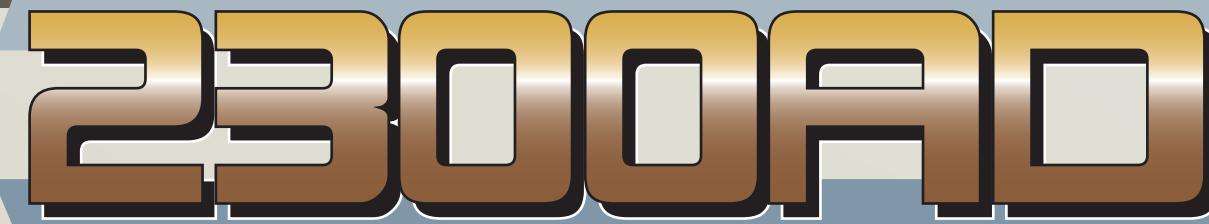


# 2300AD

PROJECT BAYERN  
PRIMARY MISSION OBJECTIVES



TRAVELLER®



## PROJECT BAYERN

# PRIMARY MISSION OBJECTIVES

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# PROJECT BAYERN PRIMARY MISSION OBJECTIVES

**To:** CO SS Bayern, SS Entdecker, SS Anton Dohrn, SS George Bauer, Project Bayern Chief Scientific Officer, 1<sup>st</sup> Officer SS Bayern

**From:** Jens Millane, Head Office of Special Projects, AR-I

**Subject:** Code AGRA mission abstract

**Code Words:** TOP SECRET, COSMIC KING, LONGBOW GREEN, ORION CHASE, CODE AGRA

The Bayern exploratory mission to the Pleiades has a dual purpose. The public facing mission, as discussed in detail elsewhere, is to explore the M45 Pleiades star cluster and investigate target worlds for colonisation along the Pleiades corridor.

The covert mission is to investigate the phenomena known as Code: AGRA, the Alcyone Gravitic and Radiation Anomaly.

Observations of the major B class stars within the core of the M45 star cluster; Alcyone, Asterope, Atlas, Celano, Electra, Maia, Merope, Pleione, Sterope, Taygeta, HD 23753, HD 23923 and HD 23853, have revealed unusual radiation and gravitational anomalies.

Stutterwarp-enabled observations from multiple locations throughout human space have allowed for long baseline and time-shifted observations to be correlated to give a 250-year detailed observation window (when factoring in historical data).

These detailed observations have indicated several areas of unexplained change. Firstly, unusual perturbations of the nebulosity around Merope, Alcyone and Maia, in decreasing order of magnitude, indicating interactions with unobserved gravitational fields or objects, the source of which cannot be discerned.

Secondly, spectrographic observations show anomalous red shift changes that indicate a small, but detectable, change in the proper motion of the stars. This may be due to interactions with the molecular cloud that is responsible for the nebulosity around several of the stars. However, observed changes of the star's velocities are in the very upper region of the potential modelling of the effect and thus considered to be low probability for the change in motion.

Finally, the emission spectra of M45 cluster as a whole has altered whilst the individual radiation emissions of the stars have remained constant. This indicates there are additional, unidentified emission sources contributing to the radiant flux of the cluster. Detailed observations have yet to identify the source of this. The additional radiation emissions are seen to be climbing at a slow, but constant rate.

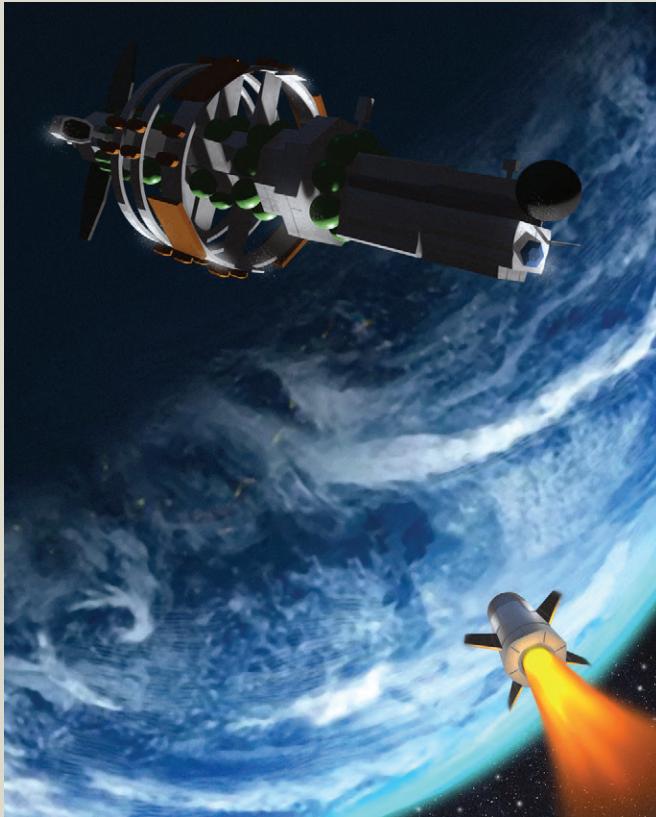
The Bayern mission is to investigate these unprecedented changes, seek to understand the method and mechanisms involved in the changes, investigate the root causes and origins, determine the effects upon the future of the M45 cluster and wider implications for stellar evolution, and potential risks and impacts.

## INTRODUCTION

As the flotilla proceeds towards the Pleiades and their eventual investigation of the secret of Code: AGRA, they will be forced to overcome a number of challenges, not the least of which may be the crewmember who is attempting to sabotage the mission. The adventures contained within this book comprise the main plotline for the Bayern campaign.

They should be played in the order presented, although the MET and CMD, as discussed in *Project Bayern Mission Profile*, can be altered to suit the referee's requirements. Referees are free to intersperse the main Plot Points with unrelated Interludes, contained within *Project Bayern Secondary Mission Objectives*, plus additional Interludes, encounters and side-missions of their own devising.

# PLOT POINT 1 THE MESSAGE DRONE



**MET:** D+92  
**CMD:** 143 ly

**System:** BPC232004 (HD 23052)  
**Stellar Type:** G7V  
**X, Y, Z Co-ordinates:** 43.5, 63.6, 23.9

Part of *Bayern*'s mission is to keep the ARI, Trilon and the waiting public at home up to date on her mission and discoveries. To achieve this she carries a small fleet of stutterwarp-capable robotic courier ships. These craft contain a sophisticated robot brain capable of traversing a safe route provided by *Bayern*'s astrogation department. Their closed cycle fuel cells and solar arrays allow them to be self-sufficient, and their lack of crew means they can travel for great distances without needing to resupply. These characteristics make the message drones ideal for carrying *Bayern*'s periodic updates back to human space and she is expected to despatch one at least every 6 months on her outbound trip.

The AR-I is also concerned that a hostile alien species should not learn the location of the human homeworlds so in the event the message drones are intercepted, they are programmed to self-destruct, destroying their precious information and safeguarding humanity's location. The drones carry a powerful but compact explosive device and a shaped plasma charge designed to ensure the destruction of the drone's databanks.

The first message drone is launched ahead of schedule on D+92, just over 5 weeks after *Bayern* left human space and almost 3 months since she left Earth. Surveys of the closest stars are the most readily useful to the AR-I scientists and Trilon sponsors, and the team of reporters have been petitioning Commander Schmidt to allow them to return their stories of *Bayern*'s journey before the excitement at home has abated.

The launching of the message drone is quite an event and each active crewmember is permitted to send a short data stream home with the drone. Although the drone's memory is capacious it is not infinite and the captain has limited the space available to each crewmember.

The launch of the drone is completed in four steps. The referee should explain to the Travellers that these are the types of tasks they are undertaking on a daily basis – launch or recovery of probes and drones, bringing systems on and offline, systems checks and so on.

Referees and Travellers with a flair for the dramatic may wish to roleplay the recording of a short message or the referee may suggest the Travellers record their own video diaries to send home using webcams or similar. Alternatively referees can suggest that Travellers prepare a manifesto of the information they are sending home in the data streams with descriptions of particular images, research projects or personal correspondence. Referees are encouraged to reward creativity and efforts to enhance the campaign's background.

## Launching the Drone

The first stage is to bring the drone's computer, avionics and robot brain online. The robot brain is activated and undergoes its system checks. This requires a Routine (6+), Electronics (computers) check (1Dx10 minutes, INT). Failure requires the tests be restarted. An Effect of -6 or worse indicates a hardware fault has been detected and the drone will require a physical inspection. This will have to be done at a later date and in the meantime a second message drone will need to be prepped, requiring the process to be restarted. If successful the drone's avionics and electronic systems are active and now running off *Bayern*'s internal power system through the drone's umbilical connections.

The second stage is to bring the drone's power plant and stutterwarp systems online so it can operate as a standalone craft. Activating the fuel cell is an automated process and Ace will fuel the drone via the docking bays' connections. The fuel cell will begin to operate as soon as fuel is transferred.

Whilst in storage the drone's stutterwarp drive will be offline to avoid building up a charge whilst *Bayern* uses its own drives. *Bayern* is conducting the first of her message drone launches in orbit around a planet, so bringing the drive online is much easier than it would be in deep space where the experimental drive tuner would be required.

To bring the drive online in stressed space requires an Average (8+) Engineer (stutterwarp) check (1Dx10 minutes, INT). Failure indicates the calibrations are rejected by stutterwarp drive and the task must be attempted again. An Effect of -6 or worse indicates that the calibrations are incorrect and the drive has become misaligned. Success on an Average (8+) Engineer (stutterwarp) check (1D hours, INT) is required to realign the drive before further calibrations can be completed. This check can be attempted as many times as it takes to realign the drive, although for expediency it may be better to instead bring another drone online and realign the drive at a later time.

The third stage is the deployment of the drone. This requires three members of *Bayern*'s EVA team to board the cargo bugs and assist from outside the ship. Most of the work is carried out automatically, with the cargo bugs just there for backup. The pilots should make a Routine (6+) Pilot (small craft) check (1Dx10 minutes, DEX). Failure results in an

embarrassing but not dangerous problem such as the cargo bug tumbling uncontrollably for a short period before the pilot regains control. An Effect of -2 or worse results in an additional delay of 1Dx10 minutes. An Effect of -6 or worse indicates that the cargo bug pilot has made a serious error that puts *Bayern* in danger, losing control of the bug in some way or perhaps drifting too close to the rotating spinhabs. Control of the bug has to be assumed by the remote operator to prevent damage to *Bayern* and the bug. This imposes a further delay of 1Dx10 minutes and will be extremely embarrassing for the cargo bug pilot.

The final stage is for the remote operator to move the drone to a safe distance from *Bayern* and activate its stutterwarp drive. This requires a Routine (6+) Electronics (remote ops) check (1D minutes, DEX) to complete. Any success indicates the drone is moved 200 km away from *Bayern* and switches over to its internal systems. It should then proceed under its own control. Any failure indicates a loss of contact with the drone. At this point the drone's automated systems will kick in and it will follow its automated programming. However, the drone switching to internal control so close to *Bayern* will have consequences, as detailed below.

## RETURN TO SENDER

Once the drone switches over to internal control, observers on board *Bayern* will see it fire its station keeping thrusters in a ripple of flashes for a few seconds to re-orient itself. There will then be a burst from the main thruster to bring its relative velocity to zero. However, instead of turning to its correct vector to stutterwarp away, the drone will turn towards *Bayern* and continue to burn its main thruster. A quick check will show that the drone is heading back towards *Bayern* on a collision course, and quickly building speed.

If the Electronics (remote ops) check was successful the drone will be almost 200 km away and, at its maximum acceleration, will cover that distance in just over a minute and a half. This gives the Travellers 16 rounds to try and regain control of the drone, intercept it in some way or move *Bayern* out of its way.

If the Electronics (remote ops) check was failed, the drone will have assumed control sooner and be much closer to *Bayern*. The drone will be 1Dx10 km away and the time to impact will be as follows:

## Drone Impact

Distance	Time to Impact	Impact Velocity	Impact Damage
10 km	4 rounds	0.9 km s <sup>-1</sup>	1D
20 km	5 rounds	1.1 km s <sup>-1</sup>	1D
30 km	6 rounds	1.4 km s <sup>-1</sup>	2D
40 km	7 rounds	1.6 km s <sup>-1</sup>	3D
50 km	8 rounds	1.8 km s <sup>-1</sup>	4D
60 km	9 rounds	2.1 km s <sup>-1</sup>	6D

Depending on the roll, the Travellers may only have one or two attempts to avoid, disable or destroy the drone. The impact in this instance will be at a much lower velocity, but can still cause significant damage.

## Full Thrust

Moving *Bayern* out of the way is not as simple as it sounds since the stutterwarp and manoeuvre drives are not primed. The stutterwarp drive cannot be spun up to speed in anything less than 10 minutes, so the only option is to use *Bayern*'s OMS thrusters. The thrusters can be crash started by passing a Difficult (10+) Engineer (power) or Engineer (m-drive) check (1D rounds, INT). Failure will result in the drives being brought online in 1D+2 rounds. An Effect of -2 or worse means the check must be re-tried, taking another 1D rounds. An Effect of -6 or worse will result in a pressure overload rupturing a fuel line. Fixing the burst fuel line will take longer to than is available before the drone impacts. Effect 6+ means the drives are brought online in half the time.

Once the drives are online, the pilot must move *Bayern* out of the drone's path, whilst avoiding thruster burns that would cause *Bayern* undue stress or send her further into the planet's gravity well. The rotating spin habitats act like a gyroscope and will resist any attempts to radically alter *Bayern*'s attitude. Likewise, *Bayern* is not designed to perform high-turn rate manoeuvres. Moving the ship away from the drone's path is a Difficult (10+) Pilot (capital) check (D3 rounds, DEX). Success indicates the drone will bypass the ship safely. Failure allows another attempt to avoid the drone, taking another D3 rounds but Effect -6 or worse indicates that the manoeuvre has failed, and *Bayern* sustains 1D damage in the attempt due to hull stress and torsion from the rotating spinhab, plus the drone is still on course and the evasion must be attempted again.

## Hacking the Drone

The Travellers may attempt to regain control of the drone as it begins its inbound track. Each attempt to regain control is a Difficult (10+) Electronics (computers) check (1D rounds, INT) or Very Difficult (12+) Electronics (remote ops) check (D3 rounds, INT). Failure indicates that the safeguards around the drone's systems could not be breached and another attempt may be made. Success will allow the Traveller to either alter the drone's course to avoid *Bayern*, forcing it onto a course that will cause it to fall into the nearby planet, or destroy the drone using the self-destruct charge. Effect 1+ will return control to the remote operator, who can choose to either destroy the drone or alter its course to miss *Bayern*. Once it has passed *Bayern* the remote operator can manoeuvre it normally and, if desired, bring it to a halt nearby *Bayern*. Effect 6+ will also return control of the drone to the remote operator, but will also grant the Travellers DM+2 to investigate the cause of the malfunction.

## Intercepting the Drone

A further option the Travellers may consider is to use *Bayern*'s observation drones to intercept the message drone. The observation drones are little more than a camera, thruster pack and a set of floodlights, and *Bayern* carries 50 of them for supervising routine maintenance tasks, observation and to assist EVA teams.

The straight-line course means it is straightforward to estimate where the message drone will be. Unfortunately the observation drones are much smaller and it may take more than one interception to destroy or deflect the incoming drone. In addition, the drones have a limited range. The remote operator will have to wait until the message drone is within 30 km of *Bayern* before attempting the intercept. Ace will assist the operator by launching drones and moving them to the general area before handing control over to the human operator.

The remote operator then has a choice of attempting to destroy the message drone or deflecting it. Destroying the message drone is easier, but will require more attempts as the small observation drones do little damage individually. Deflecting the drone is harder since the observation drones need to impact with the message drone at an angle to its course in order to deflect it, but it should only require one or two hits to sufficiently deflect the message drone away from *Bayern*.

*'Damage Report: Explosive decompression in Cargo Bay 5, decompression alarm in drive tuner bay, drive tuner offline, main bus A undervolt alarm, main bus B undervolt alarm, pressure loss in fuel tank T1, pressure loss in fuel tank C2, torsion alarm on all spinhab magnetic bearings, pressure loss in hydroponics bay A, pressure loss in Spinhab B sections 1 through 9, pressure loss in Spinhab C section 9, pressure loss in space plane bay 2, fire in lander bay 2 – activating fire suppression system.'*

Destroying the drone requires a Routine (6+) Electronics (remote ops) check (1 round, DEX). Success inflicts 1D-3 damage.

Deflecting the drone requires a Difficult (10+) Electronics (remote ops) check (1 round, DEX). Success will provide 1 point of deflection, Effect 1+ will provide 2 points and Effect 6+ will provide 3 points of deflection. A total of 3 points of deflection are required to alter the message drone's course so it will pass safely by *Bayern*. An attempt to deflect the message drone may be made each round until impact.

## Drone Examination

Effect	Saboteur Result	Malfunction Result
6+	As average success plus code fragments found in a memory buffer. A self-erasing program was uploaded to the probe with the start-up data stream.	A defective set of electromagnetic shielding scrambled the drone's instructions. Analysis has identified the weakness in the shielding and it can be prevented in future.
1-5	As Effect 0 plus no evidence of outside control in the drone logs.	Diagnostic reveals systems were scrambled by a random electromagnetic surge, possibly a cosmic ray event.
0	No physical damage to robot brain and all systems pass their diagnostics. Whatever happened, it was not a malfunction.	System diagnostic indicates a failure of the guidance system. Whatever happened, it seems to have been a malfunction.
-1	Diagnostic failed. May retry.	Diagnostic failed. May re-try
-2 to -5	Diagnostic failed. May retry but next attempt takes twice as long.	Diagnostic failed. May retry but next attempt takes twice as long
-6 or less	Diagnostic failed and systems damaged. May re-try but next attempt suffers DM-2 and takes twice as long.	Diagnostic failed and systems damaged. May re-try but next attempt suffers DM-2 and takes twice as long.

## IMPACT

If the Travellers are unable to stop it, the drone will impact with *Bayern* somewhere around the cargo bays. At maximum velocity the impact will be at  $3.7 \text{ km s}^{-1}$ , inflicting 10D damage and releasing energy equivalent to 15 tons of TNT. If the drone became active closer to the ship the impact damage will be less, as indicated on the Drone Impact table.

The damage will be somewhat lessened by the drone fragmenting upon impact and most of the fragments will pass straight through *Bayern*'s structure and continue on. The initial impact and explosive out-gassing of the drone's remaining fuel will still inflict severe damage to *Bayern*.

The referee should describe the chaos of the impact, with multiple alarms sounding, vibrations from the spinhab as they resist the attitude change from the impact, the snap, bangs and pops of *Bayern*'s automated attitude stabilisers firing the RCS thrusters, and Ace listing off a litany of damaged systems.

## Telemetry Examination

Effect	Saboteur result	Malfunction result
6+	As Effect 1-5 plus evidence that an encrypted program was uploaded to the drone as part of the data stream.	As Effect 1-5 plus telemetry shows inputs to a specific set of components were being scrambled.
1-5	As for Effect 0, plus evidence of a larger than expected upload from the data stream.	As for Effect 0 plus internal sensors show heat build up in some components of the guidance systems.
0	Telemetry indicates probe was operating normally until it switched to internal systems. Whatever caused the problem was due to something within the probe.	Telemetry indicates probe was operating normally until it switched to internal systems. Whatever caused the problem was due to something within the probe.
-1	Analysis failed. May retry.	Analysis failed. May retry.
-2 to -5	Analysis failed. May retry but next attempt takes twice as long.	Analysis failed. May retry but next attempt takes twice as long.
-6 or less	Analysis failed and data file corrupted. May re-try but next attempt suffers DM-2 and takes twice as long.	Analysis failed and data file corrupted. May re-try but next attempt suffers DM-2 and takes twice as long.

## INVESTIGATING THE DRONE

After the damage control teams have sealed any breaches, locked down or diverted any damaged systems and the immediate danger has passed, the captain will order an investigation into what happened with the drone and why it malfunctioned. If the referee is using the Saboteur subplot then the Travellers will have an opportunity to discover that a piece of malicious code was uploaded to the drone. If the referee has chosen not to use this subplot the Travellers will have the opportunity to discover a random malfunction of the robot brain linked to a set of faulty electromagnetic shielding.

If the drone was deactivated it can be recovered and examined in more detail. The captain will be reluctant to bring it back aboard, but will authorise an EVA to remove the drone's memory banks and robot brain. This can be accomplished using the cargo bugs. Analysing the robot brain and memory banks requires a Difficult (10+) Electronics (computers) check (1D Days, INT).

The Travellers can also examine the telemetry from the drone from when it was first brought online, until the point it switched over to its internal systems. If the drone was destroyed then this will be the only option open. Analysing the telemetry requires a Difficult (10+) Electronics (comms or computers) check (1D days, INT) or a Routine (8+) Electronics (remote ops) check (1D days, INT).

At this point the Travellers may have found evidence of either a suspicious program uploaded to the drone, or a set of potentially faulty components. If not using the saboteur, a check of the other message drones will reveal that there is a clear fault in the electromagnetic shielding around some of the guidance systems. Instead of acting to shield them from external electromagnetic flux, the shielding has a fault that instead concentrates the flux on a small selection of components, scrambling guidance signals. The shielding is easily replaced on each of the message drones with just a few hours of EVA work. A new message drone can be readied and launched with barely a day's delay.

## CHASING THE SABOTEUR

Examining an archived copy of the uploaded data stream will take 1D days, but requires no further checks, and the suspicious program is easily found once the Travellers know it is there. It contains instructions for the drone to first ignore commands from *Bayern*, second to bring itself to a stop and search for *Bayern*, and third to orient itself towards *Bayern* and accelerate at top speed. It is hidden within a set of updates to the power management systems and is a very sophisticated addition designed to look innocuous. If the Travellers check with the original set of power management updates stored on *Bayern*'s computers they will find no trace of the suspicious program. However, a Routine (6+) Engineer (power)

or Electronics (computers) check (1Dx10 minutes, INT) of the power management systems will show they have been changed *after* the relevant parts of the data stream were uploaded to the message drone. Somebody placed a suspicious program in the power management upload, and then changed it back to normal in order to cover their tracks.

Effect 2+ on a further Difficult (10+) Engineer (power) or Electronics (computers) check (1D hours, INT) will reveal that there was a series of programs that have all been altered in a domino-like chain, one forcing the next to be changed. Some of these changes were assembled from compressed segments stored in almost every image file in the data stream, some were from routine updates to other systems, and some were in innocuous text messages. There were dozens of segments of code hidden all over the message stream, all designed to assemble themselves as soon as the probe came under its own control.

The Travellers can try and track down where all the code fragments originated by looking for commonalities amongst them. Tracking down which files contained code fragments requires an Average (8+) Investigate check (1Dx4 hours, INT).

Success will reveal that all affected files had been compressed using the same compression program on one of the science servers. The science servers are open to everybody and no particular individual seems to have contributed more than one piece of data. It is reasonable to assume that the program was inserted during file compression, and not by the authors of the data. This particular compression program had been updated to a new version just moments after the

data stream was assembled. The patch was a routine, automatic process that updated any programs with the wrong version number from a centralised databank.

A successful Routine (6+) Investigate or Electronics (computers) check (1D hours, INT) will suggest that someone manually inserted a compromised compression program in the short window between updates, and relied on *Bayern's* automated system to later overwrite the compromised version as part of the updates. Checking the logs will reveal no information on anything but routine updates in the past. For now, the Travellers have reached a dead end.

The net result will be that they know that someone planted a program to sabotage the drone, and that whoever it was had some skill with computers. Suspicion may fall on any number of *Bayern's* crew, but with no proof there is little that can be done. The captain will order checks on future data stream uploads, and request suggestions from the senior crew on what safeguards can be enacted to catch the saboteur.

The compression program should also be deleted and a clean, checked version restored. The data stream will also have to be purged of malicious code and any stored data on other servers also checked for similar tampering. This will all take several days. Meanwhile, a new message drone will need to be brought online and prepared for its journey.

Finally, potentially many days overdue, the first message drone will be launched back towards Earth, containing a now slightly smaller data stream and some potentially worrying news for the future of *Bayern's* voyage.

# PLOT POINT 2 THE FIRST CROSSING

MET: D+113

CMD: 175 ly

**System:** Between BPC 235136 and BPC239134

**Stellar Type:** N/A

**X, Y, Z Co-ordinates:** 73.8, 96.1, 44.3

*Pierre, Stefan and I were watching on the big screen in casual lounge B1 as we deployed the message drones. Ace was giving a countdown quietly over the intercom, and we could see two of the EVA bugs, Buster and Snoopy judging by the colours, standing off from the drone carousel. A set of the bay doors were already open, and the first drone had been disconnected from the Bayern's systems.*

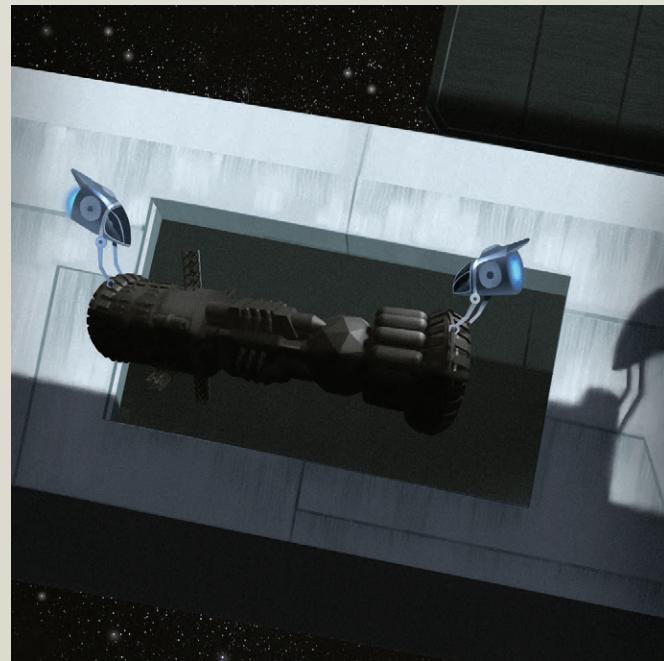
*At 15 seconds we saw a few puffs of gas as the final umbilical's disconnected and then, as the countdown reached zero, we watched as the spindly loading cradle extended the drone out into space. Once the drone had cleared the bay doors the loading cradle detached, leaving the drone gently floating in space. The two EVA bugs moved forward as the cradle retracted and the bay doors closed. The EVA bugs fussed around the drone for a few minutes and then rotated it so that the exhaust was pointing away from the ship.*

*With a burst of static Yvette radioed in from Snoopy, 'Package is ready.' After a few seconds we heard the XO acknowledge and instruct Ace to start the drone activation countdown. I could feel myself tensing up, remembering the frenzied few minutes after our first ever message drone went haywire and almost impacted Bayern.*

*Pierre sighed, 'Well, here we go. Let's see if it was a random malfunction. I still don't buy it.'*

*Stefan grunted in agreement as the drone silently fired its reaction drive, a long plume of exhaust trailing behind as it slowly moved away from the ship. We waited nervously to see if the drone would swing around again. Nicole and Gretchen swore they had checked and re-checked the systems and I was sure Matsika had been over every line of code in each of the drones.*

*The drone dwindled to a pinprick and the minutes passed. Eventually Ace confirmed the drone was parked and in standby. We all let out a sigh of relief.*



*I turned away and looked at the view screens on the opposite side of the lounge, currently showing the view towards the front of the ships and at our next destination, the evocatively named BPC235143. It was visible as the brightest star in the sky, only 5.6 light-years away. Under normal circumstances Bayern could make the trip in just over two days. At this moment, although, we were at all-stop. Everything depended on the experimental drive tuner that was silently mapping the tiny space-time fluctuations around us to bring one of the offline drives back into service. Without that information we couldn't bring another drive online, and without an online drive we were stranded in the depths of space.*

*As part of Bayern's epic journey to the Pleiades she will have to make at least one journey that exceeds the 7.7 light-year limit of her stutterwarp drive. As is common with all stutterwarp-equipped vessels, the drive coils and engine components within Bayern's Jerome Effect drives pick up a gravistatic charge as the drive cycles. This charge is linked to the distance the ship has travelled and after 7.7 ly the engine is saturated with this radiation. If a drive is pushed beyond 7.7 ly the drive will uncontrollably release all of the charge in one destructive explosion of radiation.*

## Drive Relaxation

Although the name is deceptively mild, a drive relaxation is a catastrophic event which destroys most ships and even the most fortunate vessel can hope to only be fatally crippled. When a stutterwarp drive reaches saturation point after 7.7 ly of travel the tantalum-180m coil at the core of the drive is charged with a little understood form of radiation known as the gravistatic charge. This radiation causes changes in both the crystalline structure of the coil and the nuclear properties of the tantalum itself. The threshold beyond which a catastrophic reaction takes place is a poorly defined boundary and some engineers are capable of delaying the relaxation of the drive for a short period, but it is assured that continued travel beyond 7.7 ly will eventually result in disaster.

When the drive does pass this threshold the coils undergo a reaction which spontaneously and energetically converts the tantalum into an isotope of hafnium. This conversion releases a huge burst of intense gamma radiation. The event also results in some of the mass of the tantalum core being converted directly to energy, releasing great amounts of energetic photons. It is this mass-to-energy conversion, along with secondary interactions of energetic photons with the surrounding drive equipment, which causes the release of other forms of radiation and often a violent explosion.

The net result is highly variable, but has always proven to release sufficient quantities of lethal radiation that it has destroyed the drive completely, ruined the engineering section and often flooded the rest of the ship with lethal quantities of X-rays, gamma rays and high energy particles. In many cases the reaction is so energetic that it destroys the whole ship.

Before *Bayern* left human space a great deal of her initial route had already been plotted using data from widely spaced ships and observatories from three long baseline arrays. The principle source of data was from the ESA/AR-I array in the Kimanjano system (KiFOORA- Kimanjano Far Orbital Optical and Radio Array). Additional data was requested from the first ever long baseline array in the Sol system and the

extremely large and powerful array in the Vega system. These arrays are capable of much more detailed and long distance observations than standard telescopes and initial route planning combined data from all three. One result of these observations was the discovery that no single route to the Pleiades was possible without at least one leg of the trip requiring *Bayern* to travel greater than 7.7 ly.

Recognising that if the mission were to succeed a technique for extending *Bayern*'s range was required, the AR-I began working on a system of using multiple stutterwarp drives on a single ship. Experiments in the early days of stutterwarp travel had shown that even if not being used to propel the starship, an online stutterwarp drive still accumulates a gravistatic charge. Keeping the second drive offline and partially disassembled will prevent it from accumulating a charge, so a starship that can successfully bring a second drive online in deep space would be able to discard any charged drive and proceed using the new drive. This provides the ability to traverse 15.4 ly, or potentially even further if multiple offline drives are available and can be brought online.

However, bringing an offline drive into service in deep space is a difficult and time consuming exercise which has the potential to damage or destroy the drive and release a radiation burst that can be harmful to its engineers. Before a drive can be brought online it has to be attuned to the local space-time gradient to allow the drive field to correctly form and propagate the Jerome Effect. Variations in the local curvature of space-time directly affect the efficiency of the drive and it is essential that the drive be correctly 'tuned' to local conditions before activated. If a drive is not tuned correctly the Jerome Effect field is unable to gain 'purchase' on space-time and the drive will not be able to propagate the field correctly. In most cases attempting to use an untuned drive results in a drive overload.

In 'stressed space' the local space-time gradient is pronounced enough that the drive can be tuned with relative ease. The stutterwarp coils are charged and a low level Jerome Effect field is created but not induced to cause displacement. The characteristic gravitational distortion effects within the field and coils that cause the drive to lose efficiency are studied and the field collapsed. The configuration is adjusted and a new field created and studied. This process is repeated until the calibrations produce a field configuration capable of displacement. At this point the drive can be fully brought online and the full strength field configuration tested.

However, in the deep space between stars the gravitational gradient is not of sufficient magnitude to produce a detectable distortion. As previously stated, creating a full strength field without tuning the drive risks an immediate drive overload, so until the advent of a drive tuner calibrating a drive in deep space was largely a matter of trial and error, and ultimately proved hazardous.

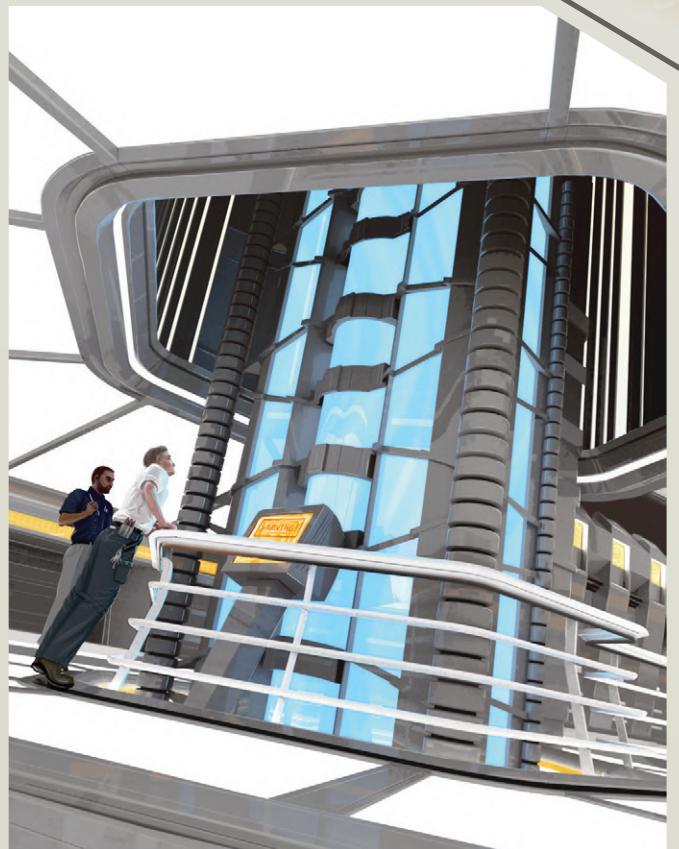
## THE DRIVE TUNER

The principles behind the operation of a drive tuner grew out of the study of gravitational waves and the search for a unifying theory of quantum gravity. The tuner includes a number of extremely sensitive detectors and much of the mass of the equipment is a set of shielding baffles and shells around a super cooled vacuum chamber actually designed to ensure that the detectors are isolated from both outside sources of noise or interference and from each other. These detectors use laser and microwave interferometers and extremely sensitive gravitational wave antennae to map gravitational waves and the effects of distant tidal forces. The tuner then collates effects to create a map of the local background space-time curvature. The entire assembly is large, energy hungry and very delicate. A typical mapping exercise takes several days, as the distortions are very small and a great number of readings are required to create a full set of calibration information. The drive tuner that *Bayern* carries is a prototype of the Hyde Dynamics 3<sup>rd</sup> generation tuner; a generation 2.5 tuner. It is the only example in existence and has the performance and energy requirements of a Gen 3 tuner, but the larger size of a Gen 2 tuner. Hyde continued to develop the design, resulting in the Gen 3 design after *Bayern* left for the Pleiades

## TRAVERSING THE RIFT

During normal operations a vessel's stutterwarp remains online at all times, charging and discharging as the ship travels. It is only on the occasions when *Bayern* and her escorts are expected to travel further than 7.7 ly that drives will be taken offline. Under normal circumstances the stutterwarp drives of *Bayern*'s fleet of probes and drones are left offline until required and then brought online in an area of stressed space. It is not envisaged that any of the sub-craft or drones should need to be brought online in unstressed space with the exception being when *Bayern* drops off her *Telegrifiern* drones mid-rift.

The first rift that *Bayern* has to traverse is 11.2 ly wide. Before entering the rift *Bayern* will first pause and fully discharge her drives in the departure system, a cool, M4V red dwarf star. She will grapple all her sub-craft,



whose drives will also be discharged. It will be the first time in a number of weeks that all of ships of the flotilla have been present together and *Bayern* will feel busier than she has in a long time. Many of the crew remain in cryostasis, so *Bayern* is still far from crowded, but with the three ships docked her regular complement has almost doubled. Once all stutterwarp drives have fully discharged they will then be taken offline, apart from a single one of *Bayern*'s drive cores.

*Bayern* will then set off and proceed towards her final destination. At the midpoint of the trip, 5.6 ly in, she will drop out of warp and start operations to bring another of her drives online. Once the drive tuner has generated the configuration information *Bayern*'s engineers will upload the settings to the drive, power it up and attempt to generate a full power stutterwarp field.

In addition, *Bayern* is to leave behind six of the *Telegrifiern* message drones in the rift to act as courier relays for further messages to human space. These drones will also need to be deployed and their drives brought online (see The Message Drone for the checks needed to bring these tiny vessels to life).

Once engineers have confirmed that *Bayern*'s new drive core has been successfully calibrated and brought online, a test flight will be conducted. Part of the reason

for dropping out of warp before *Bayern*'s first drive was fully charged is to allow this short test flight with both engines online to ensure the second drive is operating correctly. Only after this flight is complete will the charged engine be discarded and destroyed.

After disposing of the charged drive and confirming that the message drones are online and in standby mode, *Bayern* will activate her new stutterwarp and traverse the remaining 5.6 ly to her final destination. Upon entry to the destination system she will begin drive discharge and engineering teams will begin bringing the drive cores of *Anton Dohrn*, *George Bauer* and *Entdecker* back online within the stressed space of the new system.

## THE SABOTEUR

If using the saboteur subplot, the referee has the option of the saboteur attempting to stop or delay the mission at this critical juncture. *Bayern*'s stopover in deep space will give the saboteur several opportunities to meddle. The referee should bear in mind the motivations of the saboteur.

The Operative has no real wish to be stranded in deep space, so their activities are likely to delay rather than actively disrupt operations. The operative may decide not to take any action at all.

The Fanatic is the most likely to attempt to prevent the mission proceeding. Their desire to end the mission on ideological grounds, and the risky nature of the rift crossing, makes this fertile ground for them and they are likely to pick destructive courses of action. If they fear the human home systems may be compromised, they may sabotage message drones to self destruct by simulating a cyber-warfare attack on them, for instance.

For the Desperate, this may be a time of their deepest fears coming true. It is possible that they may act before *Bayern* sets off into the rift, not wishing to be stranded in the depths of space. If the referee is using the AGRA afflicted option, it would be fitting for the individual to remember a previous version of events where a drive exploded, and perhaps be able to foresee and avoid such a situation occurring again by exhibiting apparently preternatural knowledge of the future – actually a submerged memory of an alternate timeline imprinted by AGRA. This may raise many questions.

### Identifying the Saboteur

When conducting sabotage the saboteur faces the possibility that their activities may be noticed. Each time they make a check with Effect -2 or worse they will

have produced suspicious activity, but nothing concrete enough to investigate. With Effect -6 or worse they will leave incriminating data that can be investigated to try and determine the identity of the saboteur. The Travellers may use any relevant skill to investigate sabotage, so if the saboteur was working to introduce additional interference in the drive tuner they could use Engineer (stutterwarp), Engineer (power), Electronics (computers) or Science (physics). Uncovering the data requires a successful Average (8+) check using the relevant skill (1D hours, INT or EDU at the referee's discretion).

After the Travellers have found four pieces of incriminating data they will have sufficient evidence to identify a saboteur. The saboteur has one last chance at this point to deflect suspicion onto another by making an opposed Deception vs. Investigate check with the Travellers. If the saboteur wins the opposed check with Effect 0 success it will mean the Travellers are aware they have been duped, but still not know who the saboteur is. An Effect of 2-5 means the Travellers are uncertain if they have been duped and the referee should roleplay an encounter and interrogation with the character the saboteur diverted them to. An Effect of 6+ for the saboteur means they were entirely successful in their diversion and the Travellers are convinced that the innocent character is to blame. An Effect of -1 or worse for the saboteur gives the Travellers strong circumstantial evidence that the real saboteur was responsible for the tampering and Effect -6 or worse means the saboteur has left a very obvious and incriminating trail.

## CONFRONTING THE SABOTEUR

If the Travellers manage to assemble a case and deduce who the saboteur is, they may wish for a confrontation. The referee should ask them where and how they choose to do this. The nature of the saboteur will determine the reaction. The Operative will try to bluff and explain all but the most incriminating evidence. Circumstantial results will probably result in nothing more than suspicion and perhaps additional oversight and monitoring. Particularly damning evidence will call for a more stringent response. Restrictions of access to ship systems are almost a certainty. *Bayern*'s ultimate sanction is, of course, freezing the suspect to be dealt with back in human space, but freezing a crewmember – possibly a key member of the crew, has serious consequences and have a negative impact on crew morale.

The Fanatic is the most dangerous of the three. They have no compunction about shooting or stabbing their way out of a confrontation, and will do as much

damage as they can if they manage to escape from the clutches of the Travellers. Incautious Travellers could end up chasing the saboteur through the ship as they slash at cables and ducts, pull out circuits and smash panels as they go. Although the saboteur is unlikely to do major damage to the ship – short of accessing the scuttling charge – they can certainly cause serious problems. Examples of their off-the-cuff sabotage could be launching lifeboats, throwing ad-hoc firebombs into the galley, or dumping excess chemicals into the hydroponics bays. Referees are encouraged to be inventive in having the saboteur damage things the Travellers have come to cherish.

Of the three saboteurs the AGRA affected Desperate will prove to be the most vexing. They simply have no memory of events. As their subsumed mind state rises to the surface it pushes out their normal sense of self and takes over. After an action is complete, the Desperate may be aware that they have gaps in their memory, blanks spaces of lost time, but dwelling on or trying to recall events during will cause them great distress. Even when confronted with hard evidence such as computer logs of incriminating video they will be unable to remember and adamant that it is not them.

## SABOTEUR ACTIVITIES

As the drive tuner maps local space, the message drones are unloaded, and the drives are configured and brought online, the referee should make a number of checks for the Saboteur. Each attempt will take time, and the saboteur can only work on one scheme at once. The referee should also consider that the saboteur will need to sleep and eat. As each piece of sabotage takes place, the Travellers will have the opportunity to circumvent it and possibly gather evidence.

### Introduce Errors into the Drives

By tapping into the data transfer and feeding false information to the support systems around the stutterwarp drives the saboteur can extend the timescales for each task to bring the drives online. The engineering team will discover a slew of random errors, obscure protocol mismatches and strange power spikes that slow down integration of the drive with *Bayern's* systems. The saboteur can attempt a Difficult (10+) Electronics (computers) check (1D minutes, INT) for each step the engineers take to bring the drive into service. An Effect 6+ will double the time for the task to be completed. Effect 1-5 will increase the time by one additional increment (so if the task normally takes 1D hours, it will take 1D+1 hours). Anything else will at best cause irritation but nothing more.

### Create Interference in the Drive Tuner

By manipulating certain systems on *Bayern* the saboteur can create additional interference that will negatively affect the operation of the drive tuner. The delicate systems inside the tuner are especially sensitive to low frequency interference.

*Bayern* has several ULF transmitters that could be used to produce interference, as could manipulation of radiation shielding and *Entdecker's* plasma sterilisation system mounted in the forward docking adapter. The saboteur can make a Very Difficult (12+), Electronics (computers) check (1D hours, INT) to create extra interference. Effect 6+ will render the drive tuner useless as it is flooded with additional noise and interference. Effect 1-5 will result in DM-1 applying to checks involving the drive tuner. Anything else will at best cause irritation but nothing more. The interference will continue until fixed.

Identifying the source of the interference requires a Difficult (10+) Electronics (comms or computers) check (1D hours, INT). The interference is identified on any positive Effect and can easily be turned off or compensated for. Failure results in the interference continuing until the check is re-tried successfully. Once the interference is cleared, work on the drive tuner must be started from scratch.

### Falsify Calibration Information

By creating a false set of calibration information, the saboteur can potentially force a drive explosion as an un-calibrated drive is mistakenly brought online. The Operative will not attempt this course of action. To falsify the drive information requires a Very Difficult (12+) Engineer (stutterwarp) check (1D hours, INT).

Since the saboteur is likely not to be trained in stutterwarp operations, they will take an unskilled penalty to this check and it is the activity most likely to create incriminating data.

In the unlikely event the saboteur achieves success the check to bring the drive online will automatically fail. The engineer will need to make an immediate check to avoid damaging the engine (see page 14).

### Induce Message Drones to Self Destruct

Since there are now safeguards to prevent message drones being suborned to act as missiles, the saboteur will instead attempt to trigger their security systems. The *Telegrafiern* message drones that *Bayern* carries are designed to protect the location of human systems

at all cost. Principle amongst their defences is a suicide system that detonates a charge if the drone suspects it is the target of hostile activity. This may be an actual attack, an attempt to physically interfere with the drone or hacking. The saboteur can make use of the drone's deliberate paranoia by inducing them to self destruct.

Each drone will need to be attacked individually, since communication with them is via tight beam microwave or laser comms. To induce an explosion the saboteur must succeed at an Average (8+) Electronics (remote ops) check, or a Difficult (10+) Electronics (comms or computers) check (1D minutes, INT). A success alerts *Bayern* to the hacking attempt before the drone explodes, but Effect 6+ alerts *Bayern* only when the drone actually explodes. The saboteur may attempt to destroy multiple drones, but each time after the first the operators on *Bayern* may notice one of the tight-beam transmitters is being used for the hack. Noticing and shutting down the hacking requires a Routine (6+) Electronics (comms or remote ops) or an Average (8+) Electronics (computers) check (1D minutes, INT).

## ENGINEERING TASKS

The tasks listed here are a detailed breakdown of the activities that *Bayern*'s engineers would undertake during stutterwarp operations in the rift. Most take a considerable amount of time, so there is ample opportunity for scientific Travellers to make deep space observations, catch up on their reading and paperwork, or play spinhab darts whilst the engineers sweat over tantalum coils.

Referees should tailor the level of detail to the Travellers' preferences and, although *Bayern* will be potentially traversing more than one rift, may want to run through the full list of tasks only on the first crossing.

The tasks are performed in this order:

1. Map local space-time to build drive calibrations (performed only once)
2. Apply calibration to target drive (once per drive)
3. (*optional*) Prepare ship's systems (once per drive – task chain)
4. (*optional*) Prepare power distribution (once per drive – task chain)
5. Bring stutterwarp online
6. (*optional*) Prevent drive damage (only required if step 5 resulted in an exceptional failure)

All checks could be conducted as a team effort, with a task chain. In addition, these tasks are often performed slower than normal, taking extra time to check and

double check, granting DM+2 if the next highest timeframe is used. Also, due to *Bayern*'s extensive computing infrastructure, as well as the experienced engineering team's own personal libraries, checks are always considered to have a relevant Expert system available, granting a further DM+1.

### Map Local Space-time

An offline drive must first be attuned to the local space-time curvature to be able to propagate the Jerome Effect field correctly. Failure to calibrate a drive before attempting to bring the drive online will require a check to avoid drive damage.

Performing space-time mapping in stressed space, within gravity wells of greater than 0.0001 G, is a relatively straightforward task. Performing the mapping where there is no significant gravitational well is much more challenging and it is for this reason *Bayern* carries her experimental drive tuner.

To map the local space-time in stressed space requires a Difficult (8+) Engineer (stutterwarp) check (1D hours, INT). Usually engineers choose to extend the timing of the task to reduce the difficulty. A drive tuner will confer no benefit on this check in stressed space.

Mapping unstressed space requires a Formidable (14+) check and increases the duration to 1Dx10 hours. An operational drive tuner grants DM+4 to this check.

Failure will result in no usable calibration information being created. The mapping exercise will have to be performed again. However, Effect -6 or less will result in the drive tuner being damaged (if it was being used). The damage to the drive tuner will negate the normal DM+4 for any further attempts to produce calibration information until it is taken offline and repairs lasting 1D days are performed.

### Apply Calibrations to Drive

Once the mapping has been completed the calibrations can be applied to any drive with a rating equal to or lower than the drive tuner. For *Bayern* this is every drive in the flotilla if needed. Applying the calibrations to a drive requires a Routine (6+) Engineer (stutterwarp) check (1D hours, INT). Often this task will be extended to further lower the difficulty.

### Bring Drive Online

To bring a calibrated stutterwarp online requires a task chain of three steps, although in an emergency only the final step is required. The results of the first two steps grant the Task Chain DMs results table on page 63 of the *Traveller Core Rulebook*.

## Remember that time I rolled snake-eyes and blew up the ship?

A string of bad dice rolls could potentially strand *Bayern* in deep space without an operational stutterwarp. In this instance *Bayern* is capable of using the drives onboard any of her sub-craft to travel at a reduced speed. If using the drive on board *Entdecker* her warp efficiency will be 0.95 ly/day; if using *George Bauer* or *Anton Dohrn* it will be 0.79 ly/day; if using a drive from a *Reisende*, *Telegrafiern* or *Suche* drone it will be 0.35 ly/day. At the referee's discretion the difficulties for the checks to tune and bring drives online can be adjusted to make the process of bridging the rift less hazardous, or can be assumed to be undertaken by another character, with the referee describing the results narratively.

Step one prepares the ship's systems such as computer, power plant, navigational sensors and control systems for the interface with the tuned drive. This ensures the systems are all communicating correctly and there are no lags or format errors. This requires a Routine (6+) Electronics (computers) check (1D hours, INT). DMs arising from the results of this check are applied to the second step.

The second step is to prepare the power distribution systems to allocate a smooth flow of power to the drive. The stutterwarp sub-systems are load-tested one by one and power flow monitored and adjusted as each runs through its simulations, stopping short of bringing the drive online. This task requires an Average (8+) Engineer (power) check (1D hours, INT). DMs arising from this task are applied to the next step to bring the drive online.

Once these two steps are complete the tuned drive can be brought online. To bring a tuned drive online requires a Very Difficult (12+) Engineer (stutterwarp) check (1D hours, INT).

Effect -1 means the drive is not brought online but is undamaged and the task chain may be attempted again. Effect -2 to -5 means the drive is not brought online and will need to have the calibrations re-applied before a further attempt can be made.

An Effect of -6 or worse means the drive has not been brought online and the attempt may result in damage to the drive. A further, immediate check to avoid drive damage is required.

## Avoid Drive Damage

To avoid drive damage requires a Difficult (10+) Engineer (stutterwarp) check (1D minutes, DEX). The engineer needs to open and dismantle part of the drive to physically disconnect key components, so the task can only be conducted by someone actually in the drive compartment. They may *not* take additional time on this check to reduce the difficulty or add any DM from Expert systems.

Any success will prevent drive damage but will require the drive to be re-tuned using a brand new set of calibrations before another attempt to bring the drive online can be made.

Effect -1 results in damage to the drive core which will require 1D days to repair, or for the process to be restarted with a different drive if one is available. If the drive is repaired it will require re-tuning using a new set of calibrations before another attempt to bring it online can be made. Effect -2 to -5 results in catastrophic damage to the drive, destroying it completely.

A lower Effect than this results in an explosion in the engineering section that will inflict 6D damage to anyone within the drive compartment. The explosion will also release a burst of radiation that will expose anyone in the drive compartment to 2Dx100 rads. The drive will be destroyed and the ship will suffer 6D damage and six Severity 2 critical hits.

## Take Drive Offline

A stutterwarp drive must be fully discharged before it can be taken offline – it is simply not possible to bring a partially charged drive offline. Once the drive is discharged it is a simple task to shut it down in a safe and controlled manner.

To take a discharged stutterwarp drive offline requires a Routine (6+) Engineer (stutterwarp) check (1D hours, INT). Once the drive is offline key components are removed to prevent charge build-up.

## EXITING THE RIFT

Once *Bayern*'s drive is brought online successfully Commander Schmidt will take a short hop to check that all is working well, and distance *Bayern* from the message drones. If the drive is operating within normal parameters he will give the order to have the partially charged drive removed from the engineering section and sent off to a safe distance where a demolition charge will destroy the drive. *Bayern* will then upload the drive calibrations to the message drones and bring their drives online, before completing the remainder of her traverse of the rift and journey on to the Pleiades.

# PLOT POINT 3 THE DAUGHTERS OF ATLAS

*Star glory spread before us, radiant beacons entangled by the thin and misty filaments of the cluster nebula. This close, it was easy to make out the streaky detail of the brightest nebulae, as though unfelt winds had tugged and tattered at those light-year broad cloud masses, drawing them out into eerie alignments of dust like cirrus clouds back on Earth, etched in silver against velvet black.*

*'My God, how beautiful,' someone muttered, and the sound of words tarnished the quiet, near-holy reverence of the bridge.*

*After another long silence, it was the captain who spoke: 'If there are worlds in there, think what the night skies must be like!'*

**BPC:** Various

**MET:** D+653

**CMD:** 1007 ly

## INTO THE PLEIADES

Whatever adventures have befallen the crew of the *Bayern* during their voyage thus far, this point marks the beginning of the true working phase of the expedition. Scientists and crewmembers still in hibernation will be awakened, and a council involving officers and scientists will be called to determine which of several possible options should be followed.

The Travellers, depending on their positions within the crew, may be called upon to take part in the council. Unless *Bayern* has suffered severe damage or numerous casualties, however, the consensus will almost certainly be to begin carrying out the planned series of observations within the cluster.

## THE MISSION

*Bayern's* mission profile calls for a series of scientific observations and measurements to be made at various points within the cluster. It is neither necessary nor desirable for the referee to roleplay each experiment. Basically, the expedition's 53 scientists will be working

in shifts, making spectroscopic measurements, establishing baseline measurements of stellar motion, taking photographs, and dispatching unmanned robot probes to gather data.

In order to determine the final success of the mission, the Scientific Success table on page 18 can be used to simulate the acquisition of data. Activities will yield Science Points, which represent new data. The referee should keep track of Science Points gained, and should not discuss them with the Travellers. Scientists, after all, rarely sit down at the lunch table and discuss with one another how many points they won that morning! Instead, the referee should weave results into day-to-day conversations with the Travellers, and the results should be vague. 'We had a really great run that time,' is one possibility. 'The damned computer went down just when the data was coming in. We'll have to rerun the whole series,' is another.

Various observations possible for the *Bayern* scientists are described here. Those designated by an asterisk are observations related to AGRA. No checks are listed for individual tasks, as it is assumed that *Bayern's* thawed scientists are now working together and if the Travellers do not have a specific skill, others do. If the referee chooses to request checks from the Travellers then they may award additional Science Points representing the Travellers making additional contributions. Task difficulties should be Average (8+) or Difficult (10+) for most checks, but tasks contributing to AGRA may have higher difficulties. Appropriate skills would be Electronics (sensors) and Electronics (computers) to represent data gathering. Collating and analysing the data will require Science (astronomy), Science (cosmology) and Science (planetology). Surface visits will require Science (planetology) and Science (chemistry). Any life discovered can be evaluated using Science (biology) or Science (xenology).

Travellers are reminded that *Bayern's* systems and sensors will provide DMs for scientific and sensor checks and tasks can have their difficulty reduced (potentially increasing Effect) through teamwork and extending the duration of the check. Good science takes time and cannot be rushed. *Bayern* has travelled a long way to get here, and nobody wants to ruin the mission through sloppy methodology.



## General Observations

*Bayern*'s scientists spend time mapping and observing the cluster stars from anywhere inside. Observations require one day and yield +1D Science Points. Only one set of observations is possible at any one point per ship equipped with a lab. Separate observations should be at least two light-years apart.

## Baseline Measurements

Like general observations, but *Bayern*'s scientists require measurements and photographs of numbers of stars, taken from points at least 10 light-years apart. At each point, they must spend one day gathering data before moving on to the next location. They acquire +3 Science Points for the first such measurements, +9 for the second, +12 for the third and +15 for the fourth and subsequent measurements.

## Close Star Observations

*Bayern* approaches to within 10 AU of various cluster stars in order to make spectroscopic observations, measure star movement and solar winds, and search for planets. For all stars of class F5 or cooler, there is a chance that planets will be present on 5+ on 1D. These will be airless, barren, and continually wracked by asteroid impacts and seismic quakes. In addition to travel times, such observations take two days.

## Planetary Observations

These gather data about the planets discovered through close star observations. The crew acquires 1D+6 Science Points for landing a Remote Surface Probe, and 2D+30 points for landing a human party. Conditions on the surface will be extremely hazardous.

The referee should feel free, at their discretion, to introduce such threats as lava flows, quakes, asteroid impacts, and volcanic outgassing. Rare planets of non-cluster suns may be Earth-like. Most resemble Earth's moon but are constantly battered by debris.

## Deep Cluster Nebular Sampling and Observations

Sampling and observation of cluster nebula. Each observation requires 2D days. Points are acquired as follows.

- +6 points for each observation at cluster core
- +12 points within one light-year of Alcyone, Maia or Electra
- +18 points within two light-years of Merope

Points are granted for observations by humans in EVA bugs, landers, space planes, *Entdecker* or *George Bauer*. Half the listed points are granted if observations are made using a remote interstellar probe. Double points are granted for observations made from *Bayern* or *Anton Dohrn*.

**Note:** During any set of observations on a 1D roll of 5+, gravitic architecture will be noted. On a roll of 6, a second roll should be made to see if a node is present. A roll of 5+ will indicate that a node will be detected. The referee determines the node's distance and direction.

## Observations of Gravitic Architecture\*

Observations of the inexplicable structures within nebulae will yield valuable data. Each observation requires 2D days and yields 1Dx12 Science Points from the *Entdecker* or *George Bauer*. Half the listed

points are granted if observations are made using a remote interstellar probe. Double points are granted for observations made from *Bayern* or *Anton Dohrn*. If total is 60 or more, a node will be observed.

### Close Observation of an AGRA Node\*

If a node is discovered within a nebula, close observation of it may yield data and offer an opportunity to make contact with the AGRA intelligence. Observation of a node requires 2D days and yields 1Dx30 Science Points.

Furthermore, the ship will gain 1 Contact Point for every 30 Science Points accumulated observing a node. Attempts to penetrate the AGRA node using a stutterwarp-equipped vessel or an unmanned probe will fail.

Crewmembers using EVA bugs, reaction drive equipped spacecraft, landers, spaceplanes or even spacesuits may be able to penetrate the node boundary. The events that they may experience there are discussed under 'Into the Node' on page 20.

## WORKING SCIENTISTS AND GEAR

It is possible that *Bayern*'s complement of scientists is not at full strength by the time the ship reaches M45. It is also possible that the ship has suffered damage in the course of previous adventures, damage which hampers its ability to collect and process data.

At any time, the referee may arbitrarily decide to reduce the number of Science Points gained by the *Bayern* crew, due to losses of personnel or equipment. There

### Scientific Success

Science Points	Results
0	Absolute and total failure.
1–30	Failure. Data returned is not worth the cost of the mission.
31–60	Near failure. Much of data could have been acquired from Earth.
61–120	Modest success. Many questions remain, requiring further missions to the Pleiades and other clusters.
121–300	Success. Much new data acquired, allowing development of revolutionary new theories of cluster mechanics.
301–600	Complete success. <i>Bayern</i> data has instigated a revolution in cosmology, including a new understanding of stellar evolution.
Over 600	Stunning success. Contact has been made with a highly evolved intelligence. Pleiades anomalies are understood as part of a stellar engineering project on a galactic scale.

*The... the thing had all of us stumped. Whatever it was, it defied the laws of physics, at least as we understood them. It was as though the gossamer star-stuff of the nebula had been wadded into a crumpled mass of light, or the glowing streamers had somehow braided themselves into a knot of golden radiance. But how? There was nothing physical which could have created such an effect.*

*Viewed from a few AU out, those enigmatic clots of light left all of us feeling a bit subdued but strangely excited, as if we'd suddenly been presented with incontrovertible proof that yes, there was, after all, a Santa Claus...*

is no hard and fast rule to follow here, save that the Travellers should be aware that, because of such losses, they are not acquiring as much data as they could.

Damage or losses to the remote probes and landers are also likely to result in less data found, or no data returned at all.

## SCIENTIFIC SUCCESS

*Bayern*'s primary mission is to gather data about the Pleiades. The more data she gathers, the more successful the mission will be. The referee can use the Scientific Success table to determine how successful the *Bayern* mission is.

Data gathered by remote probes or parties must be physically returned to the ship in order for it to count towards the ship's Science Point total. Data can be transmitted by radio only if *Bayern* is within a few light-hours or less.

In much the same way, the mission can be considered a success only if *Bayern* returns to Earth with the data accumulated. The data could be broadcast towards Earth by radio, but since it will take 450 years for the radio waves to reach the vicinity of Earth and the signal will be unimaginably weak, this effectively defers the mission's success into the 28<sup>th</sup> century, if the signal is detected at all.

## THE SABOTEUR

If the saboteur is still at large, they will attempt to foil the scientific endeavours of *Bayern*'s crew. Just like the meddling with the drive tuner during the rift crossing, the Travellers have a chance to detect the sabotage. If the saboteur makes a mistake they will again leave behind incriminating data that can be used to trace their activities back to them. Use the rules for Identifying the Saboteur on page 12 to identify incriminating data from mission activities. Success indicates that they have found the sabotage, and safeguards can be implemented, resulting in a further DM-2 for the saboteur on their next attempt.

The Operative will refrain from overt acts of sabotage during investigations in the cluster. Their covert activities will diminish the Science Points that can be gathered, however. For each of the activities that the missions teams undertake, make a secret check for the saboteur. If more than one activity is taking place, the saboteur will only be able to affect one of them. The check to sabotage the investigations requires a Difficult (10+) Electronics (computers) check (1D Hours, INT).

Success indicates that the Saboteur has managed to insert spurious or incorrect data that can easily be identified, resulting in a loss of 1D Science Points. Effect +1-5 indicates corrupted or erroneous data that reduces the Science Points by 1D x 1D and Effect 6+ indicates that all of the data from that activity is useless and it generates no Science Points. A failure indicates that the saboteur is unable to affect the activity. Effect -6 or worse indicates that the saboteur has left incriminating data the Travellers may be able to follow to. Unlike most other Science checks, a check ruined by the Saboteur may be retried if the tampering is spotted.

The Fanatic will become most active as *Bayern* begins investigation into the nodes. Their fanaticism will not allow *Bayern* to complete its mission now it is in the very heart of AGRA. If the Fanatic has not already been caught from conducting overt sabotage, they will begin now. Depending on the character chosen this could include further drone attacks similar to Plot Point 1, or piloting the *Bayern* on a deliberately dangerous course

and locking out the controls – towards a planetary body or into deep space where the drives will build up a deadly charge.

The Fanatic is not above murder or sabotage of critical systems such as life support or reactor containment. They may also push to be included in any contact mission into the nodes in an attempt to destroy them from within using jury-rigged explosives or weapons. An attack by the Fanatic on the bridge of one of the vessels inside a node, with the associated hallucinations and weird environmental effects, would make for a striking climax to the sabotage sub-plot.

The actions of the Desperate will depend on if they have received the AGRA overlay. If they have, the overlay will now be at its closest to the surface and the saboteur will be almost entirely subsumed by it. They will perform actions as if in a daze and occasionally have one-sided conversations as they play out events that exist in their memory. This is an example of AGRA's experiment in determinism and free will, and shows that events are not pre-ordained as the mind state copy that has been grafted onto the Desperate shows that events are not unfolding as they did in the original timeline from which the graft was taken. By this stage the Desperate is beyond rational thought, and acts of sabotage will be instinctive and opportunistic in an attempt to break free of the emergence of the subsumed mind-state. The Desperate will forcibly attempt to prevent any investigation of the nodes and may have to be restrained.

## CODE: AGRA

AGRA stands for Alcyone Gravitational and Radiation Anomaly, and is the real and secret reason for the *Bayern* mission to the Pleiades. Observations made from the vicinity of Sol suggest that something very strange and possibly artificial is going on within the cluster.

What the Travellers know about AGRA before the beginning of the mission is up to the referee, and much depends on what role each Traveller is playing. *Bayern*'s five journalists will not be informed ahead of time, for example; the mission's sponsors are concerned about the possibility of massive cultural shock should word of a highly advanced alien civilisation be released. On the other hand, *Bayern*'s Commander Schmidt and his senior officers will either know before the mission departs or will be informed by sealed order en route. Fiendish referees may even set various Travellers against one another; some would know the secret and had to keep it quiet, while others did not but were beginning to suspect from clues dropped by scientists during observations of the

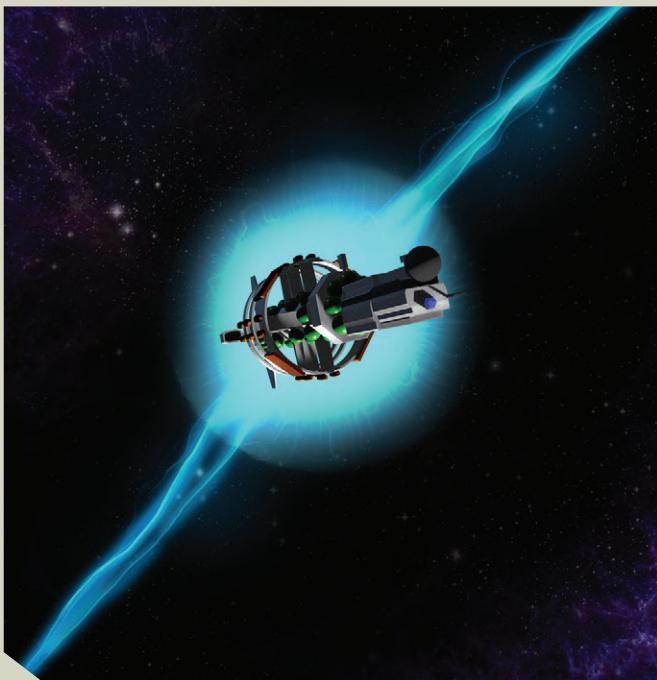
*We'd been studying the Pleiades since the mission began a full year ago, of course. Travelling the 450 light-years between Sol and the cluster was like travelling 450 years forward in time, watching changes and movements in one year which would otherwise have taken centuries to unfold.*

*It wasn't until we were three-quarters of the way there, although, that Dieter came to my cabin with a stack of photographs in his hands, and a long and worried look on his face.*

cluster. The reactions of crewmembers not originally informed about the mission should be varied. Many will be thrilled by the scientific potential. Others will be shocked and outraged that they were sent on this mission blind to its real purpose. The dissension among crewmembers could easily become an added complication for the Travellers.

## CLUSTER NODES

During *Bayern*'s exploration of the Pleiades, it is possible that strange twisting within the nebulosity surrounding Alcyone, Merope, Maia, and Electra will be discovered. This has the appearance of hazy patches of radiance within the soft glow of the surrounding nebula. One of the scientists studying the phenomena will refer to these fuzzy patches of lights as nodes, and the name will stick.



On examination nodes will appear inexplicably strange. Each is approximately 10 AU across and while few details can be made out within the golden radiance of the node's interior, it is obvious that they are the sources of the AGRA disturbances. Each is the source of gravity waves, radio, and infrared radiation, as well as visible light. None of the phenomena offer immediate or obvious danger to the observer but remote probes sent into a node neither report nor return.

Stutterwarp-equipped vessels nearing a node will notice a very strange effect on the efficiency of their drives. The nodes act as a gravity source, reducing the efficiency of the stutterwarp drive but also causing the accumulated charge on the drive coils to begin discharging. Normally this only take place within a gravity well of greater than 0.1 G, but none of *Bayern*'s instruments indicate that the nodes are exhibiting any kind of gravitational attraction. The effect of the nodes increases as distance to them drops, so within 10 AU of the node the vessel will notice stutterwarp efficiency dropping. Within 1 AU the vessel will not be able to achieve superluminal speeds. Within 0.1 AU (15 million km) the drive core will begin discharging and within a couple of thousand kilometres the ship will no longer be able to make headway using the stutterwarp drive. Reaction drive-equipped vessels can still make headway normally.

Commander Schmidt will (wisely) refuse to take *Bayern* into any of the nodes. Attempts to use *Bayern* to penetrate a node anyway would be fruitless. All power systems would fail, leaving *Bayern* helpless, powerless, blind, and deaf at the fringe of the node, until she drifts clear 2D days later. Contact will have to be made in this event by one or more members of the crew cutting through *Bayern*'s hull (or waiting until she drifts clear) and penetrating deeper into the node using a reaction drive equipped sub-craft, spaceplane, lander or EVA bug.

## INTO THE NODE

Vessels using reaction drives (EVA bugs, landers, space planes, *Entdecker*, *George Bauer* and individuals wearing space suits) will be able to penetrate a node unhampered. They will find, however, that all radio contact with *Bayern* is lost once they penetrate the outer boundary.

Once within the node, Travellers will be surrounded by a golden glowing light. As they proceed into the node they will begin to experience a bewildering shifting of reality. Distances will seem to be slightly skewed, with objects feeling further away or closer than they should be, and larger or smaller than expected.

Gradually they will become aware of structure and movement in the glowing nebulosity, more distinct as they proceed further in. Seemingly solid objects of indecipherable design and purpose will slowly emerge from the glowing mists, change shape, size and position, and then vanish in random fashion.

The objects will seem to be a strange and disturbing mix of matter and energy, organic and inorganic, solid and immaterial. Some will be a single object, others groups or chains of shapes. Many will be alive with motion, seeming to extrude smaller components or pseudopods and writhe or wriggle, whilst others will stutter or flash through different configurations like the flickering of an old movie. Two Travellers observing the same object may experience it in an entirely different way, one seeing a glowing green orb pulsing with crimson spines and tinkling like a bell, whilst the other sees a whirling mass of barbed, silver, dart-like shapes that flow and flock like a shoal of fish, emitting a deep, bass growl like an angry dog. The overwhelming impression that all observers will get is an ominous *wrongness* – the effect of their brains trying to interpret sensory input which they have no frame of reference for.

The Travellers will begin to sense movement and activity all around them as the nebulosity begins to coalesce into a web of shifting, interconnected branches and streams of glowing multicoloured light. The incomprehensible shapes will become more common and the Travellers will begin to encounter other forms of sensory disturbances and hallucinations. They may hear strange sounds, feel hot or cold, or both at the same time, encounter strange and unusual smells or tastes. There is clearly a purpose to the activity, but it will be impossible to understand any of it.

If the Travellers persevere in their explorations and proceed towards the heart of the node, the strange sensations will become stronger and more disorienting. Sounds will be heard by all, growing louder and louder, although what each hears will be different from what another hears. All Travellers will see things, but no two Travellers will agree on what they see. In all cases, what is seen and heard is completely fantastic and inexplicable. Travellers may experience any of the following.

- The sensation of being a lightning bolt, an electron or a star.
- Sudden and inexplicable darkness and suffocating claustrophobia, whilst another Traveller observes them apparently turned inside-out with their internal organs, muscles and bones floating around like a planetary system.

- A Traveller may suddenly have their perspective altered so they feel they are the size of a microbe or a giant.
- A Traveller will experience a visual hallucination of the lifetime of a planet in seconds, seeing it coalesce out of dust and gas, be bombarded by meteorites, develop an atmosphere and biosphere and flourish, then finally be baked under the scorching heat of a red giant before being torn apart as the star swells to envelope it – all in a few moments.
- Monstrous, living creatures shifting shape and form and texture.
- Giant mechanisms or creatures, engaged in frantic activity that could be fighting or reproduction.
- *Bayern* viewed from a distance, suddenly distorting into weird and tangled shapes.
- Psychological phantoms such as other members of the crew, or even themselves, suspended in space before them, perhaps shifting and changing into horrible monsters, dying horrible deaths, or engaged in dreamlike activity.
- Flashbacks to past events from the Travellers' lives, both mundane and important, some with details that are subtly different and others of events that never took place.

The Travellers will experience hallucinations of touch, taste and smell, and weird hybrids of sensation – smelling purple odours for example or tasting a high, wavering, piercing note. The referee should feel free to invent other sights and sensations as well – the more fantastic the better. Each Traveller should feel they are losing their grip on reality and is in immediate danger of going insane.

At this point observers will need to succeed on a check to retain their sanity. The check uses the total of the highest two characteristic modifiers from their END, INT and EDU to determine their Psychological Strength. For instance, if James has END 9 (+1), INT 7 (+0) and EDU 12 (+2) his Psychological Strength is +3. The Travellers will each need to pass a Routine (6+) Psychological Strength check.

A failure means the Traveller temporarily loses control of their mental equilibrium. They may become irrational or wildly frightened, and could injure themselves or others by attacking them or panicking. If they become violent, it may be necessary to restrain or subdue them. They will not contribute any Science or Contact Points to the ship, and will have their END reduced by -2D. If reduced to 0 the Traveller falls into a fugue state and cannot be roused. END returns to its former level after 2D days of rest and care outside of the limits of the node.

Effect -2 or worse results in the Traveller being severely disturbed and losing their grip on reality. Their END is reduced to 0 and they cannot contribute Science or Contact Points to the ship. At referee's discretion, they may become totally withdrawn (catatonic) or totally irrational and violent (psychotic). Catatonic Travellers are, for game purposes, unconscious. Violent char Travellers acters may attempt to attack others or imaginary enemies by any means at hand, and must be subdued.

Effect -6 or worse means the Traveller must pass an immediate Difficult (10+) Psychological Strength check or die on the spot from shock or fear. Passing this second check has the same results as Effect -2 but the Traveller will be plagued with nightmares and flashbacks in the future that will take many years to manage.

At the very heart of the node – unless they do go insane – the Travellers will encounter the AGRA Intelligence.

## THE AGRA INTELLIGENCE

As the Travellers near the heart of the node they will come to the attention of the AGRA intelligence, a multi-dimensional being of incredible capability. They will be aware of filaments and branches of glowing light concentrating or coalescing at a central point. They may be reminded of the branches of a tree, converging towards the trunk or a tangled, three dimensional spider's web, or perhaps a glowing map of neurons in the brain. Moving around this central point the Travellers will become aware of a persistent set of shapes that, although changing in form and merging and unmerging, do not fade in and out of existence like the others. They are surrounded by clouds and swarms of bright sparks or fireflies that change colour and size and dart between shapes and the golden filaments. As they touch the filaments they brighten or dim, merge or split, shrink or grow in size.

The sensation of activity and purpose is stronger here than any other part of the node and the Travellers many feel that the shapes are some form of intelligence. They will feel as though they are being watched, or even that something is trying to communicate with them, and may assume this is another hallucination unless they compare notes and realise that each is seeing the same thing.

They will come to realise that the separate shapes are somehow related; they act and change in unison. At times, each may suddenly grow and merge into one or more of the other shapes. At other times, each will

shrink to a pinpoint and vanish. The overall effect on the Travellers will be of overwhelming strangeness, utterly bewildering but apparently purposeful activity.

Any number of attempts to communicate may be made. The Travellers may use their own ingenuity by drawing diagrams, using sign language, speaking, radio or trying telepathy. All deliberate attempts to communicate are resolved using a Difficult (10+) INT check. Each Travellers may attempt the check, and it is possible for some to succeed and others fail. As soon as one Traveller is successful in communicating with AGRA the Travellers' vessel will be ejected from the node, appearing back on the outside without any apparent movement. Attempts to re-enter this node will automatically fail. The vessel will suddenly lose power and slow to a stop before drifting away from the outer edge of the node.

Failure will result in no obvious change in the situation, and Traveller may make subsequent attempts to communicate. An Effect of -2 or worse will result in the entity ignoring the Traveller. They fail to communicate and may not make another attempt unless they encounter the entity at a different location. If all Travellers fail the check they will find themselves wandering through the heart of the node for 1D hours until they encounter the entity again.

Effect -6 or worse will result in the Traveller immediately disappearing from sight. They will return to *Bayern* after 2D days. Upon their return the Traveller must pass an immediate Average (8+) Psychological Strength check or die on the spot from the shock and fear of their experience.

Successful communication will result in the Travellers gaining the attention of the AGRA intelligence. To those not successful they will seem to disappear from sight.

They will sense violent and rapid motion in a direction they were unaware existed before now and have a sudden impression of their companions and the ship receding, followed by a bewildering view of their vessel for a fraction of a moment, strangely distorted as though they were seeing it from all sides at once, inside and out. They will be able to discern incredible detail, from scratches and pits on the ship's hull to the glowing, fusing plasma in the heart of the drive systems or reactor. Then they will find themselves back aboard their vessel, drifting outside the node.

Contacting *Bayern*, they will discover no time has passed since they entered the node and that the waiting watchers have only just seen them disappear from sight. Each sane Traveller will be able to

## Life In A Petri Dish

At the referee's discretion, the AGRA intelligence may take a longer and more detailed look at the tiny creatures that have stumbled into its works. AGRA will place the Travellers and their ship into a closed environment and observe them. To the Travellers, they will disappear in a bright light and find themselves on an island with whatever craft they were on grounded behind them. No electronic devices will operate, aside from essential life support prostheses if there are any. Travellers can explore the island and discover it has fresh water, edible plants and shelter. It will also be strangely familiar and the Travellers will discover it is an amalgamation of many places they have visited. One Traveller will recognise a beach from Adrian on Beta Canum, another will recognise the familiar hills and valleys of the Lake District, and another will recognise the deep forest of Bavaria.

There is no apparent way off the island, and attempts to repair or repower their vessel will fail. The referee should allow the Travellers to attempt escape but ultimately they will fail. Eventually they should realise they are stuck here. The referee can ask the Travellers to describe their long term plans over the next four years. The time on the island can be arbitrated using the career rules in the *Traveller Core Rulebook*. For every four year 'term' on the island the Travellers should choose a suitable career, depending on the tasks they wish to undertake. They can then roll for events and make survival rolls according to the career tables as normal. Ageing effects should also be considered. Travellers may wish to keep track of their skills, but it is not necessary. Referees should continue to ask what the Travellers plan to do in 4 year periods as time goes on. The Travellers may create a small colony settlement, grow crops, and perform further attempts to leave. These attempts will fail. Relationships may develop, but no children will be born. Eventually, the Travellers will fail survival rolls or finally succumb to an aging crisis. AGRA will leave them on the island until they die.

Once the last Traveller dies they will find themselves back aboard their vessel, no older than when they encountered the entity. It will not be clear if the events actually happened, were some form of hallucination or simulation, or perhaps implanted memories.

*Just what the hell had happened to us? I still couldn't tell if we'd gotten through to the thing... or things, whatever they were, but here we were, safely back aboard Bayern, the bay launch crew staring at us and insisting we'd only just left.*

*That could wait. Debriefing could wait. I was more worried about Lee. He had flipped out completely in there. ...shrieking bloody murder as though he'd been beset by all the demons of hell.*

*And there was more. Lee had had a scar on the right side of his face, a ragged memento of a barroom brawl years ago which he'd been too fond of to have removed.*

*Now that scar was on the left..*

contribute 1Dx30 Science Points to the ship's total, as well as 1 Contact Point per 30 Science Points accumulated. If they achieved Effect 6+ on their check to communicate with AGRA they may add an additional Contact Point. They will still have only a vague idea that they have been successful at communicating with the entity, however.

That manipulation of time had been somehow involved is proven by disagreement between clocks aboard *Bayern* and the Travellers' own experiences and watches. Discovery of this will add 3 Contact Points to the group's total, since it will help them understand the multidimensional nature of what they have experienced.

Attempts to attack the entity are treated as forms of communication. The check, however, becomes Formidable (14+).

## FIGURING IT OUT

After penetrating a node, none of the Travellers will be able to enter a node again, not in that location, nor elsewhere within the cluster. All such attempts will result in the Travellers finding themselves back aboard their vessel, outside the node. If the crew wish to investigate further, they will have to assemble another contact team.

The referee may use the total number of accumulated Contact Points to determine how much the Travellers understand of what they have experienced. At their discretion, they may reveal more to the Travellers than the Contact table allows, but if possible, they should assume that a low Contact Points total means the Travellers

were not able to understand what they saw. Their perceptions are confused and difficult to understand. The Travellers should be encouraged to work out a hypothesis on their own based on their experiences.

However, the Contact table can be used if this proves difficult.

No further explanation is possible. The being or beings encountered within the node are, compared with humans, godlike in their powers and abilities; as far beyond humans in evolution as humans are beyond flatworms. These aliens can no more explain their activities or in any meaningful sense communicate with humans than humans could explain their art and architecture to shellfish.

It is unlikely that the construction project glimpsed at the galaxy's core offers any danger to humanity. The principal threat in this revelation is the cultural shock which could cripple humanity's development, once word of this discovery is made known. The Travellers will have to use their own judgment here about how much to tell the journalists aboard *Bayern*.

Perhaps there is not even any danger to humanity here. With no way of recording their experiences, it is possible that the Travellers who ventured into the node will not even be believed.

## Contact

Contact Points	Results
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1-5	The Travellers know they encountered an alien intelligence, but nothing more. They may assume the strange impressions they received within the node were subjective rather than hallucinations brought on by stress or the power of an alien mind. They will be unable to understand their encounter.
6-10	The Travellers understand that they have encountered a multi-dimensional alien intelligence. The entity has a very high level of intelligence and exists within at least four dimensions. The changing, three-dimensional shapes were, in fact, three-dimensional cross-sections of a higher dimensional being – the only parts of the entity which humans are capable of perceiving.
11-15	The Travellers understand the four-dimensional nature of the entity. In addition, they recognise that their strange hallucinations were probably the alien's attempts to communicate with them. However, their minds, based on three-dimensional space, were not able to assimilate the impressions. The 'infinite plane' is understood as an incomplete visualisation of their normal, three-dimensional space, viewed from a four dimensional perspective.
15+	All of the above. In addition, one or more of the Travellers (perhaps the one who made the lowest roll to maintain their sanity in the alien's presence) retains a curious and powerful image in their mind. The nodes within the Pleiades are seen as though from a great distance, interconnected by beams of light. Other beams of light extend not through but past space to the vicinity of a vast black hole at the centre of the galaxy, some 30,000 light-years away. The Traveller will have a glimpse of sullen fires banked against the space-rending tides of the black hole, of strange and awesome intelligences building something out of the very fabric of space, time, and gravity. The Pleiades construction is a buttress, one of many minor architecturally outlying supports, for a vast construct which spans the entire galaxy.

## REVERSAL

One final (and literal) twist: Each Traveller that sensed the violent movement and perceived their vessel strangely opened (see page 22) up must roll 1D upon their return to normal space.

On an even result, there is no change. On an odd result, medical examination reveal that all of their internal organs have been reversed... heart on the right, liver on the left, and so forth. Left-handed Travellers become right-handed, and vice versa. Furthermore, the Traveller will need special food supplements (the equivalent of daily vitamins) from now on, because their body chemistry can no longer utilise certain amino acids. *Bayern*'s chemical labs are equipped to manufacture these supplements. It is also unlikely that the Traveller will be able to have children without extensive gene modification. The process of unzipping a DNA strand, reversing the left spiralling DNA to right, spiralling and zipping it up again is possible but expensive, time consuming and not always successful. The Traveller may require intervention from Pentapod bio-science or advanced Sung medical technology.

This reversal is the result of the Traveller's body being rotated through the fourth dimension (to form a three-dimensional picture of what has happened, picture picking up a non-equilateral triangle cut from paper and flipping it upside down). For a moment, the Traveller was looking 'down' (three-dimensional words and

concepts are inadequate here...) into *Bayern* from a fourth dimension. They then entered *Bayern* via that fourth dimension, to find themselves back on the ship.

Recognising that the Traveller has been reversed due to a dimensional flip will help to understand that travel through a higher dimension has been involved and will add two Contact Points.

## Psychological Effects

Travellers who have been reversed by the four dimensional encounter with the AGRA being will have severe emotional problems to deal with. Although outwardly nearly identical to their former selves, the knowledge that they are so different now will take its toll. Only time will calm the strong emotions caused by this unanticipated change in their physical being and they will have to adjust slowly to their new altered selves and eating habits.

Travellers that have been flipped will have a hard time adjusting to their new reality. To them, everything is normal, but their instincts and muscle memory will be reversed. Door handles will seem to be in the wrong place, writing, although legible, feels like it is written back to front because their eyes are used to scanning from left to right, and now try to scan right to left. They wake up and try to get out of bed on the wrong side. It will take a long time to adjust.

## ON HIGHER DIMENSIONS

Eventually, possibly as a result of discussing their strange experience with scientists aboard *Bayern*, the Travellers may be able to make some sense out of what they saw.

It can be theorised that a fourth spatial dimension is necessary for the existence of the first three (just as three dimensions are necessary to define a flat, two-dimensional plane, or a plane is necessary to define a line). Current cosmological thinking suggests that there are 11 or 14 dimensions left over from the Big Bang – some in time, some in space. Other theories hold that the number of spatial dimensions is infinite. The strange things seen by some of *Bayern*'s crew can be more easily understood by analogy.

Two-dimensional creatures inhabiting a hypothetical 'Flatland' might be aware of a 3-D human hand entering their universe as five separate and uneven circles, with only the fingers intersected in their universe. As the hand pushed further through Flatland, the circles would be seen to expand, then merge into a single, irregularly-shaped mass. Should the hand grab a Flatlander and pluck him from his 2-D universe, he would have severe difficulty understanding his suddenly expanded vision. It is possible that a 2-D brain would be utterly unable to comprehend any of what it saw. It is also possible that, since the 2-D creature does exist within our 3-D space, he will be completely confused by seeing other two-dimensional 'slices' of 3-D space, slices he would have never seen before and which can constantly change as we move him about.

A 4-D being's intersection with 3-D space is what the *Bayern* crewmembers see when a number of disjointed, writhing shapes appear. The crew may get a clue as to what is happening should one or more of them find themselves rotated (reversed) after a harrowing trip into the higher dimensions.



# PLOT POINT 4 THE WEEPING SISTERS

*Songs that the Hyades shall sing,  
Where flap the tatters of the King,  
Must die unheard in  
Dim Carcosa.*

Robert W. Chambers, *The King in Yellow*, 1895

*I cannot rest from travel: I will drink  
Life to the lees: all times I have enjoyed  
Greatly, have suffered greatly, both with those  
That loved me, and alone; on shore, and when  
Through scudding drifts the rainy Hyades  
Vexed the dim sea*

Alfred, Lord Tennyson, *Ulysses*, 1833

MET: D+1143

CMD: 1762 ly

The Hyades are a large, open cluster of stars some 150 light-years from Earth. There are hundreds of stars associated with the cluster although the open nature means that many of them are very distant from the centre. The core of the cluster is an area of approximately 18 light-years in diameter and the entire cluster is approximately 70 light-years in diameter. There are many stars beyond this radius that show similar ages, motion and chemical composition to the cluster stars, and it is believed these were previously cluster members who escaped, or are in the process of escaping, the gravitational influence of the cluster.

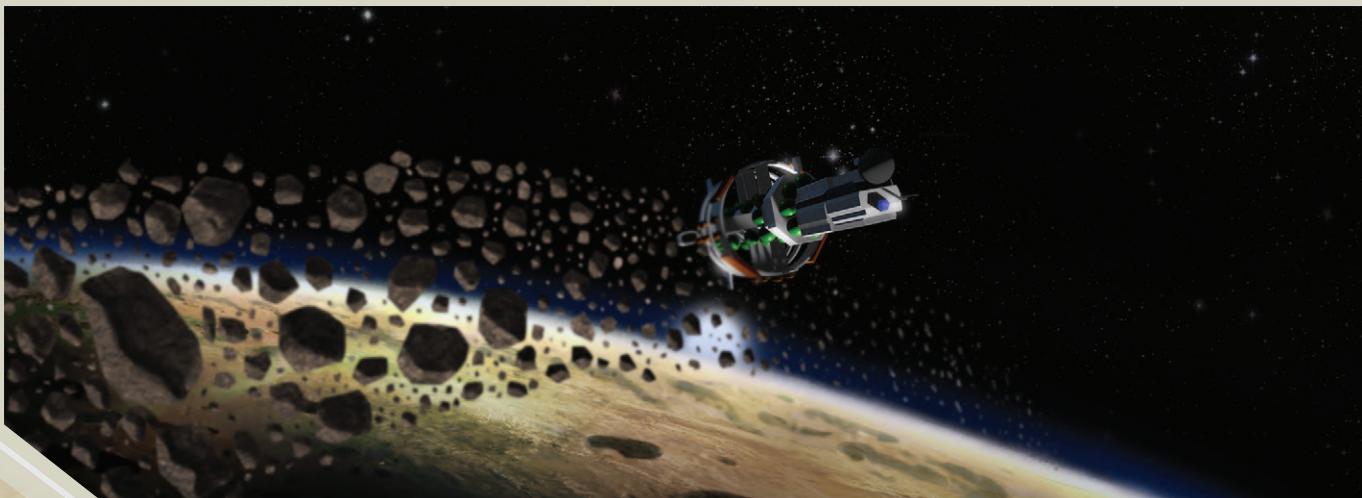
When the *Bayern* mission was being planned, the AR-I was initially concerned with getting to the Pleiades to investigate the anomalous readings that would later form the basis of Code: AGRA. The Hyades were known to be a similar, if older, cluster to the Pleiades and added as a secondary objective. The AR-I's expectation was that the Hyades, being an older cluster, may exhibit a more advanced version of Code: AGRA if the phenomena's progression advanced with time and was common to all clusters.

In ancient myth the Hyades were the daughters of the titan Atlas and Pleione, and sisters to the Pleiades. They nursed the infant wine god, Dionysus and were very close to their brother, the noted hunter Hyas. His death, on the horns of a boar, the claws of a lioness or the fangs of a serpent (depending on the teller), disturbed the sisters so much they wept until they died of grief. Zeus, so moved by this and their kindness towards Dionysus, changed them into stars and placed them on the head of the bull, Taurus. Their rising and setting coincides with the spring and autumn rains, so they are known as the rain nymphs or the weeping sisters.

## ASTROGRAPHY

Unlike the Pleiades, the *Bayern* crew are not expected to map the Hyades in detail, but some background information will allow the Referee to give a more realistic description of the flotilla's travels.

The Hyades cluster is much older than the Pleiades, and its members have begun to disperse, meaning the larger cluster is much more open. Within the



## Theta-2 Tauri

The variable luminosity of Theta-2 Tauri is tied to actual changes in the star's surface as it expands and contracts. As the helium in the star's atmosphere becomes ionised it becomes opaque to solar radiation, causing the light from the star to become trapped. This raises the temperature of the helium, ionising it further. This also causes the star to expand and its atmosphere to become more rarefied. The expansion causes the helium to cool and become more transparent, releasing solar radiation. The atmosphere then starts to contract and as it does so the helium becomes ionised, wherein the cycle starts again. The process happens very quickly, in stellar terms, and the peaks of the periods of variable brightness vary from 90 minutes to just over two and half hours. The star's diameter changes visibly by up to 10% during each fluctuation.

central portion, however, the stars are still quite densely packed, averaging 0.5-1 light-year apart. As well as the main cluster there are hundreds of stars in an even wider grouping known as the Hyades Stream, made up of stars following the proper motion of the cluster, even though they do not seem to be gravitationally bound to it and in some cases do not share similar chemical characteristics.

The core contains four white dwarf stars which are the remnants of type O giant stars that have reached the end of their life and are now cooling masses of degenerate material. There are at least three KIII red giants which are actually devolved type B giant stars that have shed much of their mass. There is also a single, unique A7 III white giant, Theta-2 Tauri, which experiences fluctuations in luminosity due to interactions of ionised helium in its atmosphere. The cluster also contains 21 A type stars, upwards of 60 F type, upwards of 50 G dwarfs, 48 observed K dwarfs and barely a dozen M dwarfs.

Although stars of all spectral types can be found within the main cluster there is a depletion of high and low mass stars, so low mass K and M dwarf stars are underrepresented, as are high mass O and B stars. In both cases this is due to the age of the cluster and its passage through several molecular clouds. The age of the cluster means that higher mass stars will have already passed through their stellar evolution and become red giants and white dwarfs, since larger stars consume hydrogen fuel quicker than lower mass stars. Low mass stars

will have been ejected from the cluster by interactions with the higher mass stars. Shockwaves from the cluster impacting hydrogen clouds will also hasten the exit of low mass stars. There is also predisposition for stars to be multiples within the core; most A type stars have at least one companion, with probability decreasing with spectral class to around 1 in 4 of K type stars.

## THE WAR IN HEAVEN

A million years ago a devastating war between implacable enemies tore through the galaxy. The Hyades were a stronghold for one of these factions and battles were fought throughout the cluster. The war was brutal and terrible engines of destruction were unleashed. Planets were bombarded by nuclear and kinetic strikes; vast energies were harnessed and used as weapons of mass destruction on planetary scales. Millions, perhaps billions, died on each side. The war in this part of the cluster only came to an end after one side used a weapon that unleashed truly gargantuan amounts of energy, equivalent to a star going supernova. The nature of the weapon is lost to time; it may have been a mechanism of some kind, an energy field that tapped into an exotic field of physics that humanity does not understand, or a device that manipulated the very laws of physics, triggering the release of energy from a star. Whether it was a desperate strike at an enemy, a last-ditch doomsday device or perhaps a terrible, catastrophic accident is now lost a million years in the past. Only the effects of the release can now be seen.

Whatever the mechanism, an extremely energetic explosion of energy was released; a hyper-nova burst of gamma rays and a huge quantity of ejected stellar material. To nearby systems this was devastating. The wave front spread out at the speed of light in all directions. As it encountered a system it stripped mass from stars and changed the composition of the upper atmospheres on planets.

The combatants in the cluster were easily able to outrun the wave front with their ships, but only after it had already devastated many systems. After 100 years, the now tenuous wave front began to diminish, but it had left behind a cluster in ruins.

A million years later there is little evidence to suggest there was ever a thriving interstellar civilisation in the cluster. Those worlds that had their atmospheres altered have developed new life, but on most affected worlds the most advanced forms of life are simple plants and crawling creatures.

## Agra 2.0

Searches for signs of another Code: AGRA within the Hyades will be unsuccessful. Whatever conditions the AGRA entity requires for its cosmic engineering, the Hyades does not provide them.

The passing years have also all but erased the remains of the civilisations that fought in the cluster. Even on airless worlds constant bombardment by micrometeoroids and the harsh radiations of space, plus constant heating and cooling, have weathered and eroded the ancient structures. Where once there were ancient metropolises, there is now nothing more than rounded boulders and a few oddly-straight and flat areas of ground to show the roads and foundations of ancient buildings. A thorough investigation would no doubt discover a few relics in more favourable locations, shielded from the ravages of time. For the most part the detonation of the doomsday device and following millennia wiped away almost all traces of the former residents.

There is, however, one relic of the war that the mission will be interested in; the remains of the star that was consumed during the final action of the war. It is the burnt-out cinder that sits at the centre of the cluster, a black dwarf – the dark star.

## THROUGH THE RUINS

Although *Bayern* is not expected to conduct as thorough a survey as within the Pleiades, her course through the Hyades will allow for multiple surveys of systems. During these observations the Travellers will have an opportunity to piece together the effects of the final explosion. Deducing the history of the war within the cluster can be uncovered through a series of checks. Although each check may be attempted multiple times (if the referee decides *Bayern*'s route allows) each can only provide a number of Evidence Points once and may only be attempted once per system. Success will provide 1 Evidence Point, Effect 1+ 2 Evidence Points and Effect 6+ 3 Evidence Points.

**Star Rotation Anomaly:** Difficult (10+) Astrogation, Science (astronomy or physics) check (1Dx6 hours, INT).

Observations of stars near the centre of the cluster will indicate that several are rotating slower than their mass should allow. The discrepancy is very slight, but noticeable and evident in several stars.

The reason for this is that the initial shockwave from the explosion stripped the closest stars of some of their mass, slowing them by robbing some rotational speed. The shockwave itself also slowed the star. The effects diminished as the shockwave moved and so the variation is highest nearest to the location of the explosion, and the dark star.

**Anomalous Metallicity:** Difficult (10+) Science (astronomy, cosmology or physics) check (1Dx6 hours, INT).

Most stars are comprised almost exclusively of hydrogen and helium with just a few percent of other elements. The metallicity of a star is the measure of these other elements. The stars near the core show much higher metallicity than those in the outer cluster. In itself this is not unusual – metallicity varies between stars – but the clustering of the high-metallicity stars and correlation with the rotation irregularity is certainly unusual. The reason for the higher metallicity is that the stars near the core were enriched by elements created by the explosion and dispersed in the shockwave.

**Enriched Interstellar Medium:** Difficult (10+) Science (astronomy, physics, cosmology or chemistry) check (1Dx6 hours, INT).

Sampling of the interstellar medium near the core will show that it is slightly enriched compared to the average of the cluster. The cluster already has a number of dense molecular clouds within it, formed as older stars blew off their surface layers as they aged, leaving behind a tiny, hot white dwarf star. This is a normal part of stellar evolution, and it is this recycling of stellar material that leads to the formation of new stars. However, there is no (obvious) solar remnant to be the source of the cloud near the core. This is because the dark star is all but invisible to most of *Bayern*'s detection systems

**Bombarded Worlds:** Routine (6+) Investigate check (1D hours, INT) to spot bombardment. Routine (6+) Science (planetology) check (1D hours, INT) to recognise recent origin.

Closer investigation of systems near the centre of the cluster will show several worlds that show evidence of heavy surface bombardment within the last million years. On most the bombardment is over one hemisphere only. On worlds with an atmosphere the signs of the bombardment may be partially hidden by erosion and weathering, but are still detectable.

**Ozone Stripping Near Core:** Difficult (10+) Science (planetology) check (1D hours, INT).

There are only a few systems within the cluster that have planets with a breathable atmosphere and these are almost all old, post-garden worlds. Those worlds, naturally, attract more of *Bayern*'s attention and it will become apparent that there was a catastrophic loss of ozone from the upper atmosphere. This can be discovered in a number of ways including isotope analysis of atmospheric samples or from buried layers of rock. The reduction of atmospheric ozone would have been responsible for letting in harmful ultraviolet radiation.

**Anomalous Proper Motion:** Difficult (10+) Astrogation or Science (astronomy, cosmology or physics) check (1Dx6 hours, INT).

Careful examination of orbital data gathered as *Bayern* and her flotilla of ships move through the cluster will also show an anomaly. Once the flotilla has collected several sets of surveys within the cluster, scientists will discover that the proper motion of stars in the cluster is not quite what it should be. They are all moving in roughly the same direction, the Hyades Flow as it is known, but there is also some rotational movement around the general axis of travel. It is in this movement that anomalies will be noted. It will seem there is another, undetected, high-mass object influencing the movement of the stars within the core. Pinpointing the exact location will be difficult, as the anomalous movements are small and not visible in all stars, but it appears that the missing mass is somewhere within 10 light-years of the core.

**Navigational Data:** Routine (6+) Astrogation check (1D days, INT) or Difficult (10+) Science (astronomy or physics check (1D days, INT)).

Examination of navigation data from the flotilla's ships will reveal minor course corrections have been required, the kind that would be due to the gravitational influence of a star. Checking stellar cartography will reveal no apparent source of this mysterious influence. This is only apparent within 10 light-years of the core.

**Debris Rings:** Difficult (10+) Science (astronomy or planetology) check (1D hours, INT).

During surveys of some systems several worlds will be discovered that have faint and diffuse debris rings around them. The rings are made of billions of fragments of metal, plastics, synthetics and other manufactured materials, along with some ice and other volatiles. None will be much larger than a few millimetres in diameter. The origin of the fragments is impossible to tell, but it is safe to assume that some kind of manufactured structure was destroyed in orbit and the fragments have been ablating one another for

hundreds of thousands of years, if not longer. It is likely that any large fragments have long since de-orbited or been broken up to form the rings.

**Evidence of Civilisation:** Automatic detection.

This should be the last discovery the flotilla makes. Whilst *Bayern* is surveying one of the few garden worlds a series of regular features will be observed on an orbital scan; five straight lines radiating from a central point with interconnecting lines creating a series of concentric pentagons. Between the lines are areas that appear broken or have tumbled debris in semi-regular patterns. Travellers with any experience of archaeological remote sensing will recognise the images – potential evidence of structures.

## EXPLORING THE RUINS

The world on which the ruins have been detected is in a slow decline towards ecological collapse. The destruction of the star in the centre of the cluster caused a slight loss of orbital momentum and a corresponding shift in its orbital path. Over the intervening million years it has been ever-so-slowly spiralling in towards the system's primary. As the world has spiralled inwards the amount of solar radiation it receives has been increasing, and the world's surface and atmospheric temperature have increased. The oceans are now all but dried up and free water exists only in scattered pockets near the poles.

### System Data

**Profile:** X962000-0

**Primary Name:** BPC258105 (HIP 20146)

### Stellar Data

**Spectral Class:** G8V

**Magnitude:** 8.47

**X, Y, Z Coordinates:** 61.54, 130.48, 45.53

**Number of Planets:** 10

**Number of Asteroid Belts:** 0

**Notable Planets:** BPC258105ii (garden/post-garden world with alien ruins), BPC258105ix (super-Jovian with extensive moon and ring complex)

### Ruins World

**Name:** BPC258105c

**Distance from Primary:** 0.84 AU

**Year Length:** 270.26 days

**Size:** 14,256 km

**Day Length:** 26 hours

**World Type:** Garden/Post-Garden

**Surface Gravity:** 1.09 G



0 50 100  
Metres

- 1 Ruined buildings
- 2 Broken roads
- 3 Shallow pool
- 4 Obelisk
- 5 Cliff edge
- 6 Landing site

**Atmospheric Pressure:** 1.1

**Climate:** Arid

**Water Presence:** 18%

**Atmospheric Composition:** Nitrogen 83%, Oxygen 16%, Trace 1%

**Atmospheric Taint:** None

The structures detected from orbit are broken and hidden in some places, but further scans using overflights by spaceplane will reinforce the possibility that these are indeed structures. They are located atop a plateau near the northern latitudes of the planet in one of the few remaining verdant areas. The plateau is heavily vegetated and has several small standing bodies of water, some of the few areas of open water on the planet. A Routine (6+) Science (planetology) check (1D minutes, INT) will suggest that this was once an island and the surrounding sea has dried out leaving a raised plateau.

Reasoning that an exploration of the ruins could provide further clues to discovering what is causing the anomalous stellar readings, the captain will authorise a surface expedition. The site is not hard to reach and, barring any hazards the referee chooses to add, the descent in a *Kenntnis* lander or the *Entdecker* should be uneventful.

## SURFACE EXPLORATION

The only clear landing spot nearby is atop a small raised scarp above the ruins. The cliff face is steep, but offers plenty of handholds and can easily be scrambled down. To descend the slope requires a Routine (6+) DEX check (1D minutes). A failure results in a short fall, inflicting 1D damage. Effect -6 or worse will result in a fall of 1D-2 x 10 feet (minimum 10 feet), potentially resulting in anything from a twisted ankle to a head injury, broken limbs and unconsciousness. Using ropes or climbing equipment will confer DM+2. Climbing back up requires the same check; this may be significant when the Travellers decide to leave.

Surface exploration will uncover only the barest remains; smoothed and compacted ground with traces of some sort of formed polymer surface, and flattened and crumbled areas bounded by stubs of walls. Occasional fragments of a dark blue metal with heavy, white corrosion will be found.

The ruins are covered with a variety of vegetation, including analogues for creepers, vines and large bushy plants. Most vegetation features tough, woody trunks made of multiple fine strands of fibres held in

bunches. Clusters of 'leaves' are made of the same fibres that are flattened, splayed apart and woven together. Other plants feature large clusters of dark pods set in spongy masses of bright red and orange flesh supported by stiff webs and columns of fibres. There are also occasional plants with a tough, knobbly stem and a ropey or braided appearance.

## The Memory Plant

The plant with the knobbly, ropey stem is not actually a plant at all. It is, in fact, an organic storage device, designed to store and transmit bio-electrical memory imprints. Careful study of the plant will find nanoscale structures within incredibly fine filaments running through the stem and tendrils and dozens, if not hundreds, of tiny black nodules concentrated in clusters where filaments converge.

The plant is constructed rather than grown and investigation will reveal that although there appear to be a variety of different memory plants all follow exactly the same progression as they 'grow'. Any plants of the same size that are compared to one another are found to be exactly the same. All observed differences between plants are simply due to differing size, and presumably, age.

The function of the plant is to collect and store specific bioelectrical signals – a kind of memory notepad. The aliens that lived here used them for information storage, communication and as learning tools for their young. When the plant touches exposed skin the plant will project its stored memory.

The effects of this will take the form of a brief sense of disorientation and dizziness as the plant sends out a series of rapid pulses to map the Traveller's nervous system, accompanied by a crawling or itching sensation at the point of contact as bioelectrical energy is transferred. The Traveller will then experience a strong hallucination of the stored memory, lasting only a few seconds but which may seem to last much longer.

Since human physiology is very different to that of the plants' designers, incomplete information will be transmitted. Much of the subtle complexities are lost on humans, and the transfer tries to patch the missing information with images from the human brain. Where the aliens would have seen another of its species, a Traveller will instead see another human drawn from their memories. Where an alien would have seen one of its own ships or structures, a Traveller will instead see human versions.

The context and emotions of the transmitted memory will remain the same, however. A memory of a terrifying battle would still show two sides fighting, but instead of the aliens and their enemies, a Traveller might see human forces fighting Kaefers, some hated or reviled enemy from the Traveller's past or perhaps a mythological being. The Traveller experiencing the hallucination will still feel the fear and anxiety that the recorded memory contains. A transfer will be a confusing but very vivid memory of people, places and objects that are out of context with one another.

## THE HALLUCINATIONS

As the Travellers move around the site they will inevitably push or force their way through the foliage. Any Traveller that comes into skin contact with the plant with the knobbly stem and tendrils has a chance of experiencing a vision transmitted to them from the alien storage device. Each time the Travellers move through an area of foliage or ruined buildings, the referee should secretly roll a 1D for each. On 5+ the Traveller has made skin contact with one of the memory plants (assuming they have exposed skin).

There are three possible hallucinations that the Travellers can experience and the referee should choose randomly between them. In each case the referee should try and contextualise the memory for each Traveller, drawing on previous events or the Traveller's background to populate the hallucinations with figures drawn from their memory.

### ■ Hallucination 1

*You are standing on the surface of a planet staring into a night sky full of stars. There are sounds of raised voices all around and you realise you are in a crowd of people, all staring into the sky with you. Many people here are familiar to you and you know that you are fleeing from some terrible pursuer. The stars hold a sense of deep unease for you, as you know that your pursuer is out there looking for your people. Suddenly, there is a bright flash of light from above and one of the stars flares into sudden brightness. In seconds it is too intense to look at and you have to turn your head away. The light continues to get brighter and brighter until its radiance pierces your closed eyes. You hear screams of pain and panic around you and feel bodies jostle against you, knocking you to the floor. As the light intensifies you feel a sharp, burning sensation across your back. Suddenly the light dims and the burning sensations*

*fade. You turn your eyes skywards again and see that where one of the stars once was there is now a glowing nebula or cloud which is visibly expanding as you watch. You know that this is the remains of the star, flung outwards at incredible speed. Something terrible has happened.*

### ■ Hallucination 2

*You are on the bridge of a warship, speeding away from battle. Smoke and sparks from damaged systems fill the air, choking you and making it hard to see. Your ship has barely escaped and you are now fleeing in desperation. As you look around the bridge you see the familiar faces of your crew slumping at their workstations. Their faces are despondent and all sense of hope has been lost. You were hugely outmatched and the enemy had far superior numbers. Your comrades in other ships of the flotilla stayed behind to form a rear guard so your ship could escape, paying with their lives. You are filled with incredible sadness as you now know the only hope of staving off final, total defeat will be to do something desperate and terrible – a plan you fought bitterly against when it was first mooted. You know that enacting the plan will not give you victory; it will only ensure your enemy is defeated. You order your crew to set course for a system near the cluster's core.*

### ■ Hallucination 3

*You stand atop a platform inside a giant chamber. The walls of the chamber are just visible in the distance and seem to be made of rough stone. The chamber is a vast sphere, perhaps kilometres across, and the platform you stand on juts out from the wall halfway up one side. In the centre of the cavern is a machine of prodigious size and complexity. Its details are hard to determine and it seems to shimmer and shift as you look at it. You have a vague impression of titanic energies, channelled and contained, marshalled by forces that skirt the limits of your understanding. Its operation is known to you in intimate detail, but when you try to call the information to mind you cannot fathom even its simplest component. The device is in constant motion, forming complex shapes and seemingly impossible configurations as it changes from second to second. Seeing the mechanism operating fills you with a sense of pride. This is the culmination of many decades of study but is tempered with fear as well. You know this device could be put to terrible, terrible use in the wrong hands. A hexagonal console rises smoothly from the floor in front of you and you begin to input a series of complex commands. Your train of thought is interrupted by a commotion from behind. You turn and see a group of*



*soldiers barging their way into the cavern, pushing your colleagues aside. There are raised voices and you feel a sense of creeping dread rise up as you understand your worst fears have been realised.*

## THE OBELISK

At the convergence of the lines in the centre of the concentric pentagons the ground team will uncover a five-sided obelisk, made of the same blue metal as the scattered fragments and around five metres tall. The top appears to have been sheared off, so the original height is impossible to determine. The obelisk has a series of blurred and worn carvings or engravings on four sides. On the fifth side is a series of concentric circles unevenly spaced around a central point.

The circles feature short tic marks across them at apparently random intervals. There is a horizontal line at the bottom of the diagram.

The pictogram is a view of the night sky if you are standing by the obelisk. The concentric circles are star trails, the circles that stars make around the sky as the world rotates below them. The tic marks show the locations of stars at a certain time on a certain day of the planet's year, since the sky slowly changes as the year passes and the world rotates around the sun. Only at this time of one day of the year will the stars line up as shown on the pictogram. A successful Difficult (10+) Astrogation, Navigation or Science (astronomy) check (1D minutes, INT) will allow the Travellers to realise the purpose of the pictogram.

The significance of the pictogram is lost to antiquity and the night skies over the ruins world have changed in the million years since the obelisk was erected. However, Travellers will be able to build a simulation of what the night sky could have looked like in the past. This is also exactly the kind of tedious, number crunching, pattern recognition activities that Ace excels at. A successful Routine (6+) Electronics (computers) check (1D hours, EDU) will have Ace tracing back the proper motions of stars and comparing their positions in the skies of the world to the image on the obelisk. Ace will report back in 1Dx10 hours that there is a 75% match at 900,000 years ago for the night sky view with an error range of +/-100,000 years.

Ace will further report two anomalies that are the cause for the large margin of error. Firstly, the proper motions of the stars is anomalous, as the Travellers may already discovered. Secondly, one of the stars shown on the obelisk appears to be missing from the cluster. Identifying that the star is missing is worth 2 Evidence Points. The Travellers can then attempt to link that back to earlier investigations to pin down the location of the missing star by attempting a Difficult (10+) Astrogation or Science (astronomy or cosmology) check (1D10 hours, INT). Success will deliver Evidence Points as per previous tasks and, if the Travellers have not already discovered it, also indicate the location of the dark star.

## Unexpected Visitors

Any extended stay on the surface will attract the attention of a pack of dangerous local predators – ruin scorpids. Initially just a few of the creatures, not terribly dangerous in small numbers, will be encountered. However, the longer the Travellers remain on the surface, the more will be encountered until eventually the Travellers will be forced to leave the site. Retreating to their transport will prompt the predators to swarm over it and begin to excavate the ground around the landing gear. The potential of damage to the craft should prompt the Travellers to leave.

The alien life form encountered in the ruins is a large – over a metre long and massing up to 12kg – armoured arthropod or insect. They superficially resemble an extinct Eurypterid or sea scorpion. In the declining biosphere they are one of the few remaining predators, and close to eating themselves out of the food chain and into extinction. With shrinking habitat and dwindling food, the scorpids will ferociously attack any potential source of food.

When encountered, the referee should roll 6D for the number nearby, but initially only 1D creatures will be encountered. After 1D rounds a further 1D will join in the inevitable fight, then 1D rounds later a further 2D, then 1D rounds later a further 3D and so on, until all nearby creatures have been killed or have fled.



Animal	Hits	Speed
Ruins Scorpid	15	6 m
<b>Skills</b>	Athletics (dexterity) 1, Melee (natural) 1, Recon 1, Survival 2	
<b>Attacks</b>	Claws and Pincers (3D)	
<b>Traits</b>	Armour (+2), Small (-1), Poison (routine/1D/1D minutes)	
<b>Behaviour</b>	Carnivore, Pouncer	

## INVESTIGATING THE MYSTERY

As the science teams collate data from the trip through the cluster the referee should consult the Evidence table. The referee should keep a running total of the investigations, and reveal a little more of the mystery as the Travellers succeed in scientific tasks.

### Evidence

Evidence Points	Discoveries
1-6	The few discoveries the expedition makes are regarded as normal and nothing untoward is found.
7-12	The conditions in the core of the cluster are recognised as unusual, but no strong evidence is found for the cause.
13-18	The conditions in the core are recognised as unusual and the dark star may be searched for. The causes of the conditions (a hypernova-level event) are recognised, but not the artificial nature.
19-24	The conditions in the core are recognised as unusual and the dark star may be searched for. The causes of the conditions (a hypernova-level event) are recognised, and signs of artificial origins are recognised
25+	The dark star is located. Evidence of its destruction at some point in the past through artificial means, and the devastation wrought, is strongly suggested.

Signs that point to an artificial cause for the hypernova-level event are subtle and highly technical. As more readings are gathered it becomes apparent that the exploding star was not an old, high mass star, but appears to have been in the prime of its life. Only

larger stars are expected to supernova, so a low mass main sequence star suddenly exploding is unusual. Likewise, the distribution of material that enriched both the solar medium and changed the metallicity of stars in the cluster indicates very unusual reactions taking place both before the star exploded and during the event itself. Although neither of these is a smoking gun pointing to an artificial cause for the explosion, both are highly unusual and *Bayern*'s crew of astrophysicists will be extremely puzzled.

Once the Travellers pass the Evidence Point threshold permitting a search for the dark star, they can see if they are able to piece the clues together and find the needle in a field of haystacks. To find the dark star they must achieve success on a Very Difficult (12+) Astrogation or Science (astronomy or cosmology) check (1D days, INT). The Travellers may choose to take additional time and could use a task chain using a combination of the permissible skills for the check. If the Travellers have made the link between the missing star on the obelisk to the anomalous readings, but have not yet found the dark star, they will receive DM+2.

A success will provide the location where the Travellers believe there *should* be a star, but none is observed there. *Bayern* or one of her flotilla ships will have to travel to the location to investigate further.

## AT THE DARK STAR

Conventional astrophysics suggests that after billions of years of nuclear reactions a star of less than about 10 solar masses will have used up all its hydrogen and helium fuel. It will have progressed through its life as a main sequence star and then expanded to a red giant, blowing off most of its mass into a planetary nebula and finally leaving a tiny, radiant ember, glowing white hot with residual heat. This final stage is known as a white dwarf. The surface of a white dwarf remains hot only because of residual heat – all nuclear reactions have stopped.

In time this residual heat will fade and the white dwarf will dim and eventually stop glowing, becoming a burnt out cinder. This stage, when the star is truly cold and dead, is known as a black dwarf. However, the time required for a white dwarf to reach this state is an *incredibly* long – measured in the billions of trillions of years, or more. Because this is much longer than the current age of the universe, it means that no star has yet existed long enough to go all the way through its life cycle and become a black dwarf. This is why it will be such a surprise when *Bayern* finds one at the heart of the Hyades cluster. It is a star that should not exist.

The star that was consumed during the cataclysmic event that ended the war in the cluster was a normal G4V yellow dwarf star, slightly more massive and larger than Sol. The black dwarf remnant has lost much of this mass and is now only around 0.8 the mass of Sol. It has collapsed in upon itself so that its radius is just a little less than that of Earth, meaning that the dark star has an incredibly high density.

The dark star is composed of a crystallised form of exotic material called electron degenerate matter. The material is incredibly hard and rigid, and forms a pitch black sphere 11,000 km in diameter. Its surface is covered in a fine layer of stardust which is being slowly crushed ever finer by the star's massive gravity – over 29 G at the surface.

Occasionally, cosmic debris may impact the dark star or part of the stardust on the surface will interact with the electron degenerate matter and there will be a brief flare of radiation. This will cause a temporary hot spot on the surface for a few hundred or thousand years, but mostly the star is cold and dead.

Although slightly smaller than Earth, the dark star still has a huge mass, and its Stutterwarp Shelf and Wall remain as they were for a star. Stutterwarp-equipped craft will pass the Shelf and drop below FTL speed at 2.2 AU away, a little over 320 million km. The Wall, where ship's lose the ability to proceed under their own power, is around 10 million km away from the star. To put that into perspective, the Moon orbits at an average of 385,000 km from Earth, so the Wall for the dark star is about 25 times as far away from the dark star as the Moon is from Earth.

By this point the Travellers will have deduced that there was a hypernova-level event at some point in the cluster's past and pinpointed the likely location. What they should be expecting to find is a supernova remnant – a white dwarf or neutron star. However, it is immediately apparent, even with a cursory search, that there is no such object at the expected co-ordinates. Indeed, there are no neutron stars in the cluster at all. Something is definitely there – the gravitational gradient due to a star-sized mass is easily detected – but whatever it is, it is not emitting or reflecting any detectable levels of radiation.

*Bayern* will have ample opportunity to search for whatever is at the location on her way towards the dark star. Directly observing the dark star whilst in Stutterwarp is impossible. It is too small, cold and distant to be detected. Only once *Bayern* passes

the Shelf will the crew have any chance of detecting the dark star. About the only way to directly observe the star is if it passes between *Bayern* and another, distant star –a technique known as occlusion. To detect occlusion requires a pause at the Wall.

At that distance the dark star is barely a black pinprick in black space to the naked eye and any investigation will have to be done remotely through *Bayern*'s sensors or by sending one of her reaction-drive equipped sub-craft to make direct observations. Although *Bayern* is equipped with some of the most sensitive detection systems designed by humans, the dark star's lack of emissions and tiny size will limit the utility of her observations.

Sending a craft inside the Wall to observe the dark star at closer range requires it to use a conventional reaction drive. Unfortunately, none of *Bayern*'s craft carry sufficient reaction mass to achieve a useful orbit around the dark star. *Entdecker* and *George Bauer* could conceivably be converted to carry additional reaction mass, but are too precious to send on such a dangerous mission. *Bayern*'s only real option will be to remain at distance and despatch one or more of the *Reisende* interstellar probes for a close approach before they are captured and destroyed by the dark star.



The probe's trip from *Bayern*'s parking orbit at the edge of the Wall to the anticipated location of the dark star will take just over seven days. The engineering team will need to modify probes to increase their propellant tank size by removing their stutterwarp drives and replacing them with additional fuel.

The probes will be programmed for a high velocity insertion and close approach to the location of the expected star. The Travellers, through the mission board, can decide on the nature of the mission profile. Sending two probes with a delay between them will allow for the first probe to make initial discoveries and the second to conduct targeted follow-up observations. It also allows the second probe to potentially observe the capture and impact of the first probe. Other options, such as elliptical orbits that slingshot the probes past the star are also possible.

The referee may choose to request any engineers working on the conversions make appropriate Engineer checks to avoid mishap, but the tasks to convert the probes are not especially taxing. Conversions will take around 12 hours per probe and preparations for launch and the programming of navigation systems a further six hours.

Once the probes are launched *Bayern* will have seven days until they reach the location of the dark star. The probes will need to be put into hibernation after they have finished their initial insertion burn and then awakened once close to the star. The shutdown will happen automatically, but Travellers will need to pass a Routine (6+) Electronics (remote ops) check (1D hours, INT) to awaken the probe when it is 24 hours away from the dark star. Failure requires the task to be repeated after 1D hours. If the probe has not been brought online within the 24 hours it will impact with the dark star and be destroyed.

Once the probe is successfully brought online it can begin its survey of the mysterious object. To gather information the Travellers will need to complete each of the following tasks at least once, and keep track of the total number of successes gained. Keep track of the amount of time a probe has before it impacts the star.

Difficult (10+) Electronics (sensors) check (1D hours, INT)  
Difficult (10+) Science (astronomy) check (1D hours, EDU)  
Hard (12+) Electronics (remote ops) check, (1D hours, INT)

Only one check can be attempted at a time per probe, but multiple probes can observe the dark star simultaneously. A second probe can pick up where the first probe left off, so if only three successes are achieved by the first, the second probe's successes

will be added to them. A second probe can also always elect to observe the impact of the first probe, potentially achieving the 5<sup>th</sup> listed success before any others. Additional probes sent towards the dark star can continue to allow checks until all successes are met or *Bayern* runs out of probes.

## 1st Success

Analysis of the probe's trajectory on the journey inwards calculates that the object masses around 0.8 Sols and has a diameter of approximately 11,000 km. This makes it incredibly dense, around 280 million kg per cubic metre. Analysis of the particle flux around the probe suggests it is passing through a weak and rotating magnetic field, potentially indicating that the body is also rotating.

## 2nd Success

Using thermographic and visual sensors the probe discovers that the dark star's temperature is just a few fractions of degrees above the background temperature of space, making it very cold indeed. The surface is very, very uniform, almost a perfect oblate (flattened) spheroid. The surface is very dark with an extremely low albedo.

## 3rd Success

Analysis of surface materials indicates the presence of carbon and oxygen, but there are strange patches where sensors read no surface material. It is almost as though the surface were reflecting all radiation back into space.

## 4th Success

As the probe draws closer it will be able to use more advanced, short ranged active sensors. These will allow the probe to partially map the structure of the body. It has a very shallow layer of compacted but disassociated material – like compressed dust or ash. Below this is an extremely dense, crystalline material that sensors can only penetrate to a very shallow depth.

## 5th Success

If another probe has been brought on line before the first strikes the dark star's surface it will be able to observe the impact. The probe will be torn apart by the strong gravitational flux before it reaches the surface of the star and will impact as a cloud of debris. The largest fragment will be the reaction drive, which remains mostly intact. The impact is strangely subdued, with no dramatic explosion or spray of debris as the dark star's gravity prevents any surface material being ejected and most debris is crushed flat against the surface.

The impact of the reaction drive will shatter it and gouge a small crater into the surface material, exposing the reflective, crystalline surface of degenerate matter below. The brief exposure visible in distant starlight makes the surface appear to be a perfectly reflective mirror.

## THE IMPOSSIBLE STAR

The results from the probes will be frustratingly tantalising. The object has many of the attributes of a white dwarf and the crystalline structure, weak magnetic field and high density all point to the object being composed of exotic material known as electron degenerate matter. However, a white dwarf should be extremely hot – many thousands of degrees. As explained, the 24<sup>th</sup> century understanding of the lifecycle of stars does not allow for one to have cooled to the point where it is indistinguishable from the background radiation – the universe has simply not been in existence long enough.

If the Travellers are not familiar with the concept of a black dwarf and the reasons why it is impossible for the object to be one, the referee can paraphrase the information above and impart it through Dr. Bohl explaining the situation to the captain, or prepare a brief synopsis for a suitably qualified Traveller, representing their background knowledge.

By now the Travellers will have a trail of clues comprising observations they have taken in the cluster, the obelisk and hallucinations on the ruins planet, and direct observations made at the dark star. These all point towards an origin for the dark star, but none are conclusive. The referee is encouraged to prompt the Travellers for suggestions on what might have happened in the cluster.

Ultimately, there will be more questions than answers. The data collected by *Bayern* and her probes will be analysed and examined for years to come and form the basis of many theories and academic papers. However, without being able to approach the star more closely – and Commander Schmidt will refuse to put *Bayern* or any of her sub-craft at risk by proceeding beyond the Wall – *Bayern* will be unable to gather more data. Further probe launches will not gain further insight beyond.

Eventually Commander Schmidt and Dr. Bohl will reluctantly concede that *Bayern* must move on, leaving the enigmatic mystery of the dark star in the heart of the Weeping Sisters.

# PLOT POINT 5 GAMBiT

*Bayern floated in front of us, dark and motionless. She was usually lit up like a Christmas tree; running lights, formation-keeping lights, docking targets, hazard strobes and rotation queues on the spinhabs, to say nothing of interior lights from the windows on the forward hull. Her spinhabs were still, the first time I think I had ever seen them not moving, and the radiators on the engineering section were cold and dark. They usually glowed, if not cherry red, then at least a deep crimson.*

*Our hails were going unanswered and none of the data links were working. The instrument docking system was down as well. I couldn't even raise Ace on the ship-to-ship IM channel, which was almost unheard of.*

*Nevertheless, there was activity. I could see the spider-like repair robots swarming over the engineering section. There were flashes of the welders amongst them and occasionally one drifted off into space, tumbling away from the hull, trailing sparks. I could see two clusters of Kolkrabe observation remotes, the little flying cameras we used to examine the ship and nearby objects, slowly circling the ship. The reminded me, disturbingly, of a school of sharks.*

*Most worrying was that from what I could see every single airlock was open to space, the CCV's were missing and all lifeboats had been launched. I just hoped that the crew had managed to get to them before whatever crippled the ship had happened.*

**MET:** D+1274

**CMD:** 1964 ly

**System:** BPC262078 (39 Tauri)

**Stellar Type:** G5V/M7V

**X, Y, Z Co-ordinates:** 24.6, 44.9, 20.7

Gambit serves as a finale to the saboteur plot or, if the referee elected not to use the saboteur, can be inserted as an interlude at almost any point after The Messenger, although the later it is left in the campaign the better. The Travellers will return to *Bayern* after a routine planetary survey to find her unresponsive to communications. As they close with the ship they

find she has apparently been disabled and abandoned by the crew. In fact, *Bayern* has fallen victim to an advanced computer virus designed to destroy her. The main computer has been over-written by the virus and it has taken control of most of her systems, including all robots on board. The virus initially seized control of the navigation systems and tried to pilot *Bayern* into the surface of a planet. The crew were able to disable the stutterwarp drives and manually activated the nuclear thrusters to put *Bayern* into an eccentric parking orbit. The virus then selected its next objective; to eliminate the crew. It began to override the safety protocols on airlocks, using suborned repair robots to bypass mechanical safeguards.

With every system on the ship suddenly turning against him, Commander Schmidt rapidly ran out of options. The planet that *Bayern* had been surveying was marginally habitable – hot and dry, but with a breathable atmosphere and drinkable water. Reasoning that the safety of the crew was paramount and that return of *Bayern*'s sub-craft would allow for a rescue, the captain ordered an evacuation before the planet moved out of range of the escape pods. Before leaving the ship he ordered the engineering crew to manually disable or encrypt all broadcast equipment so the virus could not be transmitted to the rest of the flotilla as they returned. Likewise, in an attempt to deny the virus power, he ordered the fusion reactor quenched and start-up sequence locked out. Chief Engineer MacDonald also removed key components from the power plant as she left, pursued by virus-controlled repair robots.

In the spin-habits, Dr. Bernhardt sealed the Schutz CCV's, switching the cryoberths over to their independent power. He then activated the emergency protocols and launched the four vessels with their precious cargo into orbit around the nearby planet. The remaining crew evacuated in the lifeboats, *Orkan* spaceplanes and *Kenntnis* landers, grabbing what they could in the way of supplies.

Although the main computer has been compromised, Ace, the ship's simulated intelligence, has not. Ace runs on a separate, firewalled set of hardware. Ironically the firewalls were put in place by security conscious programmers who were concerned that any degradation in Ace's complex and experimental

program might interfere with the day-to-day running of *Bayern*'s systems. To that end they separated the two functions. The virus has not been able to penetrate the firewalls and Ace remains intact. Ace can access some ship's systems, but only for a short period before the virus locks it out and it has to bypass the virus's security measures again. Ace has been spending its time trying to create an effective anti-virus program and confounding the virus's attempts to destroy the ship.

The infected computer is now trying to restart the fusion plant, reactivate stutterwarp and gain physical access to the nuclear scuttling charge. Although Ace is complicating its efforts to destroy the ship, the virus is making headway. It has yet to move against Ace's hardware, as the two computer cores are co-located in the forward hull and the virus does not want the possibility of damaging its own hardware before it destroys the ship.

## ORIGINS OF THE VIRUS

Depending on events in the campaign the referee has a number of options for the origin of the virus.

### Saboteur Weapon

If using the saboteur subplot it is possible that the saboteur has, by now, been captured or killed. The Desperate and the Fanatic both have reason to want *Bayern* to fail in her mission and are not afraid to kill everybody on board to achieve it. They have either been supplied with a powerful virus or spent time writing one. The virus is a weapon of last resort, programmed to trigger as *Bayern* is returning home (and questions will no doubt be asked about where such a cutting-edge virus was obtained). For the AGRA-Affected the means to create the virus was overlaid directly onto the subject's mind as a failsafe by the AGRA intelligence for reasons only known to the multi-dimensions entity. The motivations of the Operative are slightly more benign, and they certainly do not call for the ship to be destroyed. For them, the virus was never meant to turn homicidal – it was a tool supplied by their sponsors to aid and cover their sabotage attempts. The sudden switch to attempting to destroy the ship will come as a shock to them also (and may make them question their master's motives). The virus is purely a program in this instance, so has no personality to speak of. Its interactions with the Travellers will be purely through manipulation of the ship's systems and robots.

### Corrupted Envoy

If the Messenger (see page 32 of *Bayern Secondary Objectives*) was permitted to send its avatar, Envoy, along with *Bayern* then it is possible that the saboteur

has somehow corrupted the programming of this artificial life form. The Fanatic, Desperate and AGRA-Affected were seeking the destruction of the ship and the Operative was just having a poke around inside Envoy's head with unfortunate side effects. If this option is chosen then the virus will have been uploaded from Envoy and exhibit a malevolent personality. It will converse with the Travellers via the PA system, alternately threatening them and mocking attempts to defeat it.

### Hostile Envoy

If the saboteur plot has not been used up to this point and the Messenger was permitted to put Envoy on board *Bayern*, the referee may choose to have Envoy decide that humanity is too dangerous to gain knowledge of the Messengers. To protect its creator, Envoy has decided to destroy *Bayern*. This option is especially valid if the Travellers have been bloodthirsty in their dealings with other alien species encountered. It also allows for the option of trying to talk Envoy out of destroying the ship. If the Travellers can demonstrate that humanity is not a threat to the Messengers then Envoy may relent, but it will be a hard sell. As with the previous option, the Envoy virus will communicate with the Travellers, explaining why it has to destroy *Bayern* and listing humanity's (and the Travellers') failings.

Another option for the referee is for Envoy to have infected the computer core in order to steal the secrets of stutterwarp and/or the human home systems. If this is the case then Envoy will have infected the computer, pillaged the database and then thrown itself out of an airlock in the direction of the nearest Messenger target system. It will not reach its destination for millions of years, if at all, but the Messengers plan a long way ahead and are very, very patient.

### Other Parties

It is possible that the referee has used neither the saboteur nor Messenger plot threads. In this instance the virus will originate from a third party, and progress in the same manner as the saboteur weapon. Possible candidates for third parties include corporate enemies of Trilon, French neo-nationalists, or Earth First fanatics. Another possibility is an alien info-war weapon. The aliens from Argyle 692 (see page 58 of *Secondary Objectives*), the Raiders (page 114 of *Secondary Objectives*), and even the Builders (page 93 of *Secondary Objectives*) are sophisticated enough to have created such a weapon. It is possible that investigations of the Builder dodecahedron have triggered some form of defence system. It should

be remembered that an alien virus would have to be especially sophisticated to be able to operate in *Bayern*'s systems at all, let alone bypass the advanced security measures.

## APPROACH PROTOCOL

*Bayern* is almost home, less than 50 light-years from Earth, and less than a dozen systems away from her starting point. The 39 Tauri system is the last of the pre-planned stops for the flotilla, to investigate a binary system that could potentially harbour habitable worlds. *Entdecker*, *Anton Dohrn* and *George Bauer* (if it still exists) are due to meet with *Bayern* here after their respective missions are complete. They will rendezvous and link up for the final push on towards home. Most of the crew is back in cryogenic suspension, and those who remain awake are filled with mixed emotions – sadness at the end of *Bayern*'s great adventure, but glad to be returning to human space.

*Entdecker* transits into the system after an unremarkable scouting mission nearby. The referee may wish to elaborate on *Entdecker*'s mission with some minor points of interest and a few encounters, but it is suggested that these be relatively straightforward encounters in order that the crew are rested and healthy.

*Entdecker* should be able to pick up *Bayern*'s transponder beacon as she drops below the Shelf, but surprisingly, there is no signal. Checking the rendezvous location also turns up a blank – *Bayern* is not where she should be. Standard protocol dictates that if a ship cannot stay for a rendezvous they should leave one of the automated message beacons to advise of any danger, unless doing so would constitute a danger in and of itself.

With no *Bayern* in evidence, the Travellers, will no doubt start looking for evidence of the ship or its crew. *Bayern* can be located using *Entdecker*'s sensors with a Very Difficult (12) Electronics (sensors) check (1D hours, INT). Effect -6 or worse will result in a false positive that requires an additional 2D hours to investigate and eliminate before the check can be attempted again. False positives could be asteroids, comets, sensor ghosts or other innocuous phenomena.

Once the Travellers locate *Bayern* they will find her high above the plane of the solar system moving away from the fourth planet, a small desert world with thin atmosphere and low gravity. She has moved out of her usual parking orbit into a highly eccentric, inclined orbit. This orbit will take her three months to complete, but she is only partway through the

transit. *Entdecker* will be able to easily catch her and match courses. Moving into formation with *Bayern* will require a successful Average (8+) Astrogation check (1D hours, INT) followed by a successful Average (8+) Pilot (spacecraft) check (1D hours, DEX). Failure on

## Contacting the Crew

Before the crew abandoned ship, they fired *Bayern*'s thrusters. This was partly to move her away from the planet and partly to use up fuel whilst they still had control of the engines. With the stutterwarp out of action, and the fuel tanks for the nuclear thrusters empty, *Bayern* will remain in her eccentric orbit and away from the planet for the majority of her transit.

The crew have now set up a base camp on the desert world that *Bayern* was surveying. The planet is hot and dry, with only 15% surface water in lakes near the poles or small oases. The lifeboats and sub-craft have landed in one of the most hospitable parts of the planet, but it is still punishingly hot and dry. The landscape is covered in bare sand, scrubby brush and baked rock, and temperatures at the equator are far too high for comfort. The landscape at higher latitudes is less harsh, but still dry and barren. In many ways, it is similar to the Australian outback. The CCVs with their precious cargo of cryoerths remain in orbit.

The Travellers may decide to search for the crew, rather than chase after *Bayern*. The most habitable planet in the system is a likely place to look, and they will be able to make contact with the stranded crew whilst several hours away. There will be considerable time lag initially, but real time communication will become possible.

Commander Schmidt will assure the Travellers that the escape pods landed safely and the crew are in no immediate danger. He urges them to try and work out a way of bringing *Bayern* back under control rather than making planetfall or concerning themselves with the stranded crew. He will remind them that *Bayern* is still their best chance of returning home and contains the full sum of discoveries made so far. Its loss would doom the mission to being a failure, even if the stranded crew could be saved.

the first check indicates a bad course has been plotted and time is wasted. The check will need to be repeated before the pilot can rendezvous with *Bayern*. A failure on the Pilot check doubles the task duration.

## Boarding *Bayern*

*Bayern* will be unresponsive as the Travellers' ship draws up. There will be no responses to voice, video or text messages and all of the usual automated systems, such as the instrument docking system and data backup systems, will be offline. Standard protocols are for a returning ship to transmit a brief status report and, assuming all is well, begin a data upload to *Bayern's* central data vault. Voice communication will be established and automated docking procedures started.

However, *Bayern* remains mute. When the Travellers are within visual range they will see that she seems intact, but is showing no external lights and, most worryingly, her spinhabs are no longer rotating. *Bayern* is usually illuminated by numerous formation keeping lights, warning strobes, rotation queues and a dozen other sources of illumination. All are now dark. Likewise, most of the Travellers will not have seen *Bayern's* spinhabs at rest since she was under construction. There are occasional bursts and flashes of light from the engineering section, however. On closer inspection, these flashes of light will resolve into the arcs of welding torches from a multitude of the ship's repair robots.

The small, crab-like robots are swarming over *Bayern's* reactor section. Some appear to be attempting to cut through the hull using laser welders whilst another group seems to be attempting to stop them, either by throwing them off the engineering section or attacking them with their own laser welders. As the Travellers watch, they will also see a cluster of *Bayern's* free-flying observation remotes circling the engineering section. Occasionally one will dart in and smash into one of the repair robots, sending both tumbling off into space. More robots are emerging from within *Bayern*, far more than her normal complement.

Searching along the remainder of the ship's length, the Travellers will be disturbed to see that every airlock, hatch, portal and hangar bay door is open. This includes the interior doors for the ship's lifeboat bays, all of which are empty. The CCV berths are also empty. Manoeuvring below *Bayern's* bow will reveal that the large cargo doors adjacent to *Entdecker's* docking cradle gape open, as do hatches that would mate to *Entdecker's* dorsal cargo lock. It would appear that *Bayern* is open to space.

After a few minutes, the Travellers will notice that one of the observation remotes has broken away from the cluster and is approaching *Entdecker*. Its flight is erratic and it will seem to keep applying its braking thrusters and begin to change course before returning to its progress towards *Entdecker*. The remote will eventually stop 500 metres away and begin blinking its lights in a series of short and long bursts – Morse code. Ace has wrested control of one of the observation remotes away from the virus and is using it to send a message.

The referee may assume that the Travellers can translate from Morse using either the experience of ex-military crewmembers or *Entdecker's* library. The referee may also choose to have the Travellers translate a short Morse phrase for added verisimilitude. A number of online translators can translate text to Morse code and the referee can use these to good effect, including some that will actually play Morse code as a sound.

If the Travellers attempt to return the message, by flashing *Entdecker's* running lights or shining a light through the forward viewports, Ace will respond using the remote. The conversation will take some time to conduct, as each sentence will need to be sent in Morse and responses translated back.

Ace will update them on the current situation – *Bayern's* main computer has been compromised by an unknown virus

If the Travellers ask what can be done to halt the progress of the virus Ace will explain that it is working on thwarting it using a set of countermeasure

## I have the Greatest Enthusiasm for the Mission, Dave

For the climax of this adventure to have its full impact, it is important that the Travellers have developed a sense of Ace as a member of *Bayern's* crew. Likewise, it is important that they understand the separation between *Bayern's* main computer systems and Ace. If possible, the referee should have one of *Entdecker's* crewmembers question why Ace is not infected as well, opening up the opportunity for one of the Travellers to explain the separation or, if they are not clear, another of *Entdecker's* crew to do so. This should also help to allay any fears that Ace is complicit in the virus's efforts to subvert the ship's systems.

software. It needs to spend some time mapping the virus's progress and activities to develop a fully effective solution. However, in the meantime there is a more pressing issue.

The virus has access to all of the ship's standard systems, but the remote detonation codes for the nuclear scuttling charge are secured in a physically separate data vault and both physically and electronically protected. If any of the Travellers were unaware of the nuclear scuttling charges Ace's casual mention of them may spark some questions. For now, at least, the detonation codes are secure. Instead, the virus is seeking to gain direct access to the scuttling charge and set it off manually. To this end it has suborned the majority of the repair robots and is trying to physically cut into the engineering section and gain access to the power plant and the scuttling charge. Ace has cleared the Aleph robot Alois of the virus's influence and used it to secure the external hatches and systems in the reactor control room and EVA suites on decks 30 and 31. Likewise, Ace has managed to override the virus's control over the repair robots stored on deck 31 and is using these to disrupt the virus-controlled robots. These were the two groups of robots the Travellers observed on approach to *Bayern*.



The virus has also started the autofactories, using fuel stored in the backup MHD power plant. It is using these to fabricate more repair robots. Although Ace is able to disrupt the virus's robots, it is only a matter of time before the repair robots under his control are overwhelmed by the virus-controlled robots.

Ace suggests that to buy sufficient time to complete the countermeasure program the Travellers should concentrate on preventing virus-controlled robots from gaining access to the scuttling charge. The Travellers will need to accomplish this in three stages. First, they need to disable the repair robots already working to cut their way into engineering. Secondly, shut down the autofactories on decks 25 and 26. Finally, they will probably need to find and disable the other three (potentially four, if Envoy is aboard) Aleph robots under the control of the virus to stop them from undoing the Travellers' work.

Ace advises that decks 30 and 31 are under its control, but the rest of the ship is effectively virus-controlled. Ace also warns against direct action against the computer hardware, as its own core is co-located within the same avionics bay. The Travellers will be able to spacewalk from *Entdecker* to the airlocks on deck 30, keeping a watchful eye on nearby repair robots and observation remotes. Moving from *Entdecker* to *Bayern* requires an Average (8+) DEX check. Failure indicates the Traveller has lost control of their transit and must make the check again to regain control. Failure on the second check indicates the Traveller has impacted with *Bayern*, suffering 1D damage as they slam into the ship. An Effect of -6 or worse on the second check indicates the Traveller has missed *Bayern* completely and is tumbling away into space. *Entdecker* will need to manoeuvre ahead of them to retrieve them.

## Clearing the Repair Robots

The first task will be to clear the repair robots from the exterior of the engineering section. The Travellers will have to perform an EVA and destroy the robots individually. There are currently 18 virus-controlled repair robots working on the engineering section, and Ace has control over 12 more. There are also eight Kolkrabe observation remotes flying around the engineering section making suicide dives onto the hull. They are attempting to either open up a fissure to allow the Königskrabbe robots into the interior or destroy one of the robots under Ace's control.

The robots are arranged in clusters of two or three all over the engineering section, concentrated over the hull around the fusion reactor. Several are attempting to pry open ejection hatches for the jettisoned stutterwarp

drives and several more are cutting directly through the hull. The referee should review the external layout of *Bayern* in order to describe the unusual battleground. Robots will scuttle away around the curve of the hull as they come under fire, and move to attack from either side and behind. Travellers will be able to move on *Bayern*'s hull using magnetic boots or fly alongside using EVA packs. The referee should remember that firing high recoil weapons will require skill checks as described on page 32 of the *Traveller Field Catalogue* to avoid tumbling or losing their footing.

The repair robots will ignore the Travellers until six of their number have been destroyed, after which the virus will begin allocating one of the repair robots to each Traveller, sending them scuttling over the hull wielding their laser welder. Once half of the virus's repair robots have been destroyed it will send an additional observation remote after each Traveller, attempting to crash into them or knock them off the hull. The Travellers will notice that Ace has a couple of repair robots watching the space around the engineering section, tracking the observation remotes. He will warn them in advance of any of the remotes making an attack run.

Each Traveller thus attacked will have 1D rounds to shoot the observation remote down before it impacts with them. The remote will start at a range of (number of rounds to impact)  $\times$  50 m and will close by 50 m each round. If the remote is not shot down the unfortunate Traveller may attempt a Difficult (10+) DEX check to dodge the remote at the last moment. Failure results in the Traveller sustaining an amount of damage equal to the number of rounds they had to shoot the remote down, i.e. 1 round = 1D, 2 rounds = 2D, and so on. The remote will suffer the same damage and, if not destroyed, will fly off and may attempt another suicide run. The virus will continue to send observation remotes on suicide runs at the Travellers until it has run out of remotes.

Once the Travellers have destroyed the remaining virus-controlled robots, Ace will direct its remaining robots to effect repairs and suggest the Travellers proceed to shut down the autofactories on decks 25 and 26.

## Shutting Down the Autofactories

*Bayern* is equipped with two automated factories, on decks 25 and 26. These remarkable devices combine the functions of multimedia 3D printers, laser cutters, milling machines, refineries and fabrication plants. They serve a dual purpose of processing raw materials and ore mined by the *George Bauer* and using processed

materials to create finished products according to designs stored in *Bayern*'s computers. Because all of the most dangerous blueprints are locked out and encrypted, the virus is not able to simply fabricate a bomb to blow *Bayern* up. It is limited to the standard, simple, safe designs. The virus can create chairs, but not grenade launchers.

The virus has therefore programmed the autofactories to create as many copies of the repair robot as it can. Each robot takes around an hour to fabricate, and the two factories are running flat out producing them. Because Ace has been quite effective at disabling the virus's robots, production is only just managing to keep ahead of losses. Nevertheless, eventually Ace is going to lose all of its robots and the virus will be able to build up an army.

Like the rest of the ship, decks 25 and 26 are open to vacuum so the Travellers will need to wear pressure suits to explore them. The virus has also disabled the lights, so the decks are in complete darkness. The autofactories fill half of each deck and are massive, looming structures. The operation is mostly automated, with raw materials being drawn from the resource decks below through automated hopper systems. Production is usually managed from elsewhere, but there is a workstation built into each autofactory that can be used to shut down production. The difficulty will be keeping it shut down.

Ace will advise against using *Bayern*'s core transit system, as it is no doubt compromised by the virus. The Travellers can choose to either climb up the maintenance tubes either side of the core transit system, or take a stroll along *Bayern*'s hull to deck 27, 28 or 29, where the cargo bay doors are wide open. The Travellers will have observed repair robots scuttling out of the cargo hatches on deck 27, fresh from the autofactories.

Traversing the maintenance tubes is tiring and time consuming, as there are locked hatches on each deck between the reactor control room on deck 31 and the autofactories on deck 26. After manually opening the hatches on the intervening five or six decks, the Travellers must make an Average (8+) END check or suffer a DM-2 to all checks from exhaustion until they are able to rest for an hour. If any Traveller is wearing an Erkunder hardsuit it will provide DM+4 to this check for all Travellers, although the Erkunders are not standard part of the mission inventory for *Entdecker*.

If the Travellers decide to walk along the hull they will be ambushed by a small swarm of Königskrabbe robots as they reach the cargo bay doors on deck 29,

by the lateral grapples. There will be an equal number of robots to the number of Travellers and they will emerge from behind storage bins inside the cargo bays on decks 28 and 29, or if the Travellers move through the bay doors on deck 29 they will spring the ambush as the Travellers move into the bay.

Once the Travellers reach the autofactories they will find that their inter-suit radios are affected by severe interference, as high energy cutters, welders and furnaces create bursts of static. The virus has kept back more of the Königskrabbe robots and there are a number equal to the number of Travellers hiding around each autofactory. At the referee's discretion, if the Travellers are equipped with Erkunder hardsuits, the virus may have manufactured additional Aleph robots and equipped them with weapons from *Bayern*'s armoury.

Once the robots are dispatched the Travellers can set to work disabling the autofactories. The simplest way to shut them down is to trigger the emergency shutdown – big, red buttons are located at several points around the room – and then remove key pieces of equipment such as circuit breakers. The disadvantage is that the virus could easily start the autofactories up again by replacing equipment from stores and resetting shutdown switches. The Travellers can also smash or shoot key components not so easily replaced, but without either of the autofactories in working order they will be unable

to manufacture replacement parts, so this is likely to mean the autofactories will be out of action permanently. Ace will strongly advise against this and suggest that the Travellers only need temporarily disable the autofactories. Its reasons for this will become clear in the next section of the adventure.

Once the autofactories are disabled Ace will suggest the Travellers return to reactor control.

## Defending the Scuttling Charge

Once the Travellers return to the reactor control room, Ace will advise that the immediate threat to the scuttling charges has passed. The virus has used its supply of suborned robots. Ace will suggest that the next step should be locating Beau, Christa, and Dexter and, if it is aboard, Envoy, the remaining Aleph robots. It will begin to search through the camera feeds for the robots and as it does so the Travellers will receive a message from *Entdecker*. The hatches for three of the work pods have begun to open.

Ace will switch to the internal cameras for the work pods and the Travellers will see that Beau, Christa and Dexter are piloting them and now moving out of their hangars. With its attempts to cut into the engineering hull using the Königskrabbe robots thwarted, the virus is instead using the Aleph robots as pilots. The work pods are equipped with cutters that can easily breach the engineering section, and



once inside the Aleph robots will be able to use handheld tools to breach the superstructure around the scuttling charge.

There are several options for disabling the work pods. The pods themselves are reasonably flimsy and could be disabled directly if the Travellers have sufficient firepower (remember, personal weapons divide their damage by 10 when shooting at spacecraft). The work pods have no armour and only a single point of Hull, so assuming that the Travellers can put sufficient volume of fire into a pod they should be able to disable it. Alternatively, they can attempt to snipe at the Aleph robots inside the pods. The largely transparent control cabin of the work pods means that the pilots are visible, although the struts and structure will give them partial cover. The transparent cockpit will also provide Protection +5.

There are also still three work pods housed forward in *Bayern*'s hangars. The Travellers could pilot these to disable the robot-controlled pods in a deep space work pod dogfight. The robots have no small craft piloting skills, so suitably skilled Travellers will have a significant advantage over them.

Finally, the Travellers may elect to wait until the Aleph robots breach the hull and venture inside. Ace can unlock the hatches down into the power plant chamber and the Travellers will be able to set up an ambush. The virus will not send all the robots into the engineering section and will leave Crista outside in the work pod. If the attempt to break through is unsuccessful Crista will return the work pod to its hangar and be sent to deck 25 to attempt to re-start or repair the autofactories.

Once the Aleph robots are defeated Ace will request the Travellers return to reactor control again. It has devised a plan to remove the virus from the ship once and for all.

## THE PLAN

When the Travellers return Ace's image will be hovering above the holotank with a grim look on its face. It will confirm that its efforts to develop a suitable anti-virus measure are not making headway. Worse still, now the virus has been thwarted in its attempts to subvert other ship's systems, it has turned all of its resources over to attacking the firewalls around the protected core, including those holding the activation sequence for the scuttling charge. Ace advises that it does not believe it will be able to purge the virus, at least not before those firewalls fail, the core is compromised and the virus detonates the scuttling charge.

However, Ace does have a potential solution. Whilst combatting the virus Ace has been able to chart its progress through the ship's systems. The virus is incredibly sophisticated and the system with the most processing power is *Bayern*'s main computing hardware located in the forward avionics bay on decks 3 and 4. If that core can be purged of the virus, the main computer could be restarted from secure, virus-free backups.

There are failsafe systems designed to destroy the memory areas that contain the details of the human home systems built into the computer hardware to prevent this sensitive information falling into hostile alien hands. However, these are designed to affect only those storage areas and not the main core. Activating those failsafe systems would still leave the virus active in *Bayern*'s core computer. However, there is another, separate failsafe system fitted to Ace's core.

Like the firewalls separating Ace from the ship's main computer network, Ace's designers installed the failsafe system as a final option in the event that Ace's program became unstable. If the Travellers were to activate this failsafe then the pulse-compression EMP charge would detonate and flood the avionics bay where both Ace and the ship's main computer hardware are co-located. The EMP pulse would be attenuated by Ace's hardware somewhat, but would still propagate throughout the whole compartment. The intense burst of EMP will disrupt the electronic storage and processing systems of the main computer, wiping it clean ready to be restored from backups. *Bayern*'s designers decided that wiping the main computer when destroying Ace was an acceptable side effect.

It is likely that the EMP will burn out some components in the main computer, which can be replaced from stores or manufactured by the autofactories (if the Travellers did not destroy them). *Entdecker*'s computer systems are also designed to act as a backup to *Bayern*'s systems via umbilical links in the grapples, and can provide a temporary solution during repairs. *Bayern*'s core software and sub-systems will also need to be re-installed from secure backups (a very dull and time-consuming process), but the virus should be wiped from the core computer.

However, setting off the failsafe charge will also have catastrophic consequences for Ace. The failsafe system will first detonate a shaped plasma charge directly into Ace's central processing architecture, whilst triggering the pulse-compression EMP device. The same EMP pulse that is just enough wipe

the main computer will be detonated right inside Ace's core system, an intense storm of fluctuating electromagnetic radiation. If the plasma charge does not destroy Ace, the strength of the EMP flux within its systems will be more than enough to wipe any remaining electronic storage and destroy the delicate processing architecture. It is, in fact, likely to fuse Ace into worthless slag.

Simply put, detonating the failsafe charge will end Ace's operation. The destruction of its hardware platform is a difficult, but not impossible problem to surmount – *Bayern* might still manufacture replacement hardware using her autofactories, for instance. However, restoring Ace's program will be impossible. The nature of Ace's program is a constantly evolving and mutating system. It is so complex and dynamic that it cannot be backed-up or copied. The analogy that Ace will use is that even a perfect photograph of a waterfall will not allow you to recreate that waterfall elsewhere and have the individual water droplets follow the same path. Ace thinks it might have been able to move itself to another platform, but there is no suitable hardware available. Opening communication to another system also risks the possibility of unwittingly transmitting the virus from its confinement in *Bayern*'s computer core.

## I, AI

Humanity has succeeded in creating an artificial mind before, but the results were uninspiring. The simulated minds were entirely passive – empty vessels without thought, intelligence or consciousness. The only application has been as a 'bridge' device in the Cortescan system. Truly intelligent, conscious, aware artificial life has so far eluded computer scientists. Several complex systems have developed strange behaviour over time, picking up or developing unexplained mannerisms or quirks. Computer scientists theorise that an intelligent system may be able to emerge and evolve over time only if left in isolation. Observation has shown that if these systems then reconnect to the wider network, they quickly stop exhibiting the strange behaviour and revert to normal operation. It is not clear what the result of these 'quirky' systems evolution would be, as most systems require regular interaction with the wider world, but it is clear that what scientists have failed to create by design may instead emerge by slow evolution.

Moving the EMP charge away from Ace so it will only affect the main computer is also not feasible. The charge is in a tamper-proof mounting and integrated into Ace's hardware. There is simply not enough time to extract it safely. Ace is also unsure that moving it elsewhere would be any less harmful to its systems anyway.

Heading into the avionics bay and smashing the hardware with a fire axe, or shooting it full of holes, is not going to work either. The core architecture of *Bayern*'s computer system is designed to be failure resistant. It works by using hardware fail-safes to create a new instance elsewhere in *Bayern* if a part of the architecture is damaged. By smashing the computer systems the program will simply be spun-up in another sub-system elsewhere on the ship. Its capabilities might be restricted somewhat by being in a lower specification system, but the Travellers would have to smash every piece of computer equipment on the ship to ensure the virus was eradicated, and they simply do not have time for that. Detonating the EMP will wipe the virus and also happen fast enough that the hardware protocols that would create a new instance in another sub-system will be wiped at the same time.

By now, the Travellers have probably come to suspect that Ace has evolved beyond its original programming. Its responses and interactions with the crew have become more lifelike and 'human' as the mission has progressed. It shows intuition and initiative, and seems to have developed a mild sense of humour. Several of crewmembers had already begun to discuss the idea that Ace may be an emergent artificial intelligence.

Ace will impress upon the Travellers the urgency of immediate action. The virus is concentrating all of its efforts into subverting the firewalls and could breach them at any moment. The failsafe EMP charge has to be triggered from either the bridge on deck 2 or avionics control on deck 3. The failsafe codes are known to *Entdecker*'s captain, or a quick message to Commander Schmidt will also obtain them, after an explanation.

The Travellers can travel to the forward hull by climbing through the maintenance tubes again, and attempting the same check (detailed on page 43) to avoid exhaustion, or they can EVA outside of *Bayern* to any of the open airlocks on the forward hull. The open lifeboat hatches on the upper hull are probably the quickest route to the bridge, and the lifeboat hatches on deck 5 will provide access to avionics control on deck 3. The hatches on deck 2 will provide access to the bridge.

If Envoy is aboard, it will be guarding the avionics control room, armed with an SK-19 assault rifle. If Envoy is not aboard the virus will instead have manufactured another Aleph robot and stationed it here, but it will not have Envoy's advanced skill package. At the referee's discretion, the robot will also have donned an Erkunder hardsuit.

As further precaution, the virus will also open the maintenance hatches to the planetary probe bays on decks 9-14 and vent liquid rocket fuel from the probes into the forward hull. As the Travellers enter any of the forward decks they will see a fine mist of floating droplets. Since the mist contains both oxidiser and rocket fuel it readily combusts, even in vacuum. Any conventional, binary propellant, explosive, laser or plasma weapon fire will detonate it. Gauss, mechanical or gas powered weapons can be used without fear of ignition. If ignited, the fuel will flash-combust and inflict 8D damage to any Travellers within it. Travellers adjacent to an area filled with rocket fuel (floating outside the lifeboat hatches, for instance) will suffer only 4D damage from an explosion.

The exploding rocket fuel will ruin *Bayern*'s forward hull. All primary sensors will be rendered inoperative and every compartment forward of deck 19 will be destroyed, and the planetary landers will explode and blow out their hatches. The bridge, observation dome, zero-g labs and quarantine suites will be damaged beyond repair. The remaining work pods will likewise be ruined. The forward hull will lose its airtight integrity forward of deck 18 and the avionics bay will be ruined, destroying Ace and the virus-infected computer. *Bayern* will require extensive repairs and a dry dock to repair the damage. The forward grapples will also be destroyed, along with the linkages required to integrate *Entdecker* with *Bayern*'s stutterwarp systems. A new linkage will need to be constructed if *Entdecker* is to be used as *Bayern*'s replacement control system.

The Travellers can reduce the potential explosive power of the spilled rocket fuel by activating fire extinguishers or triggering *Bayern*'s fire suppression system. Handheld fire extinguishers are readily available all over the ship and spending a Significant Action to drain one completely will fill a single location with enough inert gas to dissipate the rocket fuel. *Bayern*'s fire suppression system can be triggered from any workstation and will release inert gasses all over the ship. The system is not designed to operate in a vacuum, so the Travellers will have to bypass a number of safety protocols to trigger

it, requiring a Difficult (10+) Electronics (computers) check (1D rounds, INT). Success results in the suppression systems triggering and the rocket fuel being dissipated as inert gasses are vented out of open airlocks all over the ship. The gasses are normally transparent, but in the extreme cold of deep space they will condense into a thick, white cloud that will limit vision to no more than three metres for six rounds, after which they will dissipate. It will also be extremely alarming to observers on board *Entdecker* as gasses are seen to violently vent from every opening on *Bayern*.

If the virus detects the Travellers entering the bridge and beginning the failsafe procedure it will send the Aleph robot to intercept them. The virus intends to ignite the rocket fuel, so the robot will be carrying a number of emergency flares for this purpose.

Activating the failsafe EMP charge requires three uninterrupted rounds at either one of the bridge workstations or a workstation in avionics control. These rounds need not be concurrent. If Envoy was the source of the virus it will spend this time alternately berating and threatening the Travellers, making dire threats about hidden fail-safes of its own and hinting that it will return to wreak its revenge. At the end of the third round the Traveller activating the failsafe needs to pass an Average (8+) Electronics (computers) check (INT). If the check is failed they have made an error and have to re-start the process.

If the check is passed the failsafe will activate a 10 second (two rounds, if the Travellers are still fighting the Aleph robot) countdown. Ace's avatar will appear in the central holo display and it will smile sadly. The Travellers have one last opportunity to say their goodbyes before the failsafe charge fires and Ace disappears in a brief swirl of static and a howl of electronic interference. The gently glowing bridge displays flicker with a burst of static and go dark. If Envoy is still functional it will continue to fight on, but any other Aleph robot will become inert.

*Bayern* is silent, cold and dark.

## CODA

If the EMP is successfully triggered it will trip circuit breakers all over the forward hull and systems will shut down forward of deck 19. Investigations in reactor control will show that the central computer is offline with several error messages indicating a full software wipe and several damaged components. Other damage reports indicate that Ace's system is completely

destroyed. *Bayern*'s undamaged subsystems can be restarted, although some require the components that the departing crew took with them.

Once the subsystems have been checked to ensure no trace of the virus remains, *Entdecker* can dock with *Bayern* and link its computer to *Bayern*'s systems. If the forward hull was not severely damaged and the autofactories are still operational then the main computer can be rebuilt in a week. Loading and configuring a set of core software will take a further week. *Entdecker* was designed to act as a backup to *Bayern*'s main computer in the event of damage, so using her computer core will allow *Bayern*'s journey towards Earth to continue whilst her computer is repaired.

If the autofactories were destroyed then the damage to *Bayern*'s computer core will be too severe to repair in deep space. *Entdecker* will again dock with *Bayern* and act as her substitute computer for the remainder of the journey, unable to undock until *Bayern*'s computer core is replaced.

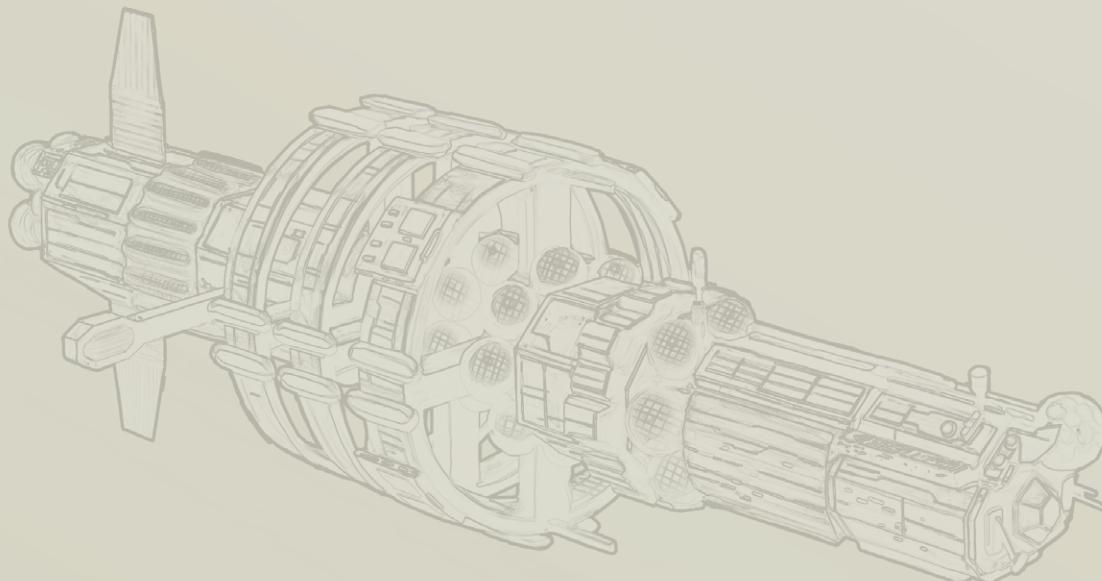
In the event that the Travellers did not prevent the rocket fuel from exploding they will discover that the explosion has severely damaged *Bayern*'s structure. There are a number of buckles and fractures all along her spine. The core transit system can no longer be used, the spinhabs cannot be restarted and the nuclear thrusters cannot be used for fear of breaking her back. Since stutterwarp does not impart any actual velocity, *Bayern* will still be able to travel under her own power, but the damage to the ship's structure will

affect her speed, reducing it to Stutterwarp Efficiency 1.15. Likewise, if the autofactories are undamaged a backup computer can be built, but decks 1-18 remain uninhabitable. The auxiliary reactor control room on deck 31 will be used as a backup bridge and *Entdecker* will need to remain grappled to act as *Bayern*'s sensor platform. On her return to human space *Bayern* will either need a complete rebuild from the core outwards or will have to be scrapped.

Ace's actions during the virus attack will lead to a great deal of debate amongst the crew and, upon *Bayern*'s return, amongst the wider scientific community. The destruction of its core will leave nothing of the program. Although the original Aristotle installation is archived, even if the hardware is restored and the program re-loaded, it will not be the 'old' Ace. Performance will drop back to the same levels as at the start of the mission.

Investigations of *Bayern*'s data storage will also reveal that as the virus attack progressed it began to overwrite stored mission data with gibberish. Recognising this, Ace shifted huge quantities of data out of *Bayern*'s internal storage and into external storage devices that the virus could not access. The Aleph robot Alois, once it had secured deck 30 and 31, spent most of its time swapping out memory modules under Ace's direction as Ace worked to preserve *Bayern*'s precious mission data. Combined with the backups aboard the flotilla ships, Ace's actions have saved almost all critical data.

With repairs underway, *Bayern* will set off again, potentially on its last ever voyage.



# PLOT POINT 6 THE RETURN

**MET:** D+1312

**CMD:** 2022 ly

**System:** Sol

**Stellar Type:** G2V

**X, Y, Z Co-ordinates:** 0, 0, 0

Eventually *Bayern* will transit back into human space. Every mission must come to an end.

## MISSION SUCCESS

The criteria for *Bayern*'s success in its primary objective are laid out in The Daughters of Atlas. However, the referee may also wish to consider the outcome of the other plot points and interludes. If the mission at the Pleiades went well, but the mission suffered badly in all other encounters then the success of the surveys at the Pleiades will be diminished.

There is potential for *Bayern* to have been severely damaged or even destroyed during the events of Gambit. This will obviously be a devastating blow. If *Bayern* is destroyed then it is likely that much of the information contained in her data storage will have been backed up to any surviving flotilla vessels, but this will not make up for the loss of life and the physical specimens and artefacts. If *Bayern* is lost any remaining flotilla vessels will have faced an arduous and dangerous journey home.

## FURTHER DEVELOPMENTS

The names of the crew of the *Bayern* will inevitably go down in history regardless of the outcome of the mission. If the mission is regarded as a success, Travellers will find that (if they choose) fame will find them.

Travellers seeking the limelight will be offered everything from book deals to exclusive media contracts for their life stories, and exclusive entertainment and endorsement contracts. More scholarly Travellers will find their experiences are in just as much demand from the academic and scientific community. Lecture tours and academic publication offers will be forthcoming, as will positions at universities and institutes.

They will also be in high demand by both Trilon and the AR-I, for different reasons. Trilon wish to capitalise on the head-start on the survey information and will be willing to offer the Travellers lucrative deals to assist in this endeavour; they will be able to pretty much write their own tickets with Trilon, as the potential rewards for even one successful mining colony or new wonder drug from a plant would pay huge dividends.

The AR-I will also be planning its next steps and a new deep space mission is already in the planning stages. Potential targets are a number of pulsars, quark stars and black holes. One particularly ambitious project is for a multi-year mission towards the galactic core. If the results of the AGRA contact included a vision of its stellar engineering project the AR-I will subtly alter its plans to include further examination.

If the mission is considered a failure then notoriety may still follow the Travellers, but they will have to work to save their reputations.

## AFTERWARDS

The referee may wish to provide a longer-term view of events to the Travellers as a coda to the campaign. The following events will follow on from actions that they take in the campaign, and the referee should impart only those that are relevant to their actions.

## AGRA

What to do with the information regarding the AGRA intelligence and its galactic engineering project will be hotly debated. Initially the AR-I will lock-down all mention of pan-dimensional super beings whilst the social engineering department simulates the effect that revelation of a godlike alien manipulating space-time for barely understood purposes may have on human civilisation. The Travellers will be sworn to secrecy, signing official documents guaranteeing silence. In the following years the AR-I will reveal its information to several national governments and a blockade of exploration routes to the Pleiades will be enforced.

Attempts to breach that silence will be thwarted. Book or media deals will fall through, and lecture venues will mysteriously cancel. At best, any Traveller trying to spread news of AGRA will become a darling of conspiracy theorists and have their credibility thoroughly undermined.

## Drive Tuners

Readings and calibrations taken during the sabotage attempts of the drive tuner during *Bayern*'s first interstellar rift crossing are analysed and lead to advancements in drive tuner technology. Smaller, more efficient Mk3 drive tuners begin to appear within six years, making interstellar tugs a more viable method of crossing distances greater than 7.7 light years.

## Wanderer Parasite

If any parasites from the bio-ship in The Wanderer were kept then their ability to adapt to different hosts will be studied extensively, leading to a new generation of anti-rejection medicines and regimes. These will ease the use of transplanted organs on Frontier worlds where cloned organs are not always available. The research will also be used as a key bargaining commodity with both the Sung and Pentapods.

## Vitruvians

After details of the Vitruvians become known their plight will prompt several Foundations to petition for an aid mission. The AR-I, IEX, Royal Society and the Life Foundation will propose a joint mission to aid the island colony and establish a permanent scientific station. The Travellers will undoubtedly be courted to take part or lead the expedition. Events in human space (the Kaefer war not the least of these) will impose delay upon delay on the mission. Its actual departure will be years after *Bayern*'s return.

## Argyle 692

If the base at Argyle 692 was not reactivated, then study of the smart matter will lead to advances in material technology and within five years the AR-I will license a version of the smart matter to Trilon. It becomes a useful and important tool, and Trilon and the AR-I make a great deal of money from it.

If the base was reactivated then the Travellers' footage and sensor readings will undergo intense study. The iconography, technology and materials will reveal that there is a root similarity between the architecture, technology and iconography in use on Argyle 692d and those encountered in the newly explored Beta Aquila cluster. Likewise the appearance of the gigantic ship

will cause a flurry of excitement as it is the first potential sighting of an actual Beta Aquilan vessel, rather than an automated system.

Theories regarding the Argyle Aquilans, as they come to be known, and their relationship to the Beta Aquilans will abound. No further trace of the giant ship will be found. A follow-up mission to Argyle 692 will be planned, but the apparent hostility of automated defences in the system will pose a significant problem.

## The Messenger

The news of a network of advanced, self-replicating machine intelligences will be met with both wonder and fear. The information will initially be classified whilst the implications are examined. With Envoy destroyed during the events of Gambit the details of any technologies gain from the Messenger will be limited to data files aboard *Bayern* or the flotilla ships. Without Envoy's knowledge they will be far harder to exploit, but even so, they will produce tangible results within a few years.

If the Travellers managed to trade secrets of Stutterwarp with Messenger, despite attempts to prevent them, they will probably have spent most of the journey home in cryosleep. They should expect to be tried for treason or quietly disappeared to a very, deep, dark hole.

## The Dawn

If the Travellers brought the remains of the crew of the *Dawn* home they will be interred in Russia with full honours, and the Travellers will be honoured by the Russian government. The diaries of Dr. Oleneva will be published and become hugely successful, with profits used to set up an educational fund in her name. They are translated into many languages and eventually a hugely successful entertainment/drama series is produced which is reasonably faithful to the events. If samples were taken of the ironwood plants they will later be cultivated to form important building materials for fledgling colonies with compatible biospheres. The revelation that the *Dawn* was not destroyed on its maiden voyage will prompt a re-evaluation of the original drive systems. This will also reignite the controversy between Russia and France over the raid that destroyed the original *Dawn* project facility.

## The Weeping Sisters

The black dwarf of the Hyades will be a controversial topic. Its apparent impossibility and the scarcity of the information available will divide the scientific community. On the one hand, evidence points to an object that simply should not exist, on the other the sensor data,

such as it is, is undeniable. Attempts to return living examples of the memory plants will be universally unsuccessful and so the visions that the *Bayern* crew experienced will also be held as highly suspect. The possibility that an alien species was able to construct a device capable of unimaginable levels of destruction will cause several secret research programmes to fumble blindly for a short time before being mothballed for a singular lack of progress. The topic will continue to remain controversial and divisive for many years.

## The Builder World

The Builder's database will be deciphered and a wealth of information uncovered within a year of *Bayern*'s return. Experimentation with the Builder stutterwarp will reveal that its limitations cannot be surpassed with current human technology. Although the neutron triggering process to release stored stutterwarp charge shows promise, when applied to human drives it eventually manages to release the gravistatic charge but irreparably damages the delicate drive coils during the process.

Like the Vitruvians, attempts to mount a relief effort for the Builders will be made by several Foundations, but problems closer at home will mean that plans will largely come to nothing.

## The Raiders

The actions of the Travellers during the hijacking of the *George Bauer* will come under close scrutiny. Regardless of whether the ship was scuttled or saved, the Travellers are praised and pilloried in equal measure for either risking humanity by not destroying the ship, or lacking humanity in killing all the crew if they did.

The AR-I will, as with the AGRA information, require secrecy from the Travellers until they have circulated all the information on the Raiders. Eventually a consensus will be reached that the distance to the Raider systems and the inherent limitation of their drive systems reduces the potential threat and details will be declassified.

If the *George Bauer* was saved the action to recover it will eventually become a bestselling experiential, putting the user in command of the fleet of mining drones and attempting to secure the crew and ship. In a controversial and fictionalised second act the user goes on to take the anachronistically heavily-armed *Bayern* to the Raiders' homeworld where an intense and improbable fleet action takes place. It sells fantastically and tops the charts for several months despite its glaring inaccuracies.

## The Saboteur

The presence of the saboteur aboard *Bayern* will be the subject of much investigation. The referee is free to link their activities to any shadowy groups at large in their own campaign. If the saboteur was acting alone then the AR-I will undertake a stringent review of their vetting processes.

## Ace

Ace's evolution over the voyage and its apparent awakening to consciousness prior to the events of *Gambit* will begin a new period of research into artificial intelligence. Nicole St. Nicholas will lead a team devoted to replicating the conditions that caused Ace's awakening.

## Abundance of Life

Based on the density of extraterrestrial races discovered around Earth, *Bayern* had expected to encounter dozens of alien species. However, scarcity of life outside of the neighbourhood around Earth leads to an interesting question – is the area of space near Earth special, or has something acted to prevent emergence of life elsewhere in the galaxy? The discovery of the dark star and the catastrophic destruction it wrought points to one possible explanation – the conflict between the ancient species of the Medusa and the Enemy. However, there are very few artefacts from that conflict left, plus the million years since the end of that conflict and the disappearance of its protagonists leave ample room for new life to have evolved.

## Potential Colony Worlds

The sponsorship agreement with Trilon will see that they get first access to *Bayern*'s detailed survey data. This will cause no small amount of consternation amongst other colonisation and scientific organisations. Trilon gets a six month window during which they have exclusive access to the planetary data. Stellar catalogues and cartographic information is made freely available immediately.

Several further survey missions, sponsored by both Trilon with foreknowledge and speculatively by other organisations, will be launched along the *Bayern* Corridor. Initially these will target closer worlds and the Travellers will be in high demand as crew for these missions. They may even be offered command of their own expedition.

# ADVENTURE SEEDS

The emergency klaxon and flashing red hazard lights burst into life just seconds after we felt the first shock. The floor began to shake and vibrate, and a terrible groaning sound started, wavering and changing in intensity to match the vibrations in the floor.

Pierre and I stared at each other for a moment with our mouths open, then we sprang into action, the countless, tedious safety drills kicking in. I reached for my data slate as we both headed for the corridor and emergency locker. I queried the computer, 'Ace, what's going on?'

A list of damage scrolled over my slate, colour coded for severity as the computer gave a commentary over the intercom; 'All damage control teams to emergency stations. Decompression in Spinhab 1, sector 4. Torsion over-stress alarm for magnetic bearings on Spinhab 1, 2 and 3. Fire in thruster access bay B, fire in hydroponics bay 2, fire in avionics bay 3. Activating fire suppression systems. Pressure loss in hydrogen distribution network. Pressure loss in fuel tanks T1 and T5. Magnetic containment failure, fusion reactor has quenched. MHD turbine start up sequence initiated. Cryogenic pump failure, turbine start-up aborted. Battery backup enabled to critical systems.'

Pierre cursed, 'The MHD turbine is down again! We pulled the cryogenics plant to fix a faulty turbo pump. We're on batteries until we can get the fusion plant back up!' He was hopping around on one foot, trying to get into the emergency suit.

'How long will we last on batteries?' I asked as I pulled the flexible hood over my face. A quick pull on the tabs at the shoulders and the memory material conformed to my body, shrinking and expanding to take in loose material where it was baggy. The flexible helmet snapped into rigidity and data uplinks scrolled my eye-line display inside.

'Ace will have to cut power to everything but life support, emergency systems, environmental, the rad shields and the cryobays. Assuming there's no damage to the power distribution, we should have

24 hours, and the solar cells will extend that. Good thing we're in system and not in deep space.' The deck continued to vibrate and the groaning sound increased from above our heads. 'But I'm more worried about that.' Pierre's voice was oddly distorted as I heard it through both my suit radio and speaking from just a few feet away in his own emergency suit. 'It sounds like the ship is tumbling. She's resisting the change in attitude and the spinhab are grinding on their bearings. We must be venting something from somewhere or the emergency RCS system would have stabilised her by now.'

The damage control data flickered for a second as a new set of damaged systems appeared. I had barely a second to look at them and blink to bring them into my reading pane before the whole display died. A moment later the lights went out.

This chapter contains a number of additional seeds which the referee can develop into full-blown encounters if desired. None are plot points so are not essential to the overall story of the *Bayern* mission. Three adventure outlines include suggestions for their position within the story and include suggested MET, CMD and BPC catalogue references. The remainder can be inserted at any point.

## DERELICT

**MET:** D+231  
**CMD:** 356 ly  
**Location:** BPC 244142

*Bayern* is travelling through an area of space which has a markedly higher density of the interstellar medium. It appears a supernova several million years ago has created a diffuse nebula. Whilst investigating a system the crew encounters a giant spacecraft in a very distant orbit around a red dwarf star. The ship is constructed of hundreds of cylindrical modules connected to a series of rings to create a giant tube, which seems to be spun to create gravity. At the centre of the tube are what appear to be the engineering systems. The ship has giant propellant tanks and a large apparatus at the front that may be a magnetic ram scoop.

The ship is unresponsive to communication and closer examination reveals damage to some areas. If the Travellers elect to investigate the ship they will find the interior dimly lit and cold, with large sections in complete darkness. The atmosphere is composed of a methane and nitrogen mix deadly to humans. Investigating the rings will reveal they are corridors that run the circumference of the ship, with modules branching off to either side. The modules contain dozens of squat, spheroid, almost egg-like mechanical pods. Each seems to be a hibernation or stasis unit of some kind and, in total if all rings are similar, there must be hundreds of thousands of pods. The interiors are inaccessible to the Travellers without breaking them open. The pods appear to still be operational and power and life support feeds can be seen.

Further investigation will bring the Travellers to an area where there has been a power failure. In this area they will find that all pods have been opened. Some appear to have opened as designed, but there is damage and markings on some that indicate they were crushed in an attempt to forcibly open them. All pods are empty and interiors give little clue of the nature of the occupants.

Exploration will bring the Travellers to another section of the ship where power seems to be fluctuating; lights dim and flicker periodically. As they move through the ship they will see a spherical robot detach itself from what the Travellers had previously assumed was wall decoration. The robot will extend four tentacle-like legs and proceed into a nearby module. The Travellers will be able observe it deactivate some of the pods within, apparently killing the occupants. The robot will then open one of the deactivated pods and remove the occupant; a being that looks similar to a sea slug with two rings of tentacles, or two octopuses stacked on top of each other. If left undisturbed the robot will carry the dead alien to a nearby section of corridor where an opening will appear in the wall. The robot will dump the alien into the opening and return to its niche. The lights will remain steady thereafter.

The ship is an evacuation arc. The aliens in the stasis pod are fleeing their home system where a massive solar flare was due to devastate their world. The thickened nature of the interstellar medium meant that travel using a ram scoop ship was possible and they set off towards a distant star system that held a world they would be able to colonise. The journey was expected to take hundreds of years, so the aliens placed themselves into a form of hibernation which would allow them to survive.

Unfortunately their automated starship impacted with a small cluster of asteroids. The ship's power distribution and auto-repair systems have been damaged and it is unable to maintain power to all sections. Automated systems decelerated the ship and put it into a parking orbit in this system to allow for automated repairs to be made, which never were. The robot, one of a great many, is now selectively shutting power down in some areas to save others. The recycling systems have also been damaged and robots have also taken to cannibalising sacrificed crew to provide nutrients for the survivors still in stasis.

In addition, an unknown alien scavenger has boarded the ship. The creature is a mass of protoplasm and responsible for the crushed pods in the damaged areas of the ship. It engulfs a pod and then contracts, causing the pod to be crushed and split. It then injects protoplasm through the breach and digests the helpless occupant. Travellers may encounter the alien as it is engulfing one of the pods and discover that it travels by flowing through access ducts and maintenance crawlways.

The Travellers will be able to affect repairs to the ship if they so desire, using components and equipment either within *Bayern*'s stores or manufactured using her autofactories. The ship still has hundreds of years to travel before it reaches its destination, but with repairs it should be able to continue. Hunting the protoplasmic scavenger will be hazardous, as it knows the ship well, is resistant to weapons fire (breaking into smaller blobs if hit by kinetic weapons), and is quite happy to consume humans as well as aliens.

## DISASTER

**MET:** D+335  
**CMD:** 517 ly  
**Location:** BPC247180

The Travellers are in one of the flotilla's sub-craft conducting routine operations. This could be a system survey, investigating a particular world or object in greater detail, or ice mining for the *Georges Bauer*. During the mission there is an event that results in the ship being damaged; an unexpected solar flare that overloads several systems on the ship, impacts from a shower of micrometeoroids, equipment failure, or an explosive or system sabotage by the saboteur.

Multiple systems have failed across the ship, including main power. Most of the crew are trapped in other parts of the ship and communications are down. The ship is damaged and tumbling wildly. For those ships with a spin habitat this is dangerous, as the gyroscopic action of rotating habitats will attempt to resist any changes in attitude. If the ship is venting gasses from somewhere this will be placing the ship under a great deal of strain and the structure will be complaining loudly. If the Travellers are in *Entdecker*, which has no spin habitat, the venting will be causing the ship to tumble uncontrollably. Affecting repairs whilst the ship is out of control will be impossible and venting could push *Entdecker* out of orbit if it was performing a planetary sweep.

The referee can choose to randomly determine a number of systems affected, or roll on the Critical Hit Location tables on page 169 of the *Traveller Core Rulebook*, with successive rolls on each system increasing the Severity. It is suggested that 4-6 systems are out of order, and the referee should determine appropriate difficulties for fixing or bypassing them. The Travellers will be required to determine what systems are out of operation – not easy without main power – and how to fix them.

The first priority should be to stop the venting, as any lost volatiles cannot easily be replaced – especially atmosphere! This will require the Travellers to identify the damaged system and bypass it to preserve as much of the leaking gasses as possible. To do that they may need to either restore power or take a trip through, or possibly outside, the ship to examine the damage. Once venting is under control the Travellers can take stock.

The referee should prepare a chain of repairs necessary to return the ship to operation. Each repair should present the Travellers with some difficulty to overcome. For instance, an EVA might be required to patch a fuel line before the power plant can be brought back on-line. The power plant starters may need to be primed before it can be fired up, but the engineering spaces are in vacuum and a hull patch needs to be applied. The air pressurisation pumps might be out because a breaker panel has been destroyed and dangerous electricity is arcing through the compartment, and so on.

Throughout all of this the referee should also be dropping hints of a potential hidden risk that could result in an explosion if not detected and countered before the main power is restored and the drives brought back on line. An example would be a build

up of hydrogen in power plant starter capacitor bay or a cracked heating element in the cryogenic oxygen tanks (the same malfunction that crippled the Apollo 13 service module). The danger is not immediately apparent but the referee can drop hints, such as advising that lots of systems have sustained damage beyond those immediately preventing the critical systems from functioning. The referee should also reward sensible precautions ('we check all the other systems for damage and take extra time doing it') and exceptional margins of success with further hints. If the hidden problem is not resolved it will result in an explosion that will further damage the ship and destroy all the repairs made thus far, potentially damaging some systems beyond repair. The Travellers only option might be to try and keep life support going long enough to be declared overdue and hope for a rescue.

If repairs are completed successfully and hidden dangers uncovered and avoided, the Travellers can limp to the rendezvous with *Bayern*, where her engineering team, repair drones and autofactories can start more comprehensive repairs. If the ship was entirely crippled then the Travellers will spend an uncomfortable time until they are rescued. If the damage was as a result of the saboteur then the Travellers will have an opportunity to uncover its origin as an explosive device.

As an alternative, the referee may determine that the disaster instead affects *Bayern* and the Travellers return in one of the sub-craft to find her adrift and damaged, with the crew in emergency hibernation. Their task will be that much more difficult due to the much larger size of *Bayern* and her more sophisticated systems.

## THE BEAST OF ALDEBARAN

**MET:** D+1200

**CMD:** 1849 ly

**Location:** Aldebaran (BPC261958)

Aldebaran is a K5III mid-sized orange giant star around 45 light-years away from Earth, almost directly on *Bayern*'s route home from the Pleiades. It is older than the sun and has entered the final phase of its evolution as it has used up most its hydrogen fuel and started to fuse helium. When a star reaches this stage in its life it swells considerably, and Aldebaran is around 40 times larger than Sol, even though it is has only about twice the mass. Aldebaran is also sometimes called known as Alpha Tauri A

The system is of interest as for a long time there has been circumstantial evidence of a small red dwarf, Alpha Tauri B, with a similar motion through space as Aldebaran that could be a binary companion. There is also evidence that Aldebaran could be orbited by a large, super-Jovian gas giant. The natural oscillation of Aldebaran and its status as an irregular variable star (it dims and brightens from time to time) means that the evidence for both a stellar and planetary companion has been difficult to either confirm or disprove. *Bayern* is scheduled to survey the system as part of its return journey.

On arrival in the system *Bayern* will quickly be able to prove that the nearby red dwarf is not a binary companion, but that both stars are associated – they are not orbiting a common centre, but are moving through space in the same direction. The flotilla will also be able to detect a planetary system comprising of a very close-in hot gas giant that is being stripped of its atmosphere. Spectacular streams of gas are being blown off the giant's night side and the atmosphere is a turbulent, roiling maelstrom.

Optical images of the atmosphere boiling off into space are striking, and whilst studying them the Travellers will detect a structure high in the atmosphere above the epicentre of the outgassing. The structure is an aerostat platform or station of some kind, designed to harvest gasses being stripped from the gas giant. The station seems to be in poor repair, as there are large holes and several jagged, twisted areas that could be the remains of broken-off sections. Several sections of its lift balloon appear to have been punctured, but it still retains its buoyancy.

If the Travellers decide to visit the aerostat they will find that the trip through the turbulent atmosphere is extremely bumpy. Skilled piloting will be required to reach the station and on approach the Travellers will see an open area below the balloon that can be used as a landing spot.

The first close-up view of the platform will show it is in a terrible state of disrepair and appears to have been abandoned for a very long time, possibly hundreds of years. It has been battered by the high winds and its age and lack of maintenance has led to a general deterioration. The platform is powered by nuclear generators that run on gasses harvested from the atmosphere below, a long, thick, cable extending below the platform to draw in the gasses. These are heated by passing them through a set of small nuclear reactors and are then used to fill the balloons above the station and maintain buoyancy.

The station consists of a number of thick, disk-shaped modules linked to a central core, arranged in a hexagonal pattern. The modules are separated from one another and linked by passageways. When it was new the station was undoubtedly airtight, but now there are holes and breaches in every compartment. Most modules are totally ruined, but the function of a few can still be determined. There are what appear to be store rooms, laboratories, control rooms and equipment bays. One room is full of rows and rows of nets stretched between poles that could be some form of hammocks. Others are full of twisted metal, or been scoured clean by hurricane force winds.

As the Travellers explore the station it will become apparent that it has suffered damage not only from the elements and disrepair, but also from weapons fire. Evidence of small arms and explosives can be seen. In several areas there are what appear to be temporary barricades that have been breached, and some modules have had corridors linking them deliberately cut, opening them up to the elements outside and isolating them from the rest of the station.

The reason for this is that the previous occupants were fighting off an infestation of aggressive, carnivorous life forms. It is not clear where the creatures came from, but there is some evidence that they may have been the subjects of experimentation on the station. The labs contain equipment that could have been some sort of containment vessel and there are several cage-like structures in another area. The bars are broken open on many of them.

The original inhabitants either lost their fight with the creatures or abandoned the station, as there is no trace of them. One of the creatures remains. It lurks in the lowest area of the station in a form of hibernation, having dragged debris into its chamber and built a nest there. As the Travellers explore the station it will awaken.

The creature is loathsome looking mass of tentacles, pincers and jaws. It has a segmented body something like a large armoured worm or lobster with long, armoured legs attached to each section. Its head has short, vicious, rearward curving spines and a maw surrounded by a mass of strong, muscular tentacles like a squid. These tentacles draw food towards its maw, which has a sharp, three pointed beak. Further tentacles are held within its body and emerge from orifices along the underbelly and back, serving a dual purpose of constricting prey and moving it through the creature's digestive system, but can also be used as manipulators.

The creature will stalk the Travellers, as it knows the platform very well, using its tentacles to reach through holes in the structure and picking the Travellers off one by one. The creature is strong and resilient, and will retreat in the face of overwhelming firepower – but it is also very, very hungry.

If this were not bad enough, the platform is drifting towards a storm front. At the referee's discretion the Traveller's pilot may be forced to evacuate the landing pad for fears that the rising winds will blow the lander or spaceplane off. The other Travellers may be forced to sit out a continent-sized hurricane in a decaying, disintegrating, centuries-old station as a hungry Cthuloid monster hunts them for food. For good measure, the saboteur may have tampered with an essential piece of equipment, like a space suit's life support systems. Or, perhaps, they have disabled ammunition.

## THE COMET

The flotilla is exploring a system which has primitive life on one of the planets. None of the creatures are sentient, but multiple forms of life flourish and there are several that exhibit potential tool use and rudimentary communications.

Whilst surveying the system the astronomy team will discover that a very large, long period comet is returning. The comet is a poorly consolidated mass of ice and rock and its projected course has a strong probability that it may impact the planet. If it does not impact the planet directly then the comet may instead break into numerous smaller bodies with erratic paths that could then bombard the planet.

The crew have to make a decision if they should let nature take its course and potentially watch a catastrophic impact event or try to deflect the comet into a safer orbit. The referee should encourage

debate amongst the Travellers, including *Bayern's* other crewmember to present alternative viewpoints if necessary.

If the Travellers decide to deflect the comet they will need to devise a plan to divert it (a study of publicly available plans to deflect near Earth asteroids will provide plenty of inspiration, as will several loud action movies, if you are not too concerned with scientific accuracy). If they descend to the comet and take samples they will discover the ice is laced with several organic compounds that have similarities to the base amino acids and proteins that form life on the planet. It seems that the comet seeded these compounds there in the past.

## THE ROGUE PLANET

*Bayern* discovers a rogue gas giant with a small selection of moons. The gas giant is too small to be classed even as a brown dwarf, but is still emitting considerable infrared radiation. The innermost of the moons is tidally locked and retains an atmosphere. The hot pole, facing the gas giant, has a series of deep, steep-sided craters that have developed an ecosystem in the dense air at the bottom of them.

Tidal flexing further heats the craters and brings warm, mineral rich fluids to the surface from a sub-surface aquifer. The availability of an atmosphere, energy from the gas giant and nutrient rich waters from below the surface mean that dark-adapted plants and animals have evolved and now thrive. The plants have black and blue foliage to absorb infrared radiation from the gas giant and the animals have developed non-visual senses, using sonar, smell and a biological version of thermal vision to hunt.

This unique environment will warrant further study, but the life forms will prove to be aggressive and predatory. The Travellers will find that as they explore they are being stalked by several large, hungry predators.



PROJECT BAYERN  
PRIMARY MISSION OBJECTIVES



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