more than qualified for a position aboard *Bayern*. The health and wellbeing of the entire crew is of utmost concern to the AR-I, and they have spared no expense in life support systems and provisioning the medical bay to cope with almost any situation. During normal conditions, Chief Medical Officer Bernhardt and four of the life support scientists are out of cryogenics.

The scientific crew, which makes up roughly one quarter of the ship's total complement, is of absolute importance to the success of the *Bayern* mission. Without them, the trip to Alcyone and back would be little more than a sightseeing tour. The 54 members of this team have been drawn from all corners of the Institute. Their fields of expertise range from astrophysics, botany, and chemistry, to xenobiology and zoology. Except for Deiter Bohl, who is chief astrophysicist and senior member of the science team, members of this group are kept in suspended animation until conditions merit their revival. There are ten further scientists allocated to the three flotilla vessels, one each on *George Bauer* and *Entdecker* and eight aboard *Anton Dohrn*.

The final five members of *Bayern*'s crew are the support staff. These are mostly graduate students who were chosen by Professor Bohl from candidates that submitted requests to conduct their graduate or doctoral studies during the mission. They will be performing a variety of duties, including supporting the science team, admin and housekeeping roles and acting as gofers and stand-ins wherever required. The compensation for this is the opportunity to work with some of the finest minds in human space and be able to present truly unique doctoral and graduate papers upon their return. Under most circumstances two of these students are active and act as assistants to the rest of the active crew.

The crew of the three flotilla vessels are normally kept out of suspended animation, as the vessels are usually involved in scouting *Bayern*'s path and performing logistical duties for the flotilla. Each of the three craft has a crew of 20. However, *Entdecker* is not always required, nor are the science officers for the *George Bauer*. Of the 60 crew assigned to the sub-craft, 24 are usually kept in hibernation.



LEOPOLD SCHMIDT

Position: Mission Commander

Nationality: German

Homeworld: Tirane

Gravity: Normal

Gender: Male

Birthdate: 2258

Mass: 88 kg

Height: 182 cm

Native Language: German

Other Languages: English

STR 7 DEX 7 END 6 INT 8 EDU 11 SOC 8

Admin 2, Electronics (computers) 2, Electronics (sensors) 2, Engineer (stutterwarp) 3, Gun Combat (slug) 2, Language (English) 2, Leadership 2, Mechanic 2, Melee (unarmed) 2, Pilot (spacecraft) 2, Tactics (naval) 1, Vacc Suit 3

MOTIVATIONS: Commander Schmidt is scrupulously honest. In all matters, he considers his word to be his bond and would never willingly break a promise. Schmidt abhors all forms of deceit and would never employ such tactics, no matter how desperate his condition. Additionally, he is very dedicated to his duty and wholly self-confident. Once his mind is made up on a matter, he sticks to his guns. In a lesser man, this might be taken as stubbornness, but Commander Schmidt's record with the AR-I is such that he is loyally followed by all who serve under him.

Today, after months of work in simulators, I went aboard my ship for the first time. Although she is far from completed, I could wait no longer. In the future, I will visit her more often until I know every facet of her design. But nothing will be as exciting for me as this first encounter with her.

I seemed to be drawn to the bridge. The entire room was dark, illuminated only by the faint glow of the equipment being used to run checks on the circuitry, and I was alone.

In the centre of the room was my station. When we are operational, I will have an excellent view of all that transpires on my bridge.

My eyes roamed freely across the equipment which reflected the green and orange lights from the technicians' gear. Never have I seen a more pleasant sight. I am certain that she will make me proud.

I heard the distant sounds of the construction crew moving toward me and decided that it was time to go. I had been allowed a few moments of peace and contemplation while they were away, and for that I was thankful. As I kicked around to leave, I caught sight of something which had previously escaped my notice.

Although the main view screen was not yet functional, one of the workers had secured a poster of M45 to it with tape. For some reason, a shiver swept up my spine and gooseflesh raced across my limbs.

Were we truly going to travel all the way to the Pleiades and back again?

The very thought seemed to me insane.

BACKGROUND: Leopold Schmidt was born on Tirane, in Hauptstadt (the capital of Freihaven), in 2258. His early childhood was unremarkable, although he did demonstrate a very high intelligence and quickly began to advance to the top of his classes. When he was 16 years of age, he graduated from high school and then spent the next several years of his life in the Stern Akademie (a military school for future officers of Freihaven's Raumwaffe).

After initial training and service in the engineering section, he transferred to the line and became a qualified pilot. After only seven years in the

Raumwaffe, he was given command of the *Rache*, a small patrol cruiser with a crew of 25.

His command was largely uneventful for several months. Then, on a routine courier run between Tirane and an ESA station near Proxima Centauri, his avionics chief reported an object of unknown origin at the extreme edge of sensor range. It was, so far as they could tell at that distance, dead in space.

However, closer contact proved that was not to be the case. As Schmidt brought *Rache* closer, it became clear that the object was a small starship damaged by an explosion in her power systems. Further, the engines were rapidly overheating and would soon be the source of a second, far more destructive blast.

Despite protests from his executive officer, Schmidt continued to close in on the ship, and it was identified as *Schatten*, an AR-I research vessel. Against all hope, faint distress signals were detected from the wreck, and Schmidt ordered his crew to form a rescue party.

Rache pulled alongside, and rescue operations began. All the while, sensors indicated that the threat of a second explosion was increasing rapidly. For half an hour, Schmidt waited nervously while his men located and brought aboard five survivors. (One of these, Dominique Raymond, is currently assigned to *Bayern* as chief biochemist).

When everyone had returned to the ship, *Rache* made ready to depart at maximum speed. Just before the stutterwarp unit was engaged, however, *Schatten* exploded in a tremendous fireball. Caught in the blast, *Rache* was badly damaged and sent tumbling out of control. Although most of the injuries aboard her were minor, and nobody was slain, Schmidt's vessel was now wholly inoperable. Her drives and power systems were destroyed, her weapons smashed, as was her avionics array, and the life support equipment was operating at bare minimum levels.

It seemed to all aboard *Rache* that they would soon be dead. Some even suggested that a brace of warheads from the ship's complement of missiles should be detonated so that death would not come slowly but quickly and mercifully to the crews of both vessels. Schmidt would hear nothing of such a suggestion.

After hours of discussion with his pilot and navigator, Schmidt settled on a bold plan. He ordered the same pair of damaged missiles dismantled. The stutterwarp drives were cannibalised to create one barely functional drive unit and the warheads

placed in precise positions outside the ship. Schmidt knew that the jury rigged stutterwarp drives from the missiles stood no chance of moving the *Rache*, but their operation would be detectable to other starships. By turning the drives on and off Schmidt was able to transmit short messages in Morse code. The message was simple 'SOS WATCH FOR BLAST' and then a slowly decreasing count.

Not knowing if any ships had detected the hidden message, Schmidt detonated the two warheads when the count reached zero. Even though the warheads were carefully placed away from *Rache*, the explosion damaged her further. The already fragile life support faded and the crew began to use emergency oxygen supplies as the ship began to cool.

However, Schmidt's audacious plan worked. A French patrol vessel had been searching for the two missing ships, and when it detected the message in the stutterwarp trace it began to scan the heavens for a blast. The first nuclear explosion was detected by its sensors and gave the French ship a heading to follow. The second blast, shortly after, allowed the ship to triangulate *Rache*'s position and effect a rescue.

On Earth, the story of *Rache*'s encounter with *Schatten* was greatly publicised, and it even spawned the writing of a novel and the composition of a full length experiential. Schmidt insisted that both versions of his story were greatly 'enhanced for dramatic effect.' Whether or not that was the case, Schmidt was decorated and promoted for his resourcefulness.

During his time with the AR-I scientists, however, Schmidt became infected with their interest in the unknown. He found that the routine command of a starship seemed pale in comparison to the stories which the young scientists had told him of voyages beyond the realms of man. When his next term of service came to an end, he resigned from the Raumwaffe and joined the AR-I.

In the years since, Schmidt has proven his talent as both commander and administrator. He has served aboard a half dozen AR-I vessels, four of which he commanded, and has always escaped any crisis with his skills and cunning, traits most desirable in a captain whose command is reaching beyond assistance.

When the question of a commander for the *Bayern* mission arose, Leopold Schmidt was chosen for the position over the second candidate, an Australian from King named Diane Kamahmo. Kamahmo had less experience so was assigned as Schmidt's executive officer for the mission.

Freja and Schlammball

It is a common, if not universal, practice among the crew of AR-I starships to maintain a pet or mascot aboard ship. Usually, the mascot is 'smuggled' aboard by the most junior member of the crew and 'discovered' by the commander only after the ship has left port. At this point, he or she demands to know who has brought the stowaway onboard and of course, no one confesses. The commander then takes action against the entire crew by ordering extra desserts or, on more liberal ships, rations of alcohol to be handed out to all.

The psychological benefits of having an animal on board long duration missions are well documented, and the AR-I project specification initially included an 'Official Dog' as part of the ships manifest before it was removed during the specification finalisation sessions. Unofficially the AR-I continued with the preparation to include a canine crewmember – since nothing could be left to chance with *Bayern* the 'surprise stowaway' was just as heavily vetted and trained as the regular crewmembers. To that end the AR-I crew aboard *Bayern* includes a four year old female German Shepherd NeoDog called Freja.

Freja has been bonded to Thomas Austin Ferris, but is gregarious, even tempered and gets on well with most of the crew. She is well trained in human psychology and has been taught the same techniques to recognise stress triggers as therapy dogs used to treat post-traumatic stress disorder. She is also trained in basic damage control techniques, so can, for instance, raise the alarm and has been trained to operate small extinguishers if she spots a fire. She understands a vocabulary of about 500 words and can speak around 50. Freja is roughly as intelligent as a five year old child, although is well trained and obedient, unlike a five year old child.

Freja has an implanted mastoid communications unit, a neural jack and a 10km radio. She can use the neural jack to connect to a special rig worn on her head which includes a stereoscopic camera array with enhanced vision, giving her low light and thermal imaging and a 10x zoom function. The rig also includes a homing beacon, an uplink so the crew aboard one of the ships can see and hear what she is seeing and hearing and a recording device for later playback. Freya's secondary role, and the reason she is bonded to Thomas, is as a guard dog for the groundside security teams.

Trilon, as well as providing the drive tuner, pathfinder and logistics ships and various other pieces of equipment, also provided *Bayern* with a mascot – Schlammeball. Schlammeball is a five kilogram mass of brownish protoplasm known as a Brunlimon that came from the colony world of KieYuma. Schlammeball is well behaved and crawls slowly around the rings or floats about in the core. It lives off table scraps which it engulfs and then slowly metabolises.

Schlammeeball is cold and sticky to the touch and, if held in one's hand, will slowly ooze through the fingers and dribble to the floor. Despite Trilon's good intentions, Schlammeball has not been embraced by the crew. Freja has a particular dislike for Schlammeball as its protoplasm can become tangled in her fur, causing her some discomfort and distress. Schlammeball, on the other hand, seems to actually like Freja and tends to gravitate towards her if they are in the same area. Beaux and Dexter, the *Aleph* drones, spend a good portion of their time herding Schlammeball away from Freja.



DIANE KAMAHMO

Position: Executive Officer

Nationality: Australian

Homeworld: King

Gravity: High

Gender: Female

Birthdate: 2265

Mass: 101 kg

Height: 171 cm

Native Language: English

Other Languages: French

STR 9 DEX 6 END 6 INT 8 EDU 11 SOC 8

Athletics (endurance) 1, Drive (hovercraft) 1, Drive (wheel) 2, Electronics (computers) 2, Engineer (m-drive) 2, Flyer (wing) 1, Language (French) 1, Medic 1, Melee (unarmed) 4, Pilot (spacecraft) 3, Survival 3, Vacc Suit 2

DNAM: Retrograde

MOTIVATIONS: Diane Kamahmo, like many of the residents of her homeworld, has a strong belief in the value of hard work and honesty. When confronted with cruelty or dishonesty, she reacts very strongly (often with aggression). Furthermore, her high determination and strong sense of devotion to work makes her seem stubborn and unbending in controversial matters. In fact, she is more than willing to change her viewpoint, but only with overwhelming proof that she is in the wrong.

Big ship.

Big deal.

I've been on a lot of big ships and a lot of small ships. To me, they're all the same. I don't think the hardware matters half as much as the software: the crew.

When Vogelperspektive was on her first run, they told us that we had the finest of everything. They took great pride in showing us around her engine room, guiding us through the science labs, and waltzing us around the bridge. I have to admit, she was almost as impressive as Bayern, but it didn't faze me in the least.

All the hardware in the universe won't help you in the least if your team doesn't think and act like one when things hit the fan. There were a couple of times when a lesser crew would have lost Vogel and gone the way of the Carolina Dream: Missing, Presumed Destroyed.

Only after I had held my first review did I feel more confident. We had a good ship and a good crew; there was nothing more to know.

We made it in Vogelperspektive; we'll make it in Bayern.

BACKGROUND: Diane is one of only a few thousand colonists on King who are descended from native Australians. As such, she felt like something of an outsider when growing up. Wherever she was, Diane was constantly striving to earn the respect of those around her. In school, she did this with her outstanding academic achievements and generous participation in many volunteer programmes.

After graduating from college, she underwent the DNAM modifications and emigrated to King to work for many years with the mining concerns that are as abundant there as the minerals they exploit. Here, she drifted from job to job, never seeming to find a career which she could devote her full attention to. In the end, she gave up her pursuits in this sector and set about to look for a purpose in her life. She found herself signing up with the AR-I and, within a few months, they had sponsored her retrograde DNA treatment and assigned her to a small science team aboard the American survey vessel, *Captain William Mossburg*. Over the next few years, she proved herself to be one of the most talented starship crewmembers in the AR-I.

Over and again, she faced danger and death in hazardous exploration missions, only to escape unharmed. In record time, she was given command of the famous *Vogelperspektive* during its one year shakedown mission to explore several previously uncharted star systems along the French Arm.

Her career had been brief but glorious, and she was seriously considered as the mission commander for the *Bayern*. She was not overly disappointed to learn that she would only be the second in command of the ship, for she has the greatest respect for Commander Schmidt. She recognises that Schmidt is more experienced both as administrator and commander, and feels honoured to serve under him. Her duties as second in command will keep her busy for the entire voyage, challenging her skills and experience on a daily basis. Also, there is no shame in being second in command on the greatest exploratory mission ever undertaken; her contribution will no doubt be recognised.



WERNER KESSLER

Position: Chief Navigator

Nationality: German

Homeworld: Kie Yuma

Gravity: High

Gender: Male

Birthdate: 2269

Mass: 96 kg

Height: 171 cm

Native Language: German

Other Languages: English

STR 6 DEX 6 END 8 INT 8 EDU 11 SOC 8

Astrogation 5, Electronics (computers) 2, Electronics (remote ops) 1, Electronics (sensors) 2, Gunner 0, Gun Combat (slug) 2, Language (English) 1, Mechanic 2, Medic 1, Melee (unarmed) 2, Vacc Suit 3

MOTIVATIONS: Kessler is interested in money and sees the *Bayern* mission as a chance to gain fame and wealth. When he talks about his plans for the future, he often begins with the statement, 'The first thing I'm going to do when we get back is write a book.' His fondness for cash and his eye for a profitmaking venture have not made him greedy, however. In fact, it has made him appreciate the struggles of poorer individuals all the more. He has been known to react very strongly when he feels someone is being cheated out of just rewards for service done.

The first thing I'm going to do when I get back is write a book. Of course, the AR-I will get a portion of the profit. God knows they deserve it. If there's any group anywhere that's doing so much good, I have yet to hear about them.

Three generations ago, my great grandmother stumbled across an alloy which makes great starship hulls and got rich. Since then, what have we done with the money? Nothing much, I can tell you that.

I'm not blind though. Just because I'm from a rich family doesn't mean that I don't think about those who aren't. Just the opposite. What good is being wealthy if you just hoard it and don't use it to help out others? In my opinion, every scientific breakthrough helps raise everyone's standard of living. Folks like the AR-I are helping out everyone every day, and I want to be a part of that for a long time to come.

BACKGROUND: Kessler's family is one of the richest in the French Arm, and he was born into life of comfort and luxury. It was something of a shock to his parents when, at the age of 17, he announced his intention to join the Raumwaffe. Despite their attempts to dissuade him, Kessler entered the service less than a year later. To the even greater dismay of his family, he could not even be convinced to join the Academy and use his father's influence to become, at least, an officer.

After only four years, he decided that life in the Navy was not living up to the glorious style promised by recruiters. After careful thought, he left the service and joined the AR-I as an engineering assistant on the survey ship, *Enseigne Henri LeCroix*.

Over the next three years, his duties on *LeCroix* became greater, and he rose in rank before transferring to the science vessel *Ferdinand Braun*, where his longstanding interest in avionics was rewarded with duty as junior navigator. When, six months later, *Braun*'s senior navigator was killed in an accident, Kessler took over and proved to be more than competent. On the request of *Braun*'s commander, Captain Lily Matsuko, Kessler was promoted and assigned as the ship's primary avionics officer. When word of the *Bayern* mission circulated among the AR-I and the search for volunteers began, Matsuko advised Kessler to try out for the chief navigator's position. His test and simulation scores were so good that all other candidates paled in comparison, and Kessler was selected.

GRETCHEN MACDONALD

Position: Chief Engineer

Nationality: American

Homeworld: Ellis

Gravity: Normal

Gender: Female

Birthdate: 2257

Mass: 72 kg

Height: 185 cm

Native Language: English

Other Languages: French and German

STR 7 DEX 12 END 6 INT 6 EDU 7 SOC 9

Drive (hovercraft) 1, Drive (wheel) 1, Electronics (computers) 4, Electronics (sensors) 1, Engineer (m-drive) 3, Engineer (power) 1, Engineer (stutterwarp) 5, Language (French) 1, Language (German) 1, Mechanic 3, Melee (unarmed) 1, Pilot (spacecraft) 1, Science (physics) 2, Vacc Suit 2

MOTIVATIONS: Gretchen MacDonald is an aggressive woman. In all aspects of her life, from her professional career to often stormy romantic affairs, she takes charge whenever possible. When she decides on a goal, no matter how great or small, she goes after it wholeheartedly; violence is not out of the question to overcome problems. MacDonald has a reputation as a flirt and a heartbreaker when not on duty, takes pride in a history of romantic conquests, and is generally (and correctly) believed



Mom and Dad,

I've only got a few seconds to record this letter, so I'll try to stick to the point and not get too mushy. I just got back the results of my testing and simulations scores and confirmation of my assignment to Bayern.

I can't tell you how excited I am! Just imagine, a simple county girl like me going off to visit the Pleiades. It'll be tough I'm sure, but what an adventure! You know I'll miss all of you, but there will be message drones sent back every six months or so, and we'll all get to record letters to our families.

Tell the gang not to worry too much, their big sister knows how to take care of herself. I just hope we find some nice looking men. God knows they're few and far between on the Frontier (and even rarer in the Core)!

My love to everybody!

Gretch

to have a man in every port. Despite her forceful and sometimes overly dominant nature, Gretchen feels only respect for her shipmates. In a sense, she looks at them as family and would do anything she could to keep them from harm.

BACKGROUND: MacDonald's parents moved to Ellis two years before she was born in hopes of finding fortunes on the rapidly evolving colony. They gained a homesteading grant and set to work developing a farm along a newly opened canals. In a matter of months, they were a solid part of the thriving agricultural economy of America's first extraterrestrial state.

When she left high school Gretchen found that farm life did not interest her as a career. Her parents had more than enough help from her four brothers and two sisters, and encouraged her to seek work elsewhere, if that was what she truly desired. Thus it was she became a technician aboard the Deep Space Orbital Mining Station, *Joseph Whitworth*, and began a successful tour of duty with the Trilon Corporation. For eight years she served aboard the *Whitworth*, impressing those who worked with her.

After almost a decade of service with Trilon, Gretchen became interested in missions beyond the borders of human space. To that end, she applied for a position with Britain's Royal Society when they announced plans for a joint mission with the AR-I to explore the Augereau system.

Although the mission was successful, Gretchen found that she did not care for the Royal Society's methods of operation and felt her American citizenship would prevent her from rising to a better position. Encouraged by members of the AR-I team, she left the Royal Society and has enjoyed great success in her field ever since.

Starships are a lot like women. The faster they move and the sleeker they're built, the more I like 'em. And let me tell you, I've had more than my share of both.

I've had some real nice ones over the years, too. Both girls and ships. Two of my favourites were aboard Elliot. I served there for over a decade, and the whole time we had one shuttle that gave everyone but me trouble. The engineer never could figure it out and neither could I. It seemed to fly great for me, though. I guess it must be my magic touch.

We had an electronics officer who was the same way. But I'll tell you, five minutes with the old master and she was melting like butter.

MOTIVATIONS: Lee Nystrom considers himself to be quite the ladies' man, utterly convinced that no woman can resist his charms once he sets his sights on them.



LEE NYSTROM

Position: Chief Pilot

Nationality: Scandinavian Union

Homeworld: Earth

Gravity: Normal

Gender: Male

Birthdate: 2261

Mass: 89 kg

Height: 180 cm

Native Language: Scandinavian

Other Languages: English

STR 6 DEX 7 END 6 INT 11 EDU 9 SOC 6

Electronics (computers) 1, Electronics (remote ops) 1, Engineer (stutterwarp) 1, Drive (hovercraft) 3, Drive (wheel) 2, Flyer (wing) 2, Gun Combat (slug) 1, Language (English) 1, Mechanic 2, Melee (unarmed) 3, Pilot (capital) 5, Pilot (spacecraft) 3, Survival 1, Vacc Suit 3

As such, he is seen as somewhat rude and obnoxious by female members of the crew. Currently, he has his eye on Gretchen MacDonald and is wholly unaware that she finds him fairly offensive. Nystrom also considers himself to be a rough and rugged fighter, and a two-fisted drinker. He looks forward to shore leave and frequently seeks out rough parts of town in hope of spawning bar fights. Once things start getting heavy, his skill puts him in good standing and he usually comes out on top. For the most part, Lee fights fairly.

BACKGROUND: At an early age, Lee Nystrom left his home on Earth and became a hand aboard the American merchant vessel, *Barry N. Elliot*. Although he had always been interested in many types of vehicles, it was not until this point that he was actually encouraged to pursue his hobby seriously. On a ship like the *Elliot*, a crewman who was well-versed in the operation of almost any vehicle was a valuable asset.

GEORGE STAHL

Position: Communications Officer

Nationality: Ukrainian

Homeworld: Aurore

Gravity: Zero

Gender: Male

Birthdate: 2258

Mass: 87 kg

Height: 179 cm

Native Language: Ukrainian

Other Languages: English, French, German, Japanese, Manchurian, Russian

STR 8 DEX 7 END 8 INT 7 EDU 8 SOC 8

Art (visual media) 1, Art (write) 1, Electronics (comms) 4, Gun Combat (slug) 2, Science (linguistics) 3, Language (English) 1, Language (French) 1, Language (German) 1, Language (Japanese) 1, Language (Manchurian) 1, Language (Russian) 2, Melee (unarmed) 1, Science (history) 1, Science (psychology) 1, Science (sophontology) 1, Vacc Suit 3

MOTIVATIONS: Stahl's primary motivation during the mission is his devout loyalty to Commander Schmidt. They have served together several times and are firm friends. In time of crisis, Stahl would willingly sacrifice himself to protect Schmidt. Stahl is also known for his temper. In the past, he has become violent when things did not go his way. Needless to say, this has earned him several black marks with the AR-I. It is rumoured that Schmidt's influence was the deciding factor that earned Stahl a place on the *Bayern*'s roster.

BACKGROUND: Stahl's parents were officers aboard a Ukrainian transport vessel which made regular runs from Aurore to Hochbaden. At the time of their son's birth, they decided to remain aboard ship and raise him there. This choice has shaped Stahl's life and personality to a great extent. As he grew, his interest in space travel and the diverse cultures with which he came into contact prompted him to take up the study of languages. He enlisted in the military for a brief time



All of a sudden, I'm back home again. I'm aboard Galicia, and we're at Aurore. My parents are there, trying to get that old bug working again. How many times have they asked Captain Van Helsing to buy a new one? Suddenly, there's an explosion from the bulkhead behind them. I stare, unable to move, as a dozen Kaefer swarm in. I think how much they look like men in bug suits. Then they start shooting. My father gets hit before he even sees them. Why didn't he hear the explosion? Mother screams. She sees me and starts running. I hold out my arms. If she can reach me she'll be safe. I can protect her from those monsters. There's another burst of gunfire and blood splashes across my face. I start screaming and realise it's just another dream.

but received a ground assignment on Aurore instead of a ship's position. Unable to tolerate the tedious posting, he left the service and eventually joined the AR-I.

Recently, Stahl learned that his parents had been caught on Aurore during the Kaefer attack there and were slain. Stahl became so upset that he attempted to commit suicide. Schmidt found him on the brink of death and saved him. Aware that such a psychological collapse would destroy any chance Stahl had to serve on *Bayern* and that there could be no better treatment for him than to do so, Schmidt kept the incident a secret.

NICOLE ST. NICHOLAS

Position: Computer Officer

Nationality: French

Homeworld: Kimanjano

Gravity: Normal

Gender: Female

Birthdate: 2264

Mass: 79 kg

Height: 193 cm

Native Language: French

Other Languages: English, German

STR 9 DEX 6 END 9 INT 8 EDU 7 SOC 9

Admin 3, Art (write) 1, Electronics (computers) 5, Engineer (stutterwarp) 1, Gun Combat (slug) 1, Investigate 3, Language (English) 1, Language (German) 1, Medic 1, Melee (unarmed) 4, Pilot (spacecraft) 1, Survival 1, Vacc Suit 2

MOTIVATIONS: Nicole is very pro-French Empire and will take instant offense at any insult (real or imagined) aimed at it. To her, all that is French is good and all that is good is French. In addition, she is determined to see the *Bayern* mission through to a successful conclusion and thus elevate her own position in the AR-I. To this end, she often manipulates people and events to suit her needs or desires. Nicole is used to getting what she wants, when she wants it. Although she has not admitted it to even herself yet, she has become very fond of Christopher Bentley, *Bayern*'s chief journalist.

BACKGROUND: Nicole St.Nicholas is a striking woman standing well over six feet in height, with blonde hair which falls to well below her waist. When in freefall, she wears her hair up to avoid accidents.

At an early age, Nicole showed an aptitude for computer sciences, and all through her schooling she excelled in their use. Unlike many in her field, however, she did not sacrifice interest in physical development to further intellectual advances; when she was 17, and again when she was 21, Nicole found herself on the French Olympic team where her skills in martial arts won her bronze and silver medals. One reason for her success over more skilful opponents was her equal aptitude in both normal and zero-gravity disciplines.

Despite her relative lack of seniority among the ranks of Institut personnel, Nicole's outstanding skill with computer systems made her the only obvious choice for the computer officer's post on the *Bayern* mission.



All of a sudden, the computer dies. I switch to the backup instance, but there's no response. The damned pulse from that last explosion has shut down the whole cluster. The Captain's shouting orders to half the bridge crew, but without the core on line, they won't get far, and that means this whole ship is going to become a fireball in about 10 seconds. A complete shutdown to clear the garbage out of the system takes two seconds. One more second races by while I get everything set for reconfiguration. Another two while the virtual hosts are rebuilt and all my indicators light up green. Then the screens flash to life around the bridge, and we have control again. Captain Schmidt gives the order to cut into stutterwarp and... Click. Another simulation test aced.

ABU AL-SAN

Position: Chief Sensor Operator

Nationality: United Arab Republic

Homeworld: Earth

Gravity: Normal

Gender: Male

Birthdate: 2261

Mass: 111 kg

Height: 203 cm

Native Language: Arabic

Other Languages: English

STR 10 DEX 7 END 7 INT 8 EDU 8 SOC 8

Electronics (comms) 2, Electronics (computers) 4, Electronics (remote ops) 1, Electronics (sensors) 5, Gun Combat (slug) 1, Investigation 3, Language (English) 1, Mechanic 1, Melee (unarmed) 1, Vacc Suit 2



MOTIVATIONS: Al-San is a determined man who sees his career with the AR-I as his entire life. Although quiet and softspoken, he is eager to assume new responsibilities and learn all that he can so that future promotions will be easily attained. His dedication to duty is almost unequalled among *Bayern*'s complement.

Al-San is generous to a fault. He cannot bear to see others in need and does what he can to help. As his expenses for the trip aboard *Bayern* are covered wholly by the AR-I, and he will need no spending money on the voyage, he has arranged for his entire salary to be donated to various charities for the duration of the mission.

BACKGROUND: Born on Earth in the Middle East, Abu Al-San has spent the most of his life as a scout in the service of the AR-I. Shortly after his graduation from college, he contacted representatives of the institute and signed on for a brief tour of duty aboard the survey vessel *Geheimnis*.

As is often the case with such recruits, he was instantly hooked. When he returned to Earth, his first stop was at the AR-I administration office where he signed up for an extended series of probes along the entire French Arm. Although he has never served with Commander Schmidt before, Al-San was once assigned as a crewman aboard the famous *Vogelperspektive* under the command of Diane Kamahmo.

Dear Mister Al-San,

Thank you for coming to our school. Our whole class liked your talk about space a lot. Please come and see us again when you get back from outer space.

Our favourite part was the pictures you showed from your trips. We thought they were really pretty. We want to go to new places and see things nobody else has seen before.

We hope you are safe and having fun in space. We will all be thinking about you when we look up at the stars at night.

*The Children of Germain Adamson Elementary School
Frederich Der Grosse Raumhafen
Landeplatz Joi
61 Ursae Majoris*

WILHELM BERNHARDT

Position: Chief Medical Officer

Nationality: German

Homeworld: Neubayern

Gravity: Low

Gender: Male

Birthdate: 2262

Mass: 76 kg

Height: 169 cm

Native Language: German

Other Languages: English

STR 6 DEX 10 END 6 INT 7 EDU 11 SOC 7

Admin 1, Art (write) 1, Athletics (endurance) 1, Drive (wheel) 1, Electronics (computers) 2, Investigate 2, Language (English) 1, Medic 6, Profession (hydroponics) 2, Science (biology) 3, Sciences (psychology) 3



MOTIVATIONS: Dr. Bernhardt is from a very wealthy and established Bavarian family. His primary concern is money. If a long range project like *Bayern*'s flight to the stars does not seem to be valuable economically, then he is not prone to be interested in it. In his opinion, potential benefits to be had upon return from the Pleiades are fantastic.

Despite his heritage, Bernhardt tries very hard not to come across as a snob. In fact, he is very friendly and cooperative, often willing to help on short term projects without compensation. In the back of his mind, he considers such efforts to be wise investments that may pay off one day in the form of a needed favour.

Despite obvious qualifications for the mission, Bernhardt is the subject of rumours which indicate that he bought his way aboard *Bayern*. The same holds true for his sister, Kathryn, who is a member of the science team.

BACKGROUND: Doctor Wilhelm Bernhardt is a graduate of the renowned Eva May Chandler University at Grey Hill on Mu Herculis. There, he attained top marks in his medical studies and graduated at the head of his class. Although he often jokes about his time there, Doctor Bernhardt worked long and hard to attain his diploma.

Despite the fact that many of his classmates were more intelligent than he, Bernhardt's outstanding efforts earned him the marks he needed to best them in the end. Once out of school, he returned to Neubayern and joined the German Navy as a medical officer.

Sometimes you have to stop and reassemble your nerves. In combat or during crisis, you don't have much time to, but sometimes you just must. I remember when we went aboard that derelict Scandinavian transport. I was the first to enter, and everything seemed normal. The crew were seated at their posts, and others were in the lounge or in their bunks. We even found one couple in each other's arms. They were all dead. Somehow the life support system had failed and vented toxic gas through the entire ship. They never knew what hit them. I still have nightmares about that ghost ship.

His first assignment was to the cruiser *Lutzow*. Six months after he had assumed duties aboard her, *Lutzow* was badly damaged by a French missile in the Beta Canum system. *Lutzow* returned fire and destroyed the attacking vessel and as soon as the threat to his own ship was overcome, *Lutzow*'s captain sent out a distress signal that his own craft was no longer spaceworthy. Several hours later, the British military vessel, *Impressive*, came alongside and took *Lutzow*'s survivors aboard. In the hours between the attack and the rescue, however, Doctor Bernhardt had his hands full. Many of *Lutzow*'s crew had been badly injured when the missile struck the living areas of the ship, and his own medical facilities were now nothing more than a memory.

Despite these conditions, Bernhardt was able to save the lives of many crewmen. It was later determined that the attack had been a mistake on the part of the French captain, and the incident passed with only a minimum of tension between the two powers.

Dr. Bernhardt was decorated for his actions during the crisis. Although still technically a member of the German Navy, he has been on loan to the AR-I for over 10 years and enjoys his work with them too much to request reassignment.

CHRISTOPHER BENTLEY

Position: Senior Journalist

Nationality: Texas

Homeworld: Earth

Gravity: Normal

Gender: Male

Birthdate: 2263

Mass: 109 kg

Height: 193 cm

Native Language: English

Other Languages: None

STR 8 DEX 7 END 9 INT 8 EDU 7 SOC 8

Admin 1, Art (visual media) 4, Art (write) 4, Carouse 1, Diplomat 1, Drive (wheel) 1, Electronics (computers) 2, Gun Combat (slug) 3, Investigate 3, Melee (unarmed) 2, Persuade 3, Stealth 1, Streetwise 2

MOTIVATIONS: Christopher Bentley is a very charismatic individual liked at once by those around him. He is dynamic and convincing when speaking to large groups, yet understanding and witty on an individual basis. Bentley leaves behind a small army of admirers on Earth.

Despite his professionalism in career matters, Bentley has something of a wild side. He enjoys boxing and wrestling as both spectator and participant. In fact, Nicole St. Nicholas, who competed in the Olympic martial arts competitions, is something of a hero to him, and he enjoys her company a great deal. She also seems to be somewhat attracted to him – despite the fact that he is not French – although she would never admit this.

BACKGROUND: Christopher Bentley was born to a long line of public servants. His great grandfather was a police officer, his grandfather a school teacher,



This is Christopher Bentley reporting for the Interstellar Press Association aboard the Astronomischen Reichen-Institut's starship, Bayern. Two days ago, we pulled away from the ESA's facilities above Terra and headed away from the inner system. As I begin this transmission, Captain Leopold Schmidt is about to order us into full stutterwarp drive. When we go into faster than light travel, there will be a moment of signal loss as the computers at both ends work to maintain contact. Following that, we'll be on our way. The sound you hear in the background is the signal to ready for transition to faster than light speeds. Humanity's greatest voyage is about to-

and his father a disaster relief worker for the non-profit French founded Societe de Bienfaisance.

Immediately after completing high school, Bentley naturally gravitated to similar work and joined the Texas National Ranger Academy. He graduated with high marks and became a detective working primarily on Earth. Later in his career, however, he received assignments on both Austin's World and Heidelsheimat. While on the latter assignment, he met Karen Harlacher, the famous journalist for the German periodical *Tagebuch won Stern*. They fell in love, and she persuaded him to use his natural charm and exceptional looks to enter broadcasting. In less than a year, Bentley had found a job as a reporter for the Global Broadcasting Service.

His skill at police work allowed him to quickly assume the role of investigative reporter. As the years passed, Bentley acquired a reputation for honesty and fairness in his reporting which in turn has earned him numerous awards. Bentley is the only person ever to receive the prestigious Bishop Award for Broadcasting Excellence three years in a row.

By the time the AR-I announced they were going to be sending a mission to the Pleiades, Bentley was a star known across human space. The five slots reserved for journalists were assigned by committee, and Christopher Bentley was the first to be selected. In the end, he was the only one who received the unanimous support of all 13 committee members.

It should be noted that Karen Harlacher was also selected to go on the *Bayern* mission, and that she is one of four journalists being kept in suspended animation for the majority of the voyage to the Pleiades. If Bentley's relationship with Nicole develops as it may, this could lead to complications when the ship reaches its destination, and all of the sleepers are revived.

DIETER BOHL

Position: Chief Astrophysicist, Senior Scientist

Nationality: German

Homeworld: Earth

Gravity: Normal

Gender: Male

Birthdate: 2248

Mass: 74 kg

Height: 179 cm

Native Language: German

Other Languages: English

STR 4 DEX 6 END 6 INT 10 EDU 12 SOC 7

Art (write) 2, Drive (hovercraft) 1, Drive (wheel) 1, Electronics (computers) 4, Investigation 4, Language (English) 1, Science (astronomy) 5, Science (chemistry) 3, Science (cosmology) 4, Science (physics) 3, Science (planetology) 3

MOTIVATIONS: Dr. Bohl is wise, but absentminded and forgetful about all matters which do not pertain to his profession; in those that do, he is perfectly clear and lucid. He is considered to be a genius by his peers and at the same time, a bit of a bumbler because while his scientific work is always faultless and maintains the highest level of dependability, he is socially incompetent.



Dr. Bohl has no understanding or tolerance for administrative matters, social graces or bureaucracy. His position as senior scientist on the *Bayern* mission is based wholly on his time with the AR-I and his past record of commonsense in all matters scientific.

BACKGROUND: While serving as the senior astrophysicist and head of the science staff at the AR-I's Augereau station, Dr. Bohl earned the nickname 'Lochjager' ('Hole Hunter') for his single-minded dedication to the capture of a naturally occurring primordial black hole. When he succeeded, it came as a great shock to the many who thought his quest far too difficult for a seemingly absentminded old man.

Dr. Bohl was also the scientific head of the AR-I's famous *Baade* mission to the neutron star Calvera (1RXS J141256.0+792204). Launched in 2285, *Baade* made the 300 light-year trek to this astronomical wonder and arrived there in 2286. After several months of research the *Baade* returned to human space with information which allowed Dr. Bohl to usher in a new generation of G-wave sensory equipment and a new understanding of neutron stars.

Using *Baade*'s data, the well-known Georgian physicist, Alexander Kutchenko, believes he will be able to make the final jump in humanity's understanding of super-symmetry. He hopes to modify Bellman's Limited Unified Field Theorem, which was first postulated in 2213 (the basis of modern physics), and replace it with one which links all known forces.

JAQUELINE BOHRANIAN

Position: Chief Xenobiologist

Nationality: French

Homeworld: Earth

Gravity: Normal

Gender: Female

Birthdate: 2228

Mass: 71 kg

Height: 173 cm

Native Language: French

Other Languages: English, Eberese, Sung

STR 4 DEX 6 END 3 INT 11 EDU 12 SOC 10

Admin 2, Art (visual media) 1, Art (write) 2, Diplomat 2, Electronics (computers) 3, Investigate 3, Language (Eber) 1, Language (English) 2, Language (Sung) 1, Science (biology) 5, Science (genetics) 3, Science (psychology) 2, Science (sophontology) 2, Science (xenology) 4

MOTIVATIONS: Dr. Bohranian is a wise and thoughtful woman. Although well past her prime at 72 standard years of age, she has not lost even a fraction of her keen mind. Members of the crew in need of advice often seek her out, seeing her as a sort of surrogate parent.

Part of her charm, it must be noted, comes from her somewhat eccentric personality; Dr. Bohranian cultivates wild orchids, paints, draws prolifically and wears bright and flamboyant clothing, favouring purple. In others this might be taken as indication of mental deterioration, but those who have known her for a long time insist she has always been this way.

BACKGROUND: Dr. Bohranian graduated from the Universite de Paris in 2254 after spending several years there on a scholarship from the Institut des Etudes Exobiologiques. The only daughter of a fairly poor family, she was grateful to the IEE for their support, without which she would never have had access to higher education.

After several years of work with the IEE, she was invited to join a special team which they were assembling to study the Sung. From the moment of their discovery in 2248, she had dreamed of such an opportunity but had never expected it to be realised. She spent three years on the Sung homeworld in the DM+4 123 system before the outbreak of the Slaver War forced her to depart.



Almost as soon as the war ended, Dr. Bohranian returned to DM+4 123 for a brief time to study the system's other sentient race, the Xiang. For the next three years she remained, becoming one of humanity's greatest authorities on the Sung and Xiang. In the following years, she found time to do extensive studies of both the Pentapods and Eber before leaving the IEE in 2260. Her decision to leave was purely personal, based on a desire to travel beyond the explored realms of space in search of sapient life forms.

In her opinion, the type of research which the French Foundation was then engaged in was not only important – it was vital. However, she felt she would be more satisfied working for the Astronomischen Reichen-Institut as a specialist on their deep space missions.

The present strain in relations between Germany and France has been keenly felt by countrymen of both nations, but one area where political rivalry has gone virtually unnoticed in academia. Although a French citizen working in Germany, Dr. Bohranian has never felt scorn from her colleagues. She cannot, however, say as much for the townspeople. More than once she has been accosted on the street for her obvious accent by German citizens driven by their own media and nationalistic passions.

She has become one of humanity's greatest authorities on extraterrestrial life as well as the pride of the AR-I's xenobiological department.

DOMINIQUE RAYMOND

Position: Chief Chemist

Nationality: French

Homeworld: Earth

Gravity: Normal

Gender: Female

Birthdate: 2268

Mass: 86 kg

Height: 180 cm

Native Language: French

Other Languages: English

STR 6 DEX 7 END 7 INT 8 EDU 9 SOC 7

Admin 1, Art (write) 1, Drive (wheel) 1,
Electronics (computers) 2, Language (English)
1, Mechanic 0, Medic 1, Science (chemistry) 4,
Science (planetology) 2



MOTIVATIONS: Dr. Raymond is dedicated to her career and her brother, Alan. She spends much of her 'free time' working on chemical experiments and reading technical journals, leaving little free for a social life. Although attractive, she seldom dates and is a demure individual who prefers working to socialising.

Dominique's conservative attitude is visible in all aspects of her life, from political viewpoints (which she almost never discusses in public) to financial affairs, which she maintains in meticulous order.

BACKGROUND: Dr. Dominique Raymond first became involved with the AR-I while attending the University of Heidelberg. Shortly after graduation, she joined the Foundation and travelled across much of human space as a specialist in chemistry. In that time she spent several months on Aurore, studying tidal life forms as an associate to a biological mission. The survey team left Aurore only a couple of months before the Kaefers arrived and laid waste to some of the areas where her mission had worked.

The knowledge that she had come so close to being a victim of the Kaefer War hit home, and she has kept an interest in happenings along the arm ever since. Privately, she worries whether human space will even exist by the time *Bayern* returns.

Dominique is very close to her brother, and the two are seldom apart for long. When they applied for positions as members of *Bayern*'s scientific team, it was understood from the start that if either of them were rejected, the other would withdraw from consideration.



ALAN RAYMOND

Position: Chief Planetologist

Nationality: French

Homeworld: Earth

Gravity: Normal

Gender: Male

Birthdate: 2267

Mass: 74 kg

Height: 178 cm

Native Language: French

Other Languages: English

STR 5 DEX 6 END 7 INT 8 EDU 10 SOC 7

Admin 1, Art (write) 1, Drive (wheel) 1, Electronics (computers) 3, Investigate 2, Science (chemistry) 3, Science (planetology) 5, Vacc Suit 1

MOTIVATIONS: Dr. Alan Raymond is very protective of his 'little sister' (who is actually larger than her physically small brother) and would do anything to protect her from harm or unhappiness. He is brave and does not give in to threats or intimidation, so it is quite possible that, if he had to, he would be more than willing to sacrifice himself to save her. It should be noted, however, that the two are so close that the loss of one would almost certainly devastate the other completely.

BACKGROUND: Like his sister, Alan Raymond became interested in membership with the AR-I while attending the University of Heidelberg. After his graduation, he worked in their Earth-based laboratory facilities for two years until Dominique graduated, and they both signed up for shipboard missions and survey team duties.

He accompanied his sister to Aurore and counts himself lucky that the Kaefers did not arrive sooner. Other missions took him to Hochbaden, Vogelheim, and Beta Canum Venaticorum on the French Arm. Also, in a joint AR-I/Brazilian mission the two Raymonds travelled all the way to Procyon. Over the years, Alan and his sister have risen through the ranks of AR-I hand-in-hand. At no point in their careers have they considered assignments which would separate them. They live together on Earth and share adjacent cabins on *Bayern*.

DEBORAH H. CARTER

Position: Chief Historian

Nationality: British

Homeworld: Beta Canum Venaticorum IV

Gravity: Normal

Gender: Female

Birthdate: 2269

Mass: 70 kg

Height: 164 cm

Native Language: English

Other Languages: French

STR 6 DEX 7 END 8 INT 7 EDU 8 SOC 9

Admin 1, Art (visual media) 1, Art (write) 2, Drive (wheel) 1, Electronics (computers) 1, Gun Combat 0, Investigate 1, Science (archaeology) 3, Science (history) 4, Science (xenology) 1



MOTIVATION: Dr. Carter is an amiable young woman who, although taking her career very seriously, enjoys a good time and can often be found at the social activities set up around *Bayern* to maintain morale.

BACKGROUND: Dr. Deborah Carter is a graduate of the prestigious Adrian University on Beta Canum and attracted the AR-I's attention with her masters' degree thesis on early colonisation patterns and practices and then again with her PhD thesis comparing the building methods of Eber ruins on Kormoran, Heidelsheimat and Daikou, research conducted entirely using publicly available information and without visiting the sites. She was able to show several correlations in architecture and building systems that had been overlooked by onsite archaeologists. The AR-I invited her onto the excavations and she has been working with them ever since.

Although a quick inspection of the mission profile for *Bayern* may cast doubt on the need for a historian, the AR-I stands firmly behind it. An expert in the chains of events which have shaped the developments of the various known alien species, Dr. Carter will prove to be invaluable should the *Bayern* contact other sentient life.

ZHONG HUI

Position: Senior Astrophysicist

Nationality: Manchurian

Homeworld: Earth

Gravity: Normal

Gender: Male

Birthdate: 2268

Mass: 81 kg

Height: 173 cm

Native Language: Manchurian

Other Languages: English

STR 7 DEX 7 END 8 INT 10 EDU 10 SOC 8

Art (write) 1, Diplomacy 0, Drive (wheel) 1, Electronics (computers) 2, Gun Combat (slug) 1, Investigate 2, Language (English) 2, Language (French) 1, Melee (unarmed) 1, Science (astronomy) 4, Science (chemistry) 2, Science (physics) 4, Science (planetology) 3



CYBERNETICS: Neural Jack

MOTIVATION: Doctor Zhong has a single-minded dedication to his work and hopes to learn much about how planetary systems form during *Bayern*'s voyage. In the past, he has been subject to fits of rage when experiments have failed or favourite theories have not been borne out by test data.

BACKGROUND: A graduate of the University of Beijing, Dr. Zhong is a well-known figure in the field of astrophysics. His travels around human space have been the subject of numerous entertainment documentaries, including one produced by Christopher Bentley, *Bayern*'s chief journalist.

Dr. Zhong is not a member of the AR-I and his placement aboard *Bayern* was at the request of the Manchurian government, in return for logistical support during *Bayern*'s departure along the Chinese Arm. Dr. Zhong insisted that he was named senior astrophysicist, even though Dr. Bohl is head of the astrophysics department. Dr. Zhong expects Dr. Bohl to be too busy coordinating the science teams to dedicate any real time to the pursuit of science, and intends to capitalise on this as much as possible to gain prestige.

BRIAN NORTH

Position: Chief Sophontologist

Nationality: British

Homeworld: Tirane

Gravity: Normal

Gender: Male

Birthdate: 2234

Mass: 88 kg

Height: 180 cm

Native Language: English

Other Languages: French, Sung

STR 7 DEX 7 END 8 INT 10 EDU 10 SOC 4

Admin 1, Art (write) 1, Diplomat 3, Electronics (computers) 2, Gun Combat (slug) 1, Investigate 2, Language (French) 1, Language (Sung) 1, Medic 1, Science (exobiology) 1, Science (philosophy) 3, Science (psychology) 4, Science (sophontology) 4

MOTIVATIONS: Dr. North is fearless and brave, as his past record clearly shows, and has great dedication to his work. However, he is very aware of his positive traits and often speaks of them in public. This being the case, Dr. North has become known as an arrogant braggart who is generally irritating to be around.

BACKGROUND: Dr. Brian North, a native of Tirane, spent the duration of the Slaver War in captivity on the Sung homeworld. While he was officially a prisoner of war, he was able to acquire much information on the Sung and their Xiang 'slaves'.

Whilst in confinement he was seriously wounded in an accident and treated using Sung advanced medical techniques, including having several biomedical implants fitted. These implants have served to keep Brian fit and healthy ever since, and although nearly 70 years old he has the looks and physiology of a man in his 40's.

His social views on sophontology are occasionally in opposition to Dr. Bohranian's xenobiological approach, and there could be tension between the two if it were not for the fact that Dr. Bohranian is not inclined to be bothered that their views do not match, and Dr. North is so assured of his position that he would not even consider her differing opinion to matter at all.

HANNAH AUGUST

Position: Exozoologist

Nationality: Azanian

Homeworld: Joi

Gravity: Normal

Gender: Female

Birthdate: 2264

Mass: 75 kg

Height: 181 cm

Native Language: English

Other Languages: German, Swaz

STR 6 DEX 8 END 7 INT 9 EDU 10 SOC 6

Animals (training) 2, Animals (veterinary) 2, Athletics (dexterity) 1, Carouse 1, Drive (wheel) 2, Electronics (computers) 1, Gun Combat (slug) 2, Language (German) 1, Language (Swazi) 1, Mechanic 1, Science (biology) 4, Stealth 1, Survival 1



MOTIVATIONS: Dr. August is a direct and outspoken person, who ruffles many feathers. She is confident in her abilities and has an insatiable curiosity that is hard to satisfy. Her time around the rough and ready Azanian colonists on Joi meant that she had to develop a thick skin and is not intimidated by violence or threats.

BACKGROUND: Hannah August was born and lived her formative years on a cattle ranch in Azania. At the age of 18 she applied for the colonisation effort for the new Azanian start-up on Joi. The challenge of forging a new home on an alien world appealed to her greatly, and she relished the work. Her role as assistant veterinarian for the colony meant that she travelled a great deal and got to know the homesteaders well. During her travels she heard stories of the clever dragons and was intrigued. She studied the creatures at every opportunity, and once the colony was established she switched her focus to researching the curious creatures. She quickly realised that there were large gaps in her knowledge and so went offworld to study biology.

During this time she attended a series of lectures on xenology given by Jacqueline Bohranian and began a correspondence with her. At Dr. Bohranian's urging she approached the AR-I for assistance in studying the clever dragons, and after a careful vetting process she was accepted and her research fully supported. She remained in touch with Dr. Bohranian and it was again at her urging that she applied for the *Bayern* mission.

Her work on Joi has led on to other projects, including studying the kamelinsekts on Dunkelheim and the predatory dracoforms of Beowulf, where she became acquainted with Thomas Austin Ferris. It was during her study of the dracoforms that she was ambushed by a dragon bat whilst beyond the research team's perimeter. In her escape she fell down a ravine and severely injured her right knee. It was only the intervention of Ferris which prevented her from falling prey to the dragon bat. Even after several surgeries she still does not have full use of the leg and is often seen walking with a limp. She wears a claw from the dragon bat that mauled her on a necklace, which Thomas Austin Ferris presented to her during her recovery. The two have developed a close, but platonic, relationship ever since.

THOMAS AUSTIN FERRIS

Position: Planetside Security

Nationality: Texan

Homeworld: Kormoran

Gravity: High

Gender: Male

Birthdate: 2246

Mass: 101 kg

Height: 187 cm

Native Language: English

Other Languages: Mandarin, Spanish, Eberese

STR 8 DEX 9 END 10 INT 7 EDU 8 SOC 6

Art (instrument) 1, Drive (wheel) 2, Electronics (computers) 1, Gun Combat (archaic) 1, Gun Combat (energy) 2, Gun Combat (slug) 4, Investigate 1, Language (Eberese) 1, Language (Mandarin) 0, Language (Spanish) 2, Navigation 2, Mechanic 1, Medic 1, Recon 2, Science (biology) 2, Stealth 3, Survival 3

MOTIVATIONS: Ferris is a cautious individual who takes his role on a mission team very seriously. Whilst he feels the same curiosity and wonder as his scientific colleagues, he keeps the safety of the group at the forefront of his mind. He is not afraid or intimidated by the great minds he works with and is quite prepared to stand his ground in the face of their scholarly objections with regards to the safety of any team under his guidance. He is also scrupulously polite and honest, and puts great stock in good manners and words of honour. Ferris considers himself a Texan gentleman, and his word is his bond.



BACKGROUND: Thomas Austin Ferris was a Texas Ranger on Kormoran for many years and gained a great deal of survival knowledge through his interactions with the nomadic Eber tribes. After the death of his family in a domestic fire whilst he was on long range patrol, Ferris left Kormoran. He returned to Earth and applied to several Foundations for positions on a survey or research team, but was unsuccessful.

His lack of success made him realise that his survival skills alone were not in demand with the Foundations, so instead he applied to corporations for security and guide work. He was more successful here and soon leading corporate scouting teams. However, the financial focus of these expeditions did not appeal to him and whilst on Beowulf he became acquainted with Hannah August. Through her he reapplied to AR-I and was accepted as a survey scout. He has since spent a great deal of time developing scientific skills, and is now a competent field researcher specialising in botany.

Although he no longer wears the badge, he still feels in his heart that he is a Ranger and has a strong sense of right and wrong. He is very protective of his charges whilst on-planet, sometimes to their frustration, but takes pride that he has never had a serious incident since the one that injured Dr. August.

ROBERT PERCY

Position: Lander Pilot

Nationality: British

Homeworld: Earth

Gravity: Normal

Gender: Male

Birthdate: 2261

Mass: 91 kg

Height: 175 cm

Native Language: English

Other Languages: French

STR 6 DEX 10 END 7 INT 10 EDU 7 SOC 6

Electronics (comms) 1, Flyer (vectored thrust) 3, Flyer (wing) 4, Gun Combat (energy) 2, Language (French) 1, Mechanic 2, Navigation 2, Pilot (small craft) 4, Science (chemistry) 1, Survival 1, Vacc Suit 2



MOTIVATIONS: Percy is determined to succeed and eager to assume dangerous assignments which will prove his skill and devotion.

BACKGROUND: Percy is a good-looking Englishman in his late thirties. He has always proven himself to be a reliable crewmember and skilled lander pilot. He joined the AR-I after serving in the Royal Space Navy as an orbital search and rescue pilot, where he earned a reputation for skilful and precise flying. He has no desire to pilot starships; after all, 'it's not proper flying if you can't fall.'

YVONNE VANESSA ROURKE

Position: Lander Pilot

Nationality: French

Homeworld: Vogelheim

Gravity: Normal

Gender: Female

Birthdate: 2262

Mass: 72 kg

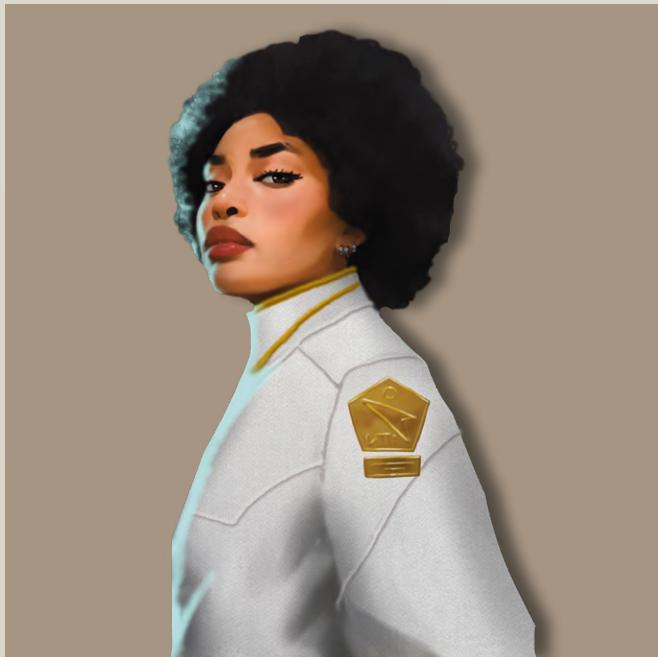
Height: 180 cm

Native Language: French

Other Languages: English

STR 7 DEX 9 END 7 INT 8 EDU 8 SOC 8

Athletics (dexterity) 2, Athletics (strength) 1, Gun Combat (slug) 2, Electronics (computers) 1, Flyer (vectored thrust) 2, Flyer (wing) 5, Language (English) 1, Mechanic 1, Melee (unarmed) 2, Pilot (small craft) 5, Science (biology) 1, Tactics (military) 2, Vacc Suit 2



MOTIVATIONS: Rourke is a skilled military strategist. Unfortunately, she is also quite without fear. She is an adrenaline junkie and takes extreme risks to get her next high including orbital skydiving, free climbing and wingsuit aerobatics. So far her skill has been sufficient to overcome the risks, but she is sure to eventually put herself in a situation she is not able to get out of.

BACKGROUND: Yvonne Rourke is a former lander pilot for a French Rapide Descente Peloton. These elite military teams are trained for very swift drops from orbit to the surface of a world. To this day, she retains a taste for getting her craft down as fast as possible, no matter what the effect is on the nerves of her passengers.

DAVID BRUENWELLER

Position: Spaceplane Pilot

Nationality: German

Homeworld: Tirane

Gravity: Normal

Gender: Male

Birthdate: 2255

Mass: 84 kg

Height: 175 cm

Native Language: German

Other Languages: English

STR 8 DEX 8 END 9 INT 7 EDU 7 SOC 6

Electronics (sensors) 1, Flyer (wing) 5, Gun Combat (slug) 2, Heavy Weapons (vehicle) 2, Language (English) 1, Mechanic 1, Melee 0, Pilot (small craft) 1, Recon 2, Science (planetology) 2, Tactics (military) 1, Vacc Suit 1



MOTIVATIONS: Bruenweller has a great sense of loyalty and fellowship for those aboard *Bayern*. He thinks of himself as a great pioneer and feels kinship with others of his ilk. In addition, his military experience and natural combat sense make him able to respond to hazards without panic or overwhelming fear.

BACKGROUND: Bruenweller is a former fighter pilot who served for many years with the Raumwaffe of Friehaven. He has never served with Commander Schmidt before but has always looked up to him as something of a hero. As such, he considers himself lucky to be serving aboard *Bayern*.

KRISTOFFER KNUSEN

Position: Spaceplane Pilot

Nationality: Scandinavian

Homeworld: Earth

Gravity: Normal

Gender: Male

Birthdate: 2257

Mass: 98 kg

Height: 189 cm

Native Language: Scandinavian

Other Languages: French, English

STR 11 DEX 8 END 8 INT 7 EDU 7 SOC 7

Art (performer) 2, Athletics (strength) 3, Carouse 2, Electronics (computers) 1, Flyer (wing) 5, Gun Combat (slug) 2, Language (English) 1, Language (French) 1, Mechanic 2, Melee (unarmed) 3, Pilot (small craft) 3, Science (physics) 1



MOTIVATIONS: Knutsen is confident in his own potential and skills. As such, he is constantly manipulating others to attain his own goals. He is also a braggart who feels far more important than those around him.

BACKGROUND: Knutsen has served aboard only one previous AR-I mission but has years of experience in aircraft piloting as an employee of the Trilon Corporation. He earned his position aboard *Bayern* strictly on the basis of his skills with *Engel*-class craft and outstanding success in the simulation tests. Unusually for a pilot he is very tall and muscular and enjoys the attention his good looks and physique attract.

ANGELICA MENDOZZA

Position: EVA Team leader

Nationality: Mexican

Homeworld: Montana

Gravity: Normal

Gender: Female

Birthdate: 2268

Mass: 72 kg

Height: 164 cm

Native Language: Spanish

Other Languages: French, English

STR 7 DEX 9 END 7 INT 7 EDU 8 SOC 8

Electronics (comms) 1, Electronics (computers) 2, Engineer (power) 2, Mechanic 3, Pilot (small craft) 3, Science (physics) 2, Language (English) 1, Language French 1, Vacc Suit 4



MOTIVATIONS: Mendoza is a charming and polite, if somewhat rugged, individual. Although she is deeply religious, she is anything but a 'holy roller' and respects the privacy of others' theological views. Due to her beliefs, she always tries to live an honest and charitable lifestyle, helping others whenever she can.

BACKGROUND: Mendoza is a citizen of Mexico who once worked as a technician for the Instituto Nacional de Astronomia Practica (INAP). The military nature of their research, however, was against her strong beliefs, and she opted to leave them in favour of the foreign, but far more peaceful, AR-I.

TASHIMA MATSIKA

Position: Remote Pilot

Nationality: Japanese

Homeworld: Earth

Gravity: Normal

Gender: Female

Birthdate: 2265

Mass: 56 kg

Height: 164 cm

Native Language: Japanese

Other Languages: English, French

STR 6 DEX 8 END 7 INT 9 EDU 8 SOC 6

Electronics (comms) 2, Electronics (computers) 2, Electronics (remote ops) 4, Gunner (turret) 2, Gun Combat (slug) 2, Language (English) 1, Language (French) 1, Melee (blade) 3, Pilot (small craft) 1, Science (biology) 1



CYBERNETICS: Neural Jack

MOTIVATIONS: Matsika is a strong believer in the doctrine of 'peace through superior firepower'. The fact that *Bayern* and many AR-I vessels carry no heavy weapons is a tragic mistake in her opinion. Although she has campaigned heavily in favour of armed survey craft, the AR-I seems solidly against any such policy.

BACKGROUND: Formerly a member of the Japanese Space Force, Matsika is one of the best remote pilots in known space. She left the military after an accident killed several of her best friends, and eventually drifted into the service of the AR-I some time ago. Her accuracy and precision at the controls of unmanned craft have earned her a solid reputation throughout the AR-I.

NORMAN TAYLOR

Position: George Bauer captain

Nationality: Australian

Homeworld: Earth

Gravity: Normal

Gender: Male

Birthdate: 2245

Mass: 76 kg

Height: 181 cm

Native Language: English

Other Languages: French

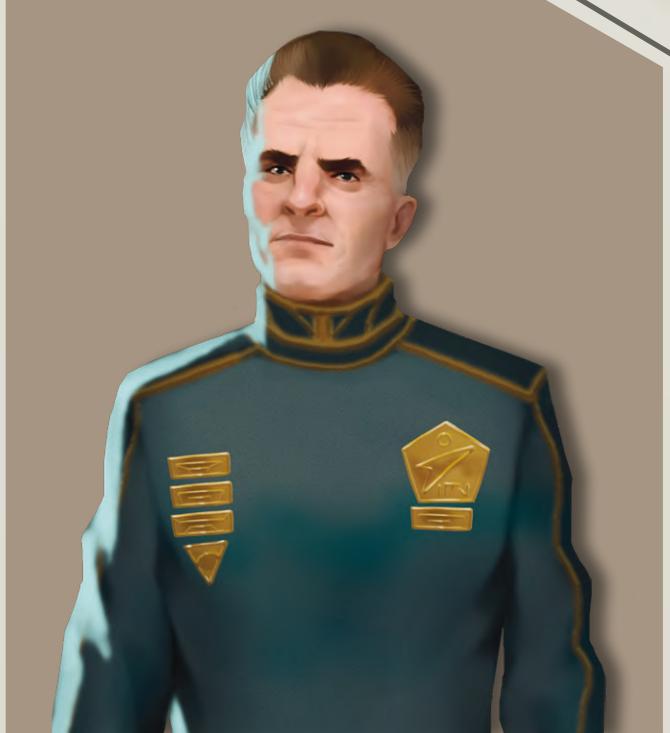
STR 7 DEX 7 END 10 INT 8 EDU 9 SOC 10

Athletics (endurance) 2, Electronics (comms) 1, Electronics (computers) 1, Electronics (remote ops) 1, Electronics (sensors) 2, Explosives 2, Gun Combat (energy) 1, Language (French) 1, Mechanic 2, Melee (unarmed) 2, Pilot (small craft) 2, Profession (belter) 3, Sciences (planetology) 1, Vacc Suit 2

CYBERNETICS: Neural Jack

MOTIVATIONS: Norman, or Norm as he insists on being called, is a no-nonsense veteran of the Australian Space Force and the AusSpace Mining Company. In dealing with both his fellow navy officers and Belter roughnecks, Norm has been threatened with physical violence on more than one occasion and is largely unmoved by it. He has a strong commitment to the wellbeing of those he works with and will react strongly to real or perceived threats towards them. Norm sees himself as the stern head of a family made up of his shipmates and, by extension, all of *Bayern*'s crew.

BACKGROUND: Norm enlisted with the RASF as soon as he could, in a desperate attempt to get out of poverty in one of the multitude of fading Australian mining towns.



He served with distinction aboard a series of Australian vessels and was decorated for bravery during a rescue mission in which a Belter station was damaged. During the follow up to that mission he met and fell in love with his wife, an executive with the mining co-op that owned the station. When their first child was born (Amy Taylor, George Bauer's remote ops officer), Norm retired from the navy and took a job with the same mining co-op to spend more time with his family. Norm's wife died in an OTV crash as she was inspecting a prospective claim when Amy was just a few years old, and Norm raised her alone. He and Amy continued to work for the co-op and built a reputation in the mining community for their sterling work. This reputation paid off when Trilon recommended them on the strength of their work as independents to the AR-I, as captain and 1st officer for *George Bauer*.

AMY TAYLOR

Position: George Bauer 1st Officer/Chief Remote Pilot

Nationality: Australian

Homeworld: Botany Bay Orbital

Gravity: Micro

Gender: Female

Birthdate: 2270

Mass: 52 kg

Height: 162 cm

Native Language: English

Other Languages: Dutch, French

STR 7 DEX 8 END 8 INT 8 EDU 8 SOC 7

Admin 2, Electronics (comms) 2, Electronics (computers) 2, Electronics (remote ops) 3, Language (French) 1, Mechanic 3, Melee (unarmed) 1, Pilot (small craft) 2, Profession (belter) 3, Science (robotics) 2, Vacc Suit 1

MOTIVATIONS: Amy has learned a strong work ethic from her father and other members of the mining co-operative she was raised in. She believes that hard work is nothing to be shied away from and welcomes complex tasks and challenges, seeking to elevate her standing amongst her peers. Amy has simple tastes outside of work, and blows off steam by boxing. She is an accomplished amateur fighter and has been known to swing a few happy punches when she has had a few drinks too many.

BACKGROUND: Upon first appearances, many people think Amy would be more at home in a biker bar than running a mining drone through a virtual interface. She sports a bleached blond, cropped and



shaved hairdo, has a multitude of tattoos and piercings, and most of her uniforms have the sleeves ripped off to show off her well-muscled physique.

However, in contrast to her unruly image, whilst she is on duty Amy is always controlled, business-like and a consummate professional. When off duty Amy enjoys simple pleasures – a cold beer, a game of Aussie-rules footy and a good steak with her friends. Her wild side really comes to light when she decides to let rip and on those occasions she has been known to drink and/or fight 20-year navy men under the table. Despite these antics, she is neither obnoxious nor overbearing and is a popular and well-liked member of the crew.

MAYA CELESTINE

Position: Anton Dohrn Captain

Nationality: British

Homeworld: Earth

Gravity: Normal

Gender: Female

Birthdate: 2252

Mass: 65 kg

Height: 165 cm

Native Language: English

Other Languages: French

STR 7 DEX 7 END 7 INT 9 EDU 8 SOC 7

Admin 1, Art (performer) 1, Astrogation 1, Electronics (comms) 1, Electronics (computers) 3, Electronics (sensors) 4, Engineer (stutterwarp) 1, Pilot (spacecraft) 2, Science (physics) 2, Science (planetology) 2, Language (French) 1, Language (German) 1, Leadership 1, Vacc Suit 1

MOTIVATIONS: Maya is a strikingly attractive British woman, who wears her hair in intricate beaded braids. She is eloquent, but softly spoken which sometimes leads others to underestimate her. However, she is persistent, calm, determined and rarely deterred. She has often won debates and discussions with her peers because she remains resolute, calm and methodical when those with hotter tempers become distracted.

Despite her cool and calm approach, she is also a warm and generous person, who is quick to laugh when off duty and seeks out the company of her shipmates. Maya also loves to sing, and has a powerful voice despite her soft-spoken appearance. She can often be found in some of the larger open spaces aboard *Bayern* and the flotilla ships, where the acoustics suit her vocal talents.

BACKGROUND: Maya was born in southeast London to a working class family. When 13 years old she received a telescope as a gift and became fascinated by the stars. She studied at Imperial



College in London, whilst holding down two jobs to finance her studies and support her family, and gained a double first in aeronautical engineering and physics. She spent a year abroad at the Jürgen Zühr Teknisches Schule in Bavaria under the AR-I exchange programme where she worked on the initial designs for the *Baade* project. She graduated with double masters degrees in astrophysics and physics, specialising in remote sensing.

After her study she applied to the AR-I and was accepted onto several exploratory missions along the French Arm and then successfully applied to the now well advanced *Baade* mission as sensor operator. Maya took full advantage of the opportunities the trip offered, and expanded her skill set considerably by spending time in other departments. She developed a close working relationship with Dieter Bohl and it was at his recommendation that she applied for a position with the *Bayern* mission. Although expecting to be placed in the sensor department again, Bohl instead recommended her for the captaincy of the *Anton Dohrn*, a role she was happy to accept.

THE DEPARTURE

We departed in formation with all ships uncoupled and flying free, just like the publicity shots around Earth and Jupiter nearly three months ago. Anton Dohrn, Entdecker and George Bauer were flanking Bayern and she dwarfed us all. The Manchurian escort ship, there for our 'protection', and our own support ship, Bayern's elder sister, the Baade, stood off as we aligned our vectors for travel.

It was all showboating, of course; as soon as we were just a light hour away and safely out of range of the cameras we planned to rendezvous and link back up. There had been some discussion about making the first transit separately to test the navigation calibration, but honestly, we wanted to get under way so badly that we just couldn't spend the time on tests and drills. There would be plenty of time for that later.

I sat in the captain's chair of Entdecker, restrained by my harness. The holographic repeater displays hovering in the air around me all looked good. I could hear the murmur of the crew as they went about their tasks. Everybody was awake for the departure, and the rear half of the small bridge was crowded with off duty crew, waiting to observe our exit from human space. They held on to grab handles, grip plates and each other.

I heard Captain Schmidt clear his throat on the intership channel. As ranking officer of our little flotilla he should have been a commodore or admiral, but had insisted that he retain his rank of captain.

'Well, my friends, the time has come. I think it is only right that our pathfinder should lead us off. Anton Dohrn, please proceed. Entdecker, feel free to give our audience some nice visuals as you follow us out.'

Silently Anton Dohrn blinked out of existence as she engaged her stutterwarp drive, followed almost immediately by the appearance of a ghostly image of the ship that raced off and was invisible in seconds – her departure image catching up with us. Bayern and George Bauer followed a few seconds later.

I nodded to Bridget, our navigator, and she began the countdown to stutterwarp activation. Karl, our helmsman, glanced at me and I nodded to him too. He had been practicing this manoeuvre for weeks.

'Hold tight everybody. Firing insertion thrusters. Port roll 30, pitch positive 15.' At the rear of our streamlined ship the orbital insertion thrusters burst into life and a glowing trail of charged plasma and combusting hydrogen pushed the ship forward with a gentle half G of acceleration. I heard gasps and laughter from behind me as the bulkhead pushed forward into the unsecured crew.

The plasma rockets of the insertion thrusters are all but useless for manoeuvring in space and stutterwarp-equipped ships will actually run rings round a craft using just a reaction drive. A stutterwarp is mostly invisible, though, and people still expect their spaceships to shoot flames out of their tailpipes, even after 200 years of space travel. We were just giving them the shot that would show on the nightly news back on Earth – the sleek, white spaceship with glowing, fiery engines heading off into the unknown.

At least, that's what they'll see in three months time when the courier ships have returned the video files to Earth. By then, we'll be well on our way towards our final destination – the Pleiades. We'll be further away from Earth than any humans have ever been.

Karl completed the roll and pitch manoeuvre and pulsed the drives to 1g for a couple of seconds to produce a nice, photogenic flash of plasma. At the same instant as he cut the reaction drive entirely, Bridget activated the stutterwarp. Clearly the two of them had been practicing together. To the observers, we had just disappeared in a flash of light, our ship's ghostly image racing off to the stars.

To us, it was the beginning.

THE DEPARTURE



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PROJECT BAYERN
MISSION PROFILE



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