

CEPHEUS JOURNAL

Issue #015

In this issue:

Exotic Weather

Aquarians

Into The Night

The Raider's Lament Part 9

Using Generative AI

And More...



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From The Editors

Where did the last six months go? Not sure, but here we are now. Welcome to issue fifteen.

So, let's dig into this issue. Once again Jo Jaquinta has given us quite a few articles, which we are always thankful for. First up is an article looking at Generative AI and how to use it in your game, but not in a way you might think.

There is a article on a species called Aquarians and ways you could use them in your game, an article on radio archaeo-astronomy and how you can use it to spice up your game, and finally instalment nine of The Raider's Lament.

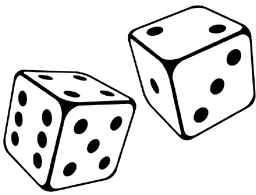
Les Hendrix's article covers adding cultural flavour to make your planetary visits much more interesting, and our own P-O Bergstedt gives us a look at a character he created called Mandy.

Finally, from yours truly, is a couple of articles, a bit of fiction created from a game I ran a few years back, and an article on exotic weather and how to give your players some extra challenges on the worlds they visit.

As always, we aim to keep Cepheus Journal coming out regularly but, sometimes like this and the last issue, real life events collide and make things difficult. Hopefully issue sixteen won't be so delayed.

Please enjoy issue fifteen and keep those dice rolling!

Brett Kruger.



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Using Generative AI In Your Game

By Jo Jaquinta

Bait and switch! This isn't an article about how to use generative AI to create content for your game. That topic is expansively covered in many other places. Rather, this is about how to use Generative AI as part of the setting of your game, either as background or a plot device.

What Is Generative AI?

For the purpose of this article, fictional generative AI is, at an abstract level, composed of two parts. First, is the computational ingestion of some form of creative expression. Be it visual art, music, prose, or something more esoteric; the AI mechanism can absorb the experience and represent it in some digital format. This is not necessarily in a direct literal sense, it just needs the 'essence', so to speak. (Although settings with string digital rights may require undigested forms to be logged and retained for permission and royalties.)

Second, that repository of information may be used to create new, unique expressions of that art form, guided by the nuances of the relationships instilled in the data set. The AI has no actual understanding of either the data or the relationships, like a truly intelligent system. It can only associate elements of the data with descriptions, and when given similar descriptions, reference keyed data to produce results akin to it.

It has no implicit understanding of good content or bad content, merely what it has been trained with. The better the original data set is annotated, the more focused the results, including what is perceived as 'good' and 'bad'.

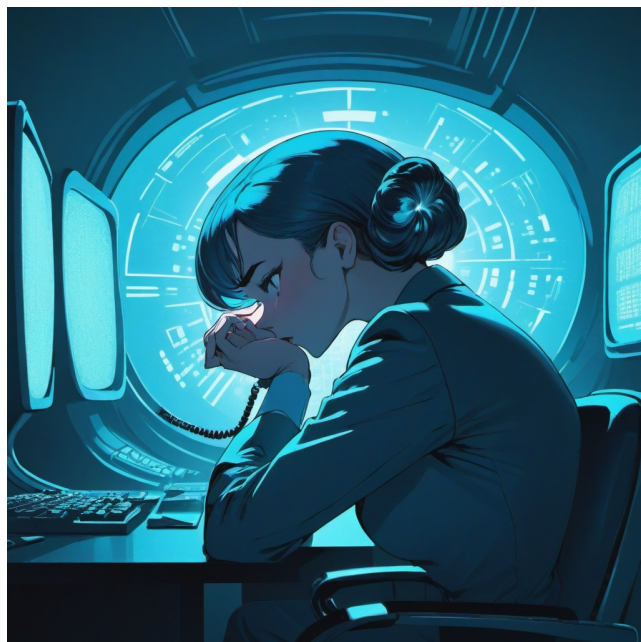
If we breeze past all of the current limitations of this technology, to a bright, shiny, future setting, where they have all

been solved, where does this lead us? And how can we use that in a game?

The Quest for Novelty

As generative AI's synthesis comes from the gestalt of society's expression, the results are constrained by the average, and with good examples of bad results, the above average. It will never replace a true master. But, most people will never be true masters. (And true masters are expensive!) If all artists less than true masters are easily over performed by generative AI, there is much less incentive to put in the effort to become a true master.

One can imagine a society where most art expressions are generated, the reviews of these expressions are generated, and the advertising guiding individual's consumption is generated, that things can be seen as being very recursive. Any recursive system is subject to feedback, and, as per Chaos Theory, may move in unpredictable directions. There are many plot elements arising from such a situation.



The Butterfly Effect

Small changes can have big results. The introduction of the truly novel (e.g. characters doing something notable), supply chain disruptions (e.g. characters late with a cargo shipment), or deliberate attempts to disrupt (e.g. characters trying to mess with the system) can affect things in unpredictable ways. Fortunes can be made, fortunes can be lost, and the character's role in those events can be a source of adventure.

That Boring Day Job

The quality of a data set is based on how well it is annotated. Asking generative AI to do the logging is faster, but will not produce a superior product. Only a human can do that. Someone has to stare at the media for hours of a working day and strive to say something unique but accurate about it. This sort of work can be what a player did before embarking on a life of adventure, or it may be the job description of a NPC that the players must interact with.

All Your Response Belong To Us

It is, of course, quite possible to train generative AI with the result of generative AI. As with tagging, this really just reinforces the data set's inherent biases. Training on human reactions is best. A cheap, down-on-your-luck job is one where you are wired up to a machine, and experiencing hours of content, and having your reactions recorded. Strict corporations, or corporate worlds, may make it a condition of employment that direct, or indirect, bio-monitors constantly monitor everyone and note their responses to any number of generated content feeds, and use that to improve their product. This may extend as far as to entities that do not produce generative AI themselves, but are paid by those that do for their data. Worlds with highly restricted (or capitalized) governments may require this of all their citizens to improve their propaganda feeds (or to sell to the highest bidder).

A Rebel Against The Cause

There are those who may not welcome either the monetization of human experience, or the banality of the results. On the non-confrontational end this might express itself as promotional labels touting certain content as "hand made" or "made by real people". Cargos of "luxury goods" may be ones that appear on the surface to be of inferior quality, but their artisanal label fetches higher prices. Consumers may, or may not, care that they are produced by indigenous peoples of nearby worlds for subsistence wages because they cannot afford generative AI products.

Getting towards the more confrontational, you have data saboteurs. Since the quality of the product is dependent on the data fed into it, change the input and you change the output. On an individual level, malcontents may deliberately fudge their reaction to content. Laughing at sad bits, screaming during jokes, and other misleading tells. More intrusive would be to break into the reaction feeds and mess with their ability to detect reactions, or just scramble the tags. Another approach is to bypass the mechanisms and set up bogus reaction feeds that return random data to degrade the quality. The more subversive of these would specifically boost positive and negative reactions to content the saboteurs approve or disapprove of.

Hooks

Unexpected Cargo Sales

The players put in to an economically advanced world but are devastated when their high tech cargo fetches bids far below their expected price. However, an incidental cargo they bought on a whim of primitive goods goes ballistic at auction. If their interest is piqued, they can discover that they are purchasers of data to be fed into competing generative AI systems. At the promise of more unique cargo, they give them preferential prices on some of their generated commodities.



Overtraining Laundry

If a generative AI system is training on a narrow selection of inputs, it will tend to produce only very similar output. In an effort to get around copyright laws, a syndicate has overtrained a public AI on specific highly coveted goods. It then sells the generated outputs as “unique” since they are produced by generative AI. This is legally difficult to pursue. The players may be engaged to either further or thwart this scheme.

Stuck in a Rut

A settlement in a less frequented area has a few generative AI that, in effect, compete with each other. They’ve trained on each other’s outputs until the data has become somewhat homogenized. It now thinks that the only fashionable color is orange, and that everything should be banana flavored. They desperately want to license anything they can get from the players. Their off world clothes, their accents, how they cook things, or their mannerisms. They will pay well in local currency, although this doesn’t translate to much off-world. But they will have the surreal experience of seeing odd nuances of their expressions cascade over the world’s consumers.



Equipment

Hypothetical Vision

This is a pair of goggles, or a software plugin for a visor, that adsorbs the visual scene, and enhances it with generative AI. This allows the user to zoom in to absurd levels, to ‘look around corners’, and to see the insides of buildings, their floor plans and inhabitants. It does so by generating from its database of similar structures and views. It’s accuracy is highly variable and it depends on how similar the data the system was training on is to what is faced, how unique or professional the situation, and if the subject matter was designed or guided by AI.

Inference Battle Engine

This is a dynamic, real-time combat guide. When the user enters combat, the system guides them (by audio cues, head’s up display, or neural override, depending on tech level). They will be able to ‘dodge bullets’, effortlessly sidestep swords, and just ‘no be there’ when mortars land. It works best when used against lightly trained or doctrinally rigids foes, or those who are guided by well known AI. It works poorly when many people on the same side use it, or against similarly equipped opponents.

Cargo Prediction

This software scans the market of what is available, the potential venues for sale, and makes recommendations for transactions. It can’t really explain why, and its choices are often odd. But on average it does 10% better than heuristic recommendations. With the emphasis on average. There are times that it is gloriously wrong or right. It is not for the risk averse. But we’re talking players here...



Into The Night

By Brett Kruger

Chapter One: A New Beginning

Team Leader Brison Thrax chewed on his cigar as he eyeballed Kirth. His extreme crew-cut, scarred face and broad frame would have fitted him for the Alliance Legionaries any day of the week, but the red stripes on his black uniform placed him in the scout service.

Thrax stared at the data pad in front of him and then back at Kirth. The report on the data pad was heavily redacted. Thax bit down on the cigar harder, the bitter juice of the leaves starting to dribble down the back of his throat.

"Why are you here boy, why are you on my station?"

Kirth had been on Arcadia for barely a week and yet to see his family. His mission had been long, hard and dangerous and yet those in charge had slapped a nondisclosure command on him and dumped him on standard duty. He simmered yet held his tongue. Kirth had been from one end of human space to the other, including a few non-human worlds rarely seen by human eyes, and worlds long since dead and yet he was here now. Back home and on a desk job.

Before Kirth could say anything Thrax snapped to a standing attention.

"Senior Leader Yahrina!"

"Easy Thrax, before you break something."

The words almost floated across Kirth's mind, and he knew who to expect even before he turned.

"Senior Leader" Kirth acknowledged.

Yahrina nodded and began to speak. Except Kirth knew that Indurians don't speak, they can't speak as they have no vocal cords. Their mouths were only for the ingestion of food, and they moved their mouths to not remind the other races of the Alliance that they spoke directly to your mind. Kirth also knew they were telepaths and masters of linguistics and that it only seemed that they were speaking.

He gazed at the Indurian as the words flowed into his mind. The Indurians were tall with amber like skin and four arms on their upper body. Their almond shaped heads only broken by their small mouths and large clear eyes, eyes that at times felt like they could see right through you. Each of their arms and legs ended with four stubby digits.

"Mister Gersen has been re-assigned."

"Oh really," replied Thrax "just when we were becoming best buds."

Kirth almost felt the mental frown from Yahrina. "Indeed Team Leader, that will be all."

Yahrina escorted Kirth out of the Team Leader's office and down the hall.

"Mister Gersen" the words in his mind again, "you have two weeks R&R before you have to report back here. You've been reassigned to Siloria."

Kirth stopped dead in his track. "Are you sure?"

Kirth had heard whispers of a secret base



at Siloria and the asteroid belt did make the perfect jump off point back into the Dead Zone, but the Alliance had no ship's they were willing to risk across the voids and all the jump gates that way were heavily mined. The navy guarded the few remaining Legion ship's capable of warp 2 or more like they were gold plated. Several had been sent out and never heard from again in the early days of the Alliance.

"Yes I'm sure" came the reply.

•

Nigel Strawn sat staring at the little box on the desk in front him, almost willing for something, anything, to happen.

Then it did. The little red lever on the side of the box sprang to attention. The woot escaped from Nigel and his companion Brac before they could stop themselves.

"Your canary really works!" exclaimed Brac.

Brac was a cyber expert just like Nigel, both found frozen in stasis on the drifting AS Otterway and they were close friends.

"Course it does" replied Nigel with satisfaction.

"Think the bosses will let you use it in the field?"

"Maybe, they would probably space us if they found out we had a live Zelerite AI virus on base."

Nigel glanced out the window at the Oloih asteroid belt, half expecting someone to be staring back at him. A little like the nightmares he had, they all had, after waking up on that ghost ship.

"This has got to be a better solution than the PKX-43" Nigel said, looking at Brac.

"Yeah, I agree. What that stuff does to flesh is just plain wrong. Don't care if the people

are willingly helping the Reavers, that ain't no way to go out."

Nigel nodded in agreement. "Official solution or not, detecting and destroying the AI has got to be more humane."

Humane. Nigel thought there was nothing humane about his situation. A quadrant and 70 years away from his home. His comlink beeped.

"Strawn here."

"Strawn, get your butt to command," it was Commander Samgong at the other end, "seems you've been reassigned."

Reassigned? The Old Guard had never been reassigned out of Cyber-command. The running joke around base was the Old Guard were too old for active duty. The men in Commander Samgong's team suspected they weren't fully trusted yet.

"Are you sure?" Nigel replied.

"You have one hour to make the shuttle. Sure, I'm sure." Nigel could almost see the smile on his Commander's face.

•

Amalric Gethens walked the metallic halls at a brisk pace filled with purpose. The heels of his boots clicked with each stride, echoing down the near empty corridors. Nothing unusual for 2am ship time, but Amalric's location on-board at the time was.

The AM High Guardian, once called the AS Broken Sword and before that the LS Victory, was a 50 kton cruiser in high orbit above Tokenhall. Once the pride of the Alliance Starship fleet, one of the dozen or so Old Guard warships found in the Knights' Legion cache, the ship had been relegated to Monitor status and renamed when the warp drives failed. Still, she had 75% of her armament operational thanks



in part to the dedication of engineers like Amalric. Amalric had once even found a plate attached to the back of a drive panel that read " NTS Indivisible". No idea what that meant as it wasn't in any of the technical manuals retrieved with the cache.

Amalric arrived at the duty officer's station. He saluted the commander on duty, although technically being a member of Naval Intelligence meant he outranked the officer.

"Ah, the viper." Commander Siggins half saluted, half waved back.

Amalric knew the insult derived from an old human saying, 'snake in the grass', but choose to ignore it. He had once been a part of this crew but his transfer to NI a year ago had met with much hostility from his old comrades.

"Commander," Amalric began and hesitated briefly until the commander looked up from his coffee, "I found a still in the back of a condensing tower on engineering level 18B."

He placed the data pad in front of the commander and flicked through the photos.

"That is where your Joppa fruit have been going, to seed the still. The full details and those involved are included in the brief and full report on this data pad. A copy has been registered with High Command."

"Well, I'll be," began Siggins as he zoomed in on the still, "that's clever hooking it up via the heat exchangers. No wonder the internal sensors never picked it up."

Amalric's personal communicator hummed. He glanced at it briefly then saluted the commander, who waved him off without taking his eyes off the screen.

Amalric pivoted on his heels and headed for the hangar bay.

"Crossover duty to the scouts. Posting Silorian System. Leave immediately. NI Command." the message had read. He double checked the encryption stamps to confirm the message.

"I wonder what's at Silorian?" he thought to himself. "Better get a few books, it's a ten-week journey to Silorian via jump gates and a warp ship."

What in the name of all his ancestors could be happening at Siloria that needed the immediate transfer of an intelligence officer with an engineering background, wondered Amalric. Not that he was in any way surprised. The mysteries of the Bureau of Naval Personnel made quantum theory seem rational and simply by comparison. He had in fact been called to active duty because of the fleet's need for gunners and then promptly sent to engineering school instead. It made about as much sense.

Still, he'd done about all he could do onboard High Guardian, and catching Joppa fruit thieves was hardly the glamorous career he'd envisioned when he signed up to transfer to the Intel branch. Whatever was happening at Siloria, it at least promised to be different than this -and- came with ten weeks of enforced idleness wherein he could at last catch up on his reading.

Come to think of it, it wasn't BuPers that had sent his orders. It was NavInt. The Puzzle Palace. Strange that he should receive his transfer orders directly from them. Perhaps something interesting -was- happening out at Siloria, after all? One could at least hope.

•

Claire Balfour stared out the window at the distant grey mountains of the Bunya



Ranges, the sunlight reflecting off the peaks.

"Beautiful" she thought to herself, before she was reminded that it was vacuum just beyond the glass.

Claire enjoyed working for the navy, had enjoyed the strike missions and the medic roles she had had over the last several years. Working with the navy she had gotten the chance to operate on all the member-species of the Alliance. Humans, her kinfolk, had pretty much been her bread and butter in the early days. However once in combat she had learned Felidus and Rephelians physiology. She especially enjoyed working on the Rephelians.

However, this last year had been especially significant to her. Her posting to Hasmukh had brought her into close contact with the Indurians, and when an outbreak of the Dillithian Fever caused all the Indurian doctors to be isolated she had been left to treat the rest of the unaffected population. What had meant to be a two-week sojourn to her new posting on the latest AS naval escort g-ship the Hasmukh shipyards had produced, turned into a yearlong posting after the Indurian Commodore had taken a shine to her. Claire could count on one hand the number of other humans that had been on base that long.

"Claire." Claire recognized the mental touch of the Commodore immediately. She placed down the medical data pad she had been absently holding and turned.

"Teallia, how are you today?" Claire was one of the few humans in the navy allowed to call the Commodore by her personal name.

Commodore Mharain Teallia dipped her long, thin head.

"I am well today."

Claire smiled.

"Claire, you have been transferred" the statement was direct, matter of fact, and caught Claire off-guard.

"W..What.." Claire stammered, "Are you sure? Why?" A hundred things raced through Claire's mind.

"None of those things are true" the Commodore responded.

Claire knew the Commodore was reading her mind, knew she only did it because she had already given her permission to do so. The Indurians never entered another's mind without permission.

"Yes, I'm sure. You leave tomorrow."

- Sterlkar shook his head. "New recruits, fresh pups."

He looked over the duty roster at the new names assigned to his battery. Several were from his home world of Sphynx, one of the core worlds of the Alliance. He hadn't even been born at that time, but loved the stories his father told him of how King Awtao united the planet before joining the Alliance.

He thought of those early days when he joined the Sphynx Space Forces, how tough the training was to get up to speed on the higher tech the Alliance used. But he made it, he was a member of Platform 15 of the Orbital Defence Force around Sphynx, tasked with system protection.

And today was the start of a new round of training, time to replace those that had shown enough potential to be recruited into the Alliance navy. Sterlkar looked out the starboard view screens, saw the glint of sunlight as something large breached the horizon of his home world.



Sterlkar glanced at his crono.

"Right on time" Sterlkar commented as the AM Longsword began its graceful arc across the high orbital plane. He looked back at the recruits standing in front of him. Mostly Felidus, a few Akakhad and surprisingly a human.

"Recruit Harrison, what brings you to this command?"

Harrison snapped harder to attention if that were humanly possible.

"Sir. Got tired of farming Ekhiwua. Want to serve the Alliance!"

"Alright recruit," replied Sterlkar having to hiding a smile, "just don't mess up and you will get your chance."

"Yes Sir, thankyou Sir" snapped back the response.

Sterlkar shook his head again, not the first and probably not the last time today.

"Trainer Sterlkar."

Sterlkar recognised the voice of his mentor, Okhitea.

"Commander, you look fierce today."

Okhitea bared his teeth in response to the complement.

"Sterlkar, you honour an old warrior." Okhitea put his arm around Sterlkar and turned him away from the recruits as he spoke.

"Sterlkar, your bravery and skill has finally been recognized. Command is sending you on a mission."

"Where?" enquired Sterlkar.

"All I know is you're being transferred to the

exploration section of the Alliance scouts. My guess would be somewhere outside the Alliance."

•
Tok*nakilie "Heather" felt and heard the familiar crunch as he slammed his friend 'ireehzixe "Clover" into the practice mat.

Heather liked the military base on Fal-Tao Prime, the greys and black of the base contrasted nicely with the greens and blues of the world. Yes, much nicer than the cold grey vacuum of his home world of Hushqulah. Although Hushqulah was his home world he knew it wasn't the home world of his people. Before dying in his hydroponic gardens Heather's elder-folk Zzegaaxuesu would tell him stories of his coming to this region of space. How, at the invitation of the mighty warriors called the Knights' Legion, Zzegaaxuesu and many companies of his kinsfolk travelled from their worlds in a distant region with their benefactors, a race called Humans, to train with the Knights and fight off incursions into their space from other human invaders called Reavers.

But then came the AI virus, and everything changed, the Reavers became strong. While fighting for a world called Dinsaar, Zzegaaxuesu and his company were cut off when their transport ship was rammed and destroyed by a Reaver warship. The company valiantly fought on for several more days before a Knights' Legion transport landed and collected them.

The transport was to take them back to the main body of the fleet, but unknown to the humans a Reaver Harpoon had pieced the ship, and they were no longer in control. The warp was uncontrolled and catastrophic, the ship crashing onto the surface of a world called Hasilek. The Rephelian are a strong race though, and the eighty-three survivors were rescued by the local Indurian population. Heather thought sadly of how none of the human



crew had survived the landing.

"So fragile" he thought.

Sudden Heather found himself flat on his back.

"Daydreaming again?" inquired Clover as he stood over Heather.

"Attention!" yelled the duty commander.

The Rephelian in the training room snapped to attention. The duty commander walked up to Heather and Clover. Although a broad man, Heather stood nearly a head above the commander.

"Captain Heather," he began reading from the data pad in his hand, "gather your gear together, you're being put on active duty."

Heather and Clover smiled in unison.

•

Master Sergeant TK smiled inwardly. He always enjoyed the yearly naming ceremony, that event after graduation when the marine recruits became Legionnaires and received their callsigns. Every Legionnaire had a callsign, for becoming a Legionnaire meant you were giving up whatever went before and dedicating your life to your comrades and the Legionnaires. It was a warm, sunny day at the military base on Fatudee.

"Private Benjamin Termanem, Gripper."

The Master Sergeant smiled outwardly this time. That was quite a story that one.

"Private Ryuarel Uihyelaikh, Half Back."

"Private Waita Iyiy, Flasher."

TK chuckled. Felidusian males really should not be seen naked in public.

"Private Erael Taulreae, Ripsaw."

On went the roll call until all fifty names and callsigns had been read out. From this day until death or old age claimed them, these Legionnaires would only respond to their callsigns, the old names no longer having any meaning to them.

As he was congratulating the new Legionnaires TK thought about his callsign. He told those outside the Legionnaires it was short for his middle name "Te Kooti", but in fact his callsign comes from the insane TK48 bot he destroyed while on duty protecting an engineering detachment on one of the dead worlds of the Alliance. Something he never wanted his parents to find out about. No need for them to worry about how dangerous it was out there.

"Master Sergeant."

TK turned and snapped to attention in one swift, fluid motion at the voice of his commanding officer.

"Sir!"

"At ease TK." Brigadier General Terrance Gisborne, Blackbone, saluted back.

"Blackbone, what's up?" enquired TK.

"TK, pack your kit. I'm sending you on mission."

It would take days for the smile to leave TK's face.

•

The normal population of the scout base located in the Silorian asteroid belt had begun to swell with the influx of personnel. The secret base had a regular staff of just 90 scouts, mostly using warp 1 or gate ships, g-ships for short, to keep tabs on this quadrant of space. But recent arrivals had almost double that head count, the five



gleaming new warp 2 ships sitting in the enclosed hangars the reason. Modelled after the patrol cruisers of long ago Terran Empire, these ships had a distinct style to them. Five ships, five new crews coming together.

Most of the crews had only arrived at the base in the last day or two and were busy checking out the new ships. The AS Trailblazer sat proudly at the head of the five ships, the first of her class. She would also be the first to leave on her mission, a mission brief her crew would soon be called to.

Teanna Yhoul looked at the crono on her desk and then back to the personal files on her computer screen. She scrolled through the restricted files one crew member at a time.

"Navigator Kirth Gersen" appeared on the screen. Human, home world Arcadia. Service, Alliance Scouts, courier division. If she had eyebrows they would have raised when she got to the special assignments section of the file.

"I'll have to keep an eye on this one." she thought to herself.

She flicked the screen to the next file.

"Engineer Nigel Strawn." Human, home world New Sydney. Two years in Alliance Scouts Counter-cyber division. Simple thought "a survivor." A flick brought up the next personal file.

"Engineer Amalric Gethens." Human, home world Trinity. Transferred from Alliance Naval Intelligence. Injured in combat at Eshall, transferred to a desk job for a while.

Teanna stopped at the note at the bottom of the file, which read "Requested assignment to the Trailblazer." She rubbed her frontal lobe.

"Request additional information, Intelligence Archives." she thought as she looked at her office Bio-computer node. The Biod tweeted in response as Teanna opened another terminal screen with her lower left arm and tapped at the inputs. A flick of her upper right arm brought up the next file.

"Doctor Claire Balfour." Teanna spoke aloud this time. "Why does that name ring a bell?"

Teanna brought up the rest of the file. Human, home world Arcadia. Transferred from Alliance Navy, Petty Officer First Class. Served on the AS Royal Guard.

"Ah, I know you Claire." Teanna thought. She flicked the file to her personal Biod.

"Marine Captain Tok Nakilie – Heather in Standard". Teanna flicked across to another file. "My first Rephelian on board."

Teanna used both upper arms to bring the files side by side. She compared them for several moments before filing them again.

"We might need the muscle."

Teanna opened the next file. "Master Sergeant Dominic Te Kooti Salazar-Wei - TK for short." Human, home world Soloman. Awarded Order of the Alliance at the Battle of Port Canses, Tell Prime Three.

Reading through TK's service record Teanna thought to herself "This human likes to fight."

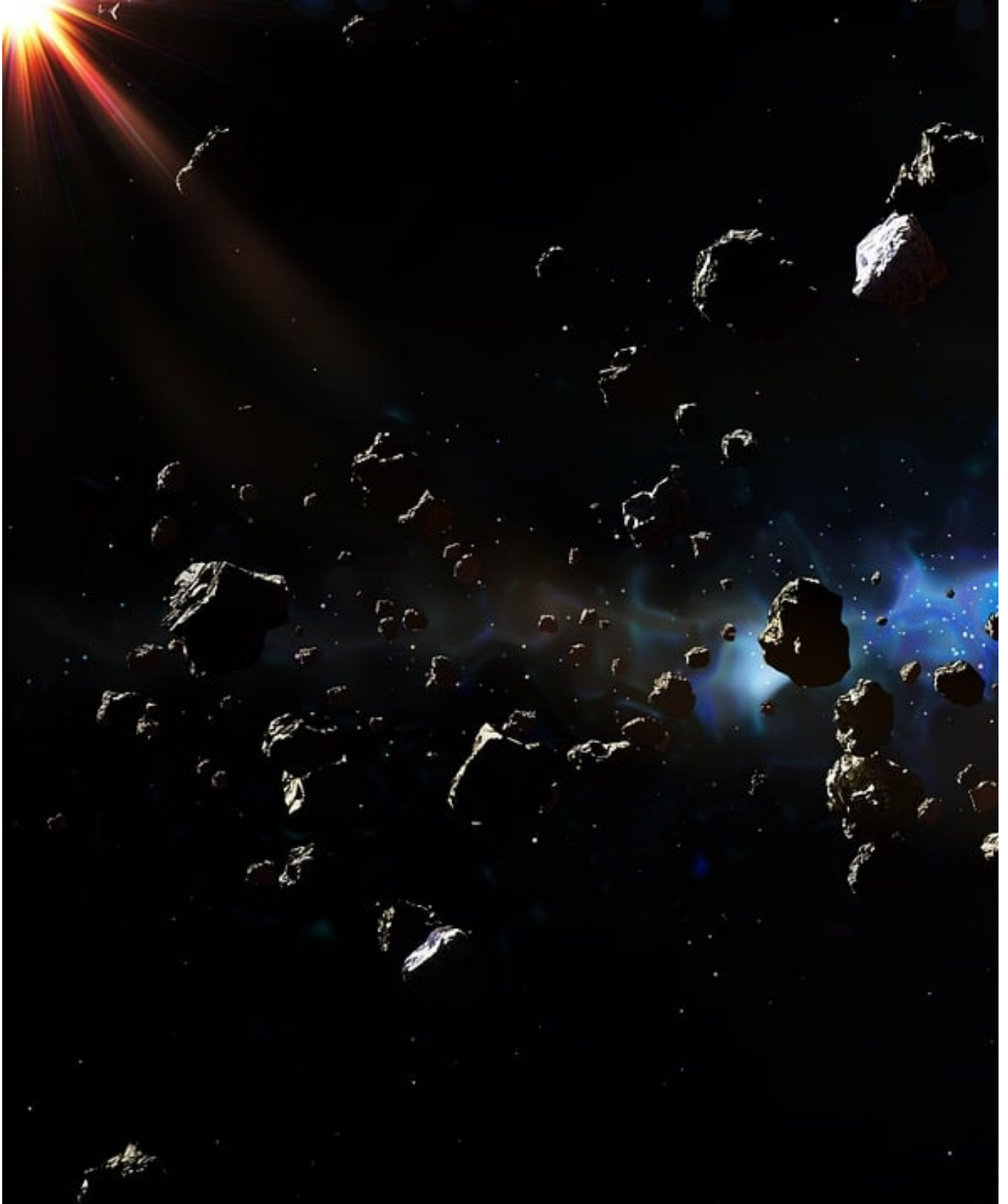
Just then Teanna's personal Biod buzzed in her head. Distracted she cast her mind toward the flashing message icon. She opened the message and sighed, duty calls. She swiped the screens to clear them as she stood. Standing still for a moment, she cleared her mind to encrypt her computer terminal and Biod. That done she left her office.



The new crew was assembling in the Trailblazer's barracks. Teanna cast a sideways glance out her office window as she approached the door. The rocks of the Silorian asteroid belt tumbled past in their

eternal dance.

"Yes indeed," she thought, "time to go to work."



The Raider's Lament - Part 9

By Jo Jaquinta

Chapter 12

Ice crystals swirled around the Raider's Lament, kicked up by the idling engines. Heleni waved at them from the cargo ramp as the crew came bustling in, trailing ice and foam. "They're in," she shouted as she secured the hatch. "Just dump and get to your posts," she said as they shed their greatcoats. "I'll stow the gear."

Elise took her at her word and in short order had shed her belts and layers all the way down to her undersuit. Her boots, now incongruously large, clumped up the ladder and thundered across the deck as she ran to her station on the bridge.

Captain Seldon ran scan ops from his pilot seat and a local sat at the nav console with a pilot's board configured. The walls of the phol moved swiftly past them. Elise slid into her station at ops and called off the rest of the crew as they checked in.

"The clipper cleared the phol around the same time as you boarded," Seldon reported. His fingers tapped in mild agitation as he watched the local pilot navigate the twists and bends of the turbulent phol.

The pilot seemed quite aware of his attention. "Your ship is very responsive," he said in an effort to be reassuring. "I will get you to the top very fast."

"Your bonus depends on it," Seldon replied.

Heleni appeared on the bridge and configured the spare console for nav. "Thank you for joining us," said Seldon. "As quick as you may I need operational parameters for that cutter and an intercept course that gets us there before they hit the

transition point."

"Yes sir," she replied.

"That was fast. Is all that gear stowed?" asked Elise.

"Ritva volunteered to do it," said Heleni. "Seemed expedient to accept."

"I'm glad to see she's making herself useful," said Seldon. Elise was not so sure and pulled up the cargo bay monitor and left it running in the upper quarter of her board.

"Their burn rate is averaging 2.2," reported Heleni. Her board became covered in charts of gravity gradients, stellar trajectories and spherical tangents.

"Do we have an intercept?" asked Seldon.

"It's a hard question, sir." She overflowed some of the charts onto extra monitors. "It depends on where they are going and what approximation formula they are using for transitional calculations. Right now, they seem to be heading for the nearest flat space. That's good in that it means they probably don't have anything that sophisticated. It's bad because it's much harder to work out where they are going. We'll have to wait to see if they do a final velocity correction and watch their transition flare."

"Unless we can intercept. We're almost twice their acceleration. Can we intercept before they reach any likely transition point?"



"It's going to be close. No matter which way we cut it."

Minutes passed and the ship's position neared the top of the phol as the cutter edged nearer to the transition point.

"Shall I start a separation countdown?" asked Vikhagen from the dory over the com.

"Yes," said Seldon. "But hold it short of commit."

"But the Sweeping G could intercept no problem," she protested. "I've got the acceleration and the longest-range weapon."

"That may be true, but if you get too far ahead, you'll be their sole target. You're fast, but not that well armored. You'll spend more time dodging missiles than closing distance. Even if you get within range, they probably have counter measures against the laser. If we can get them within PA range of the Lament, then that will be that. They know it and that will, hopefully, force their surrender."

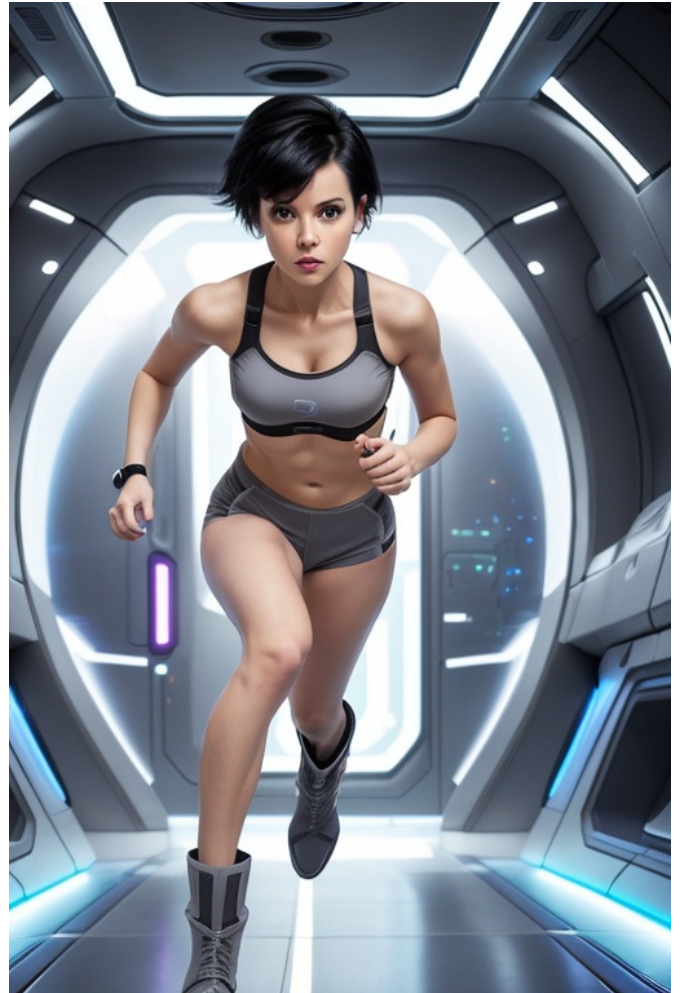
"Aye, aye" she replied, disappointed. "Walk me through pre-commit Elise."

"We're at the surface," announced the pilot. "I'll just set us down... Hey!" His board had gone blank.

"I'll take it from here," said Seldon, ramping the engines up to max and heading directly away from the surface.

"You can't... I need to..." the Pilot tried to say.

"Elise, please escort our erstwhile pilot from the bridge and satisfy him with whatever remuneration is appropriate for the inconvenience we are causing." She put her countdown on automatic and indicated to the Pilot he should follow.



Once he was clear Heleni switched to her usual chair. After a minute or so Seldon asked her "How is our course shaping up."

She waved her hand over the multitude of displays and trajectories. "I don't know. There are too many places they could be going," she sighed. "I told you navigation was not my forte. I can run the boards but this..."

"Simplify," said Seldon. He spared a moment to look over her boards. "Nanking," he said. "That's the worst case of all the likely options. Clear your board and give me numbers assuming a Nanking destination."

She reduced the clutter and plotted simpler courses for the single option. "We're short," she said. "No wait..." She typed in several more parameters. "We're short for a direct intercept. But factoring weapon range in we will intersect with



enough time for a single salvo at extreme range."

Seldon mulled this over for a while. Elise returned to her station. "Engineering: I need an insurance policy."

"I'm with Askalon Life," came the reply. "Good coverage, low premiums, no hassle claims."

"We need to reduce our intercept time. I'd rather negotiate from a strong position rather than simply obliterating them. Can you give me the chance for a bow shot?"

"We're not rated any higher. If you're going to push, something is going to give."

"What are my options?"

There was some conversation back and forth between the Chief and Juanita. "Option 1. With the weapons powered down we have the energy. You can probably push the engines into the red, but something will blow now, or worse, be strained and blow later. We're talking a full overhaul to check all systems at the next port.

Option 2. "You can purge the tanks. Dump mass. That will give us a few percent. But we'll have no fuel for transition and have to negotiate on Polhishe for more."

"I don't relish the idea of being stuck here," said Seldon. "Can we mitigate the impact of running the engines into overdrive?"

"Hmm," the Chief thought out loud. "Temperature is the big constraint. The heat pumps can only radiate so much. We could vent one baffle of fuel to lower its temperature and dump the heat in there, like we do in transition."

"The downside?"

"Transitioning with hot fuel is... well the

approximation formulas we use already add some uncertainty. We're just adding some risk."

"Do it" ordered Seldon. "Gunner: stand down the weapons." There was a grumbling acknowledgement from Kwok.

Minutes passed. "Pumps redirected" reported the Chief. "Juanita is on the fuel vents. She'll try to bleed the hotspots with as minimal loss as possible."

"How far can I push it?" asked Seldon.

"I don't know. Just a sec..." A bar monitor appeared on Seldon's console. "That's a temperature gauge. Try to keep it out of the red. I'll run the specs and see what components are least heat tolerant."

"My compliments," said Seldon. As the temperature began to drop, he ramped up the engine.

"4.2...4.3..." called Heleni. "Holding at 4.4. That will give us a 3 shot margin."

Seldon rode the temperature gauge like a driver with too many tickets. Juanita shunted the fuel pumps amongst their smallest baffled compartments. As the pumping efficiency tapered off, she switched to the next coolest. Periodically she would vent fuel overboard to drop temperature. As efficiency dropped and the temperature increased, Seldon reduced thrust. After venting he rode it back up again. Heleni's boards showed increasing numbers for intercept overlap.

"Active scan," commented Elise. "I think they've noticed."

"Good," said Seldon. "I want to know how he thinks."

"You've got your answer," said Elise. "Torpedo in the water, coming our way."



"Time to impact?" prompted Seldon after Heleni didn't reply immediately.

She recovered her wits and started running its course. "Impact in eight! Do you want evasion options?"

"No," he said, quickly. "We'd lose too much ground. Time for our gunner to earn his pay."

"Ops: here's the plan. At five from impact auxiliary power will be redirected from the engines back to the weapons. Capacitors should be charged by three. We fire one salvo and direct power back to the engines. If point defense was unsuccessful, we've got two to evade."

"Aye, aye, Captain," she replied. "Stations: running at seven to impact. Energy transfer mark in two..."

The minutes counted down. A trickle of sweat rolled down Heleni's face. She wiped it away, laughing nervously. On Elise's mark Seldon eased off the engines and the PA turret's capacitor started charging. "Gunner: you have one shot. Make it good."

"Pip, pip" answered Kwok. "I've been watching their evasive maneuvers. Not a very sophisticated random walk. At this separation a minimal spread should do."

"Cut the talk," said Elise. "Capacitors charged in 10... 5..." She finished the countdown and the turrets fired a salvo. She immediately started directing the power transfer back to engines and lockdown for impact. Kwok and Vikhagen high tailed it from their external perches to inside the ship's hull.

While Elise dealt with ops Heleni furiously ran the scan. "Multiple targets," she pronounced.

"As in debris, or as in multiple warheads"

asked Seldon, ramping the engines back up.

Heleni continued to pull in information. "Fixed trajectory, no acceleration. That's debris." She looked visibly relieved.

"Or a very smart evasion program," said Seldon. Heleni froze, staring at him. "But I doubt it." He cleared the evasion course from his board.

"I am the most awesome!" crowed Kwok from the galley.

"We'll see about that," said Elise. "I've got another torpedo incoming."

"Same play," said Seldon. "Only advance marks by one. It wouldn't do to be too predictable."

The dance played itself out twice more. They lost time on the intercept dodging and destroying the torpedoes. They still managed to cling to some of their overlap.

"Extreme weapons range in two," called Elise. "Power back to PA capacitors in alternate cycle."

"Gunner: your target is their vicinity. Not the ship," cautioned Seldon. "We're trying to recover lost property, not score points."

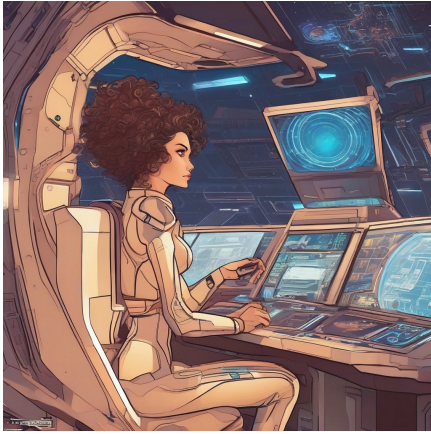
"Pip, pip," acknowledged Kwok. "Don't shoot the paycheck. Got it."

On Elise's mark they heard the weapons fire. "Focal point to their fore," reported Heleni. "Clear demonstration of range."

"This is Captain Seldon of the Raider's Lament calling Valio Eskola in the unidentified clipper. We are engaged to recover the property of Ritva Ukkola that you have in your possession.

"You are within our weapon's range and





our next shot will be targeted on your ship unless you immediately heave to and prepare to return our property. We will offer you no further violence."

"Something's happening," reported Elise.

"She's breaking up!" said Heleni. "Scan has gone fuzzy."

"I'm losing target focus," said Kwok. "What's my target?"

"Chaff," said Seldon. "Fire as able. They aren't giving in." He angled his approach in an effort to change perspective and give their sensors an angle to distinguish between the scan fouling chaff and the fleeing ship. It wasn't clearing fast enough. "Launch dory! Vikhagen: go wide and give me some triangulation." The dory flew clear and began to angle rapidly away. "I should have guessed they would have some form of unlicensed military grade hardware," he muttered.

"I'm shooting blind," complained Kwok as the PA fired again.

"Dory coming into the clear. We're starting to see around the chaff cloud" said Elise.

"Transition flare!" shouted Heleni. "They've jumped!"

Seldon immediately backed down the engines. The dory swung about and started a return course. Heleni took a complete recording of the flare and started analysis.

Seldon stroked his chin and watched her work. "Sorry sir," she said after a few minutes. "They didn't jump flat, dump velocity, and the flare signature was fouled by the chaff." She pulled up some charts. "I'll let it run a while longer but for now it could be Nanking, Narita or Tata. If they got there at all. With that velocity their transition may have been fouled."

"I guess we scared them good," said Elise.

Seldon drummed his fingers on the console. "Engineering: how long to cool the tanks?"

"They aren't too bad. We reserved the biggest baffles. But if you wanted zero risk it would be safe to wait two hours or so."

"Very well," said Seldon. "After dory recovery we'll take her about and back down to the phol summit. I'm sure our pilot will be very happy not to be our guest for an indeterminate amount of time."

"I can negotiate the rate we agreed with him down," said Elise.

"No, no," said Seldon. "Let him keep it. Better yet, throw in that phol side piece of real estate we just acquired. If, and only if, he can find someone who can get us the name of where they are going."

"Certainly sir," said Elise, smiling.

"Your security is only as good as the wage you pay," said Seldon.



Adding Cultural Flavor

By: Les Hendrix (amishstarship@gmail.com)

Why does everyone on this planet dress the same, and why do we get in fights at every bar?

The residents of any world add color to a campaign and can greatly impact the characters' experience. The Cultural Characteristics of a population can also provide understanding of the motivations of individuals, organizations and governments. The sophonts of an Innovative and Tolerant world will be much more pleasant to interact with than those from a Stagnant and Violent culture.

Do you remember those farmers on Lancaster Prime? They all dressed the same and hadn't entertained a new idea in three millennia. But they were honest and generous and fed us well. What about Grittydelphia? Even the kids tried to scam you, and if you looked at someone wrong, they might pull a knife on you. Those bar fights were worse than a death ball scrum, everyone hated everyone. But if you paid the right guy, they could get anything done, anytime, no questions asked.

These Cultural Characteristics were loosely adapted from the HEXACO model of personality structure, adding additional characteristics which may be apparent in a broader culture, and removing those which wouldn't affect interaction with the players.

Cultural and Societal Characteristics

How do sophonts from another planet interact with the characters, with other groups and with each other? After making this up on the fly for years, I devised a list of a few characteristics which provide additional flavor for the general population at large. Cultural Characteristics give the

GM a means to describe and understand the behaviors and motivation of cultures, subcultures and individuals from a given world or society. These characteristics further influence the Society's behavior, motivations and outlook.

Societal Characteristics are shaped by the Cultural Characteristics of planets' population and can be used as guideline for the governments' behavior towards other worlds, and the population. Societal Characteristics include Unity, Productivity and Militarism.

Because Societal Characteristics are derived from the culture of its citizens, Culture Characteristics are determined first. The Culture Characteristic Chart provides the referee with descriptive labels to paint a broad picture of the planet's inhabitants, or a given culture, and how they may interact with the players and their fellow residents.

At a planetary level, these Cultural Characteristics generally describe the dominant culture closest to the Starport, and probably the dominant world government. Numerous other subcultures probably exist on the same planet and can be developed by the GM as needed from these tables.

If a Society is not Unified, the referee should pick one or more Cultural Characteristics which describe why the sub-cultures are at odds with one another. The more extreme characteristics on the Culture Chart usually cause the most contention.

Because Social Science is not a hard science, this chart uses descriptors rather than scores to describe the cultural



factors. What is the difference between a score of Tolerance 8 and Tolerance 11? Both are Tolerant compared with a Tolerance (or intolerance) of 2 or 3. Labels are used, rather than the score. This gives the referee leeway and recognizes that not all members of the culture will behave the same way. There are tolerant members of intolerant cultures and vice versa. A DM value is assigned to each descriptor, for the GM to utilize for reactions or other interactions with NPCs or societal organizations.

Conformity	Are the citizens individualistic or more conformist? Do individuals enjoy more rights or does the collective good of the group supersede individual rights?
Honesty	Are the citizens honest, fair, and honorable or are they scheming, dishonest, greedy and generally corrupt?
Innovation	Is the population innovative, creative and open minded to new ideas, or are they unchanging, conventional and stagnant?
Responsibility	Are the inhabitants diligent and responsible with a long view or are they reckless, and irresponsible with only short-term planning, if any?
Peacefulness	Are citizens peaceful, agreeable and patient or are they stubborn, quarrelsome and possibly prone to violence?
Tolerance	Do the people accept others from outside their own group, including off-worlders, or are they xenophobic and suspicious or hostile towards "others"?

Roll 2d6 for each characteristic on the chart. Use the modifiers to determine which descriptor describes the culture. These are not necessarily permanent, and the referee can adjust the characteristic up or down, either to fit their own campaign or if certain events change the culture.

Examples to adjust a characteristic: 1) A sudden influx of refugees from a war-ravaged planet nearby has lowered the population's Tolerance and Peacefulness. 2) The government has recently changed to a Charismatic Dictator, and the population has become more Conformist but less Peaceful.

Culture Modifiers: These UWP values modify the 2d6 roll on the Culture Characteristics Table.

Cultural Characteristics

Six characteristics provide a reasonable amount of flavor to the population. The Cultural Characteristics described are Conformity, Honesty, Innovation, Responsibility, Peacefulness and Tolerance. The opposite would be Egotistical, Corrupt, Stagnant, Reckless, Aggressive and Intolerant.

Law Level – Law level represents not only the freedom to carry weapons, but also the degree to which the government controls or interferes with citizens' lives. A lower law level means fewer regulations for individuals, organizations and corporations. The citizens of planets with Low Law Levels tend to be less *conformist* (-) and more *innovative* (+).

Repressive Government (UWP 3,8,9 and possibly 1) – Certain governments are more restrictive and controlling. This modifies cultural behavior in several ways. Repressive and bureaucratic governments (and corporations) tend to be more *conformist* (+). These governments (ex-corporations) tend to be systematically corrupt or *dishonest* (-) and to discourage free thinking and *innovation* (-). They also



reduce the efficiency of the population by imposing political direction over the economy.

Authoritarian governments (UWP A+)

Authoritarian regimes have the modifiers of a Repressive Government and further threaten or utilize violence against its citizens, reducing *peacefulness* (-). Authoritarian regimes often promote a culture of us versus them, reducing *tolerance* (-).

Class A Starport. A first class starport provides the culture with access to commerce, other cultures and knowledge exchange. This is a boon to *innovation, responsibility and tolerance* (+). The starport will also model and provide economic incentive for a stellar normal *peaceful* behavior (+).

Hostile Habitat Worlds (HHW) are worlds that require extraordinary resources to support the population, where humans will probably become extinct without technology. These include trade classes Asteroid, Desert, Fluid, Ice Capped, Non Agricultural, Vacuum and Water. The population of HHWs tend to be more *responsible* (+) and less *tolerant* (-).

Cultural Conformity is the only cultural characteristic that influences other characteristics. It should be rolled first. A society that is more conformist will generally be less *innovative* (-) and more *peaceful* (+).

Modified Roll	Cultural Characteristics						DM
	Conformity	Honesty	Innovation	Responsibility	Peacefulness	Tolerance	
12 +	Mono-Culture	Honorable	Innovative	Diligent	Peaceful	Friendly	+2
10 - 11	Conformist	Honest	Enterprising	Organized	Patient	Hospitable	+1
4 - 9	Diversified	Fair	Conventional	Prudent	Agreeable	Aloof	0
2 - 3	Individualist	Dishonest	Unimaginative	Irresponsible	Quarrelsome	Intolerant	-1
1 -	Egotistical	Corrupt	Stagnant	Reckless	Violent Hostile		-2
+1 Modifier	Govt 1,3, 8-15		Starport A	Starport A	Starport A	Starport A	
+1 Modifier			Law Level 0-4	HHW	Conformist or Mono-Culture	Pop 8 +	
-1 Modifier	Law 0 - 3	Govt 3,8+ Govt 1*	Govt 3,8+ *	Govt 3,8+ *	Govt A+	Govt A+	
-1 Modifier			Conformist or Mono-Culture			HHW	

* Corporations (GOV 1) -1 at the discretion of the Referee, if the referee views the corporate government as dishonest, bureaucratic, and irresponsible.

With these cultural descriptions, the referee can shape the interaction with NPC's from port workers to patrons. Do the locals all dress the same? Is everyone looking for a bribe or trying to scam the players? Is cargo only loaded between 8 am and 10 am? Do the cargo loaders carefully place containers, or do they shove them where they fit? Are they belligerent when corrected or do they humbly apologize?

Do they make slurs against spacers, belters, farmers or other out groups? Do fights break out in EVERY bar?

Societal Characteristics

Having painted a broad picture of a planetary culture, how does the world government interact with other governments or groups? Three simple



characteristics describe the society: Unity, Productivity and Diplomacy. Used with the six Cultural Characteristics, this can provide background on the stability of a government, the economic impetus of the society and the world's actions towards other governments.

Unity

Do a majority of the citizens agree on the general direction of the government? If not, the world is divided into subcultures competing to direct the planet's government and its economic and diplomatic relations with other worlds.

Productivity

Are the citizens productive and competitive against other cultures or are they lackadaisical, expecting someone else to intervene and solve their problems?

Diplomacy

Does the world accomplish goals through peaceful and diplomatic means, or does it project military and/or economic force, implied or actual, to achieve its goals?

Societal Modifiers: These Cultural Characteristics modify the roll on the Societal Characteristic Table.

Conformity: Highly Conformist cultures are more likely to be unified. If the Culture is *Conformist* (10+) or Higher, DM +1. *Individualistic* (3-) or lower cultures use DM -1.

Responsibility: *Organized* (10+) Cultures that make long term plans are more likely to be Unified and Productive. Cultures that are *Irresponsible* (3-) suffer a negative DM on their Diplomacy roll.

Peacefulness: Cultures that are *Patient* (10+) tend to be more Unified and Diplomatic DM+1. *Quarrelsome* (3-) cultures suffer a negative DM-1 to the roll.

Innovative: *Enterprising* (10+) Cultures are often more Productive DM+1. *Unimaginative* (3-) cultures are not innovative by nature DM-1,

Tolerant: *Hospitable* (10+) Cultures improve a society's Diplomatic roll DM +1. *Intolerant* (3-) cultures suffer a DM-1 on Diplomacy roll.

Honest: *Honest* (10+) cultures are more Productive and better at Diplomacy DM+1 for both. *Dishonest* (3-) cultures suffer DM-1



Modified Roll	Societal Characteristics			DM
	Unity	Productivity (Competitiveness)	Diplomacy	
13 +	Indivisible	Enterprising	Diplomatic	+2
10 - 12	Unified	Efficient	Peaceable	+1
4 - 9	Shared Values	Productive	Defensive	0
2 - 3	Discordant	Inefficient	Aggressive	-1
0 - 1	Fragmented	Unproductive	Expansionist	-2
< 0	Civil War	Destructive	Perpetual Conflict	-3
+1 Modifier	Conformity 10+	Innovation 10+	Tolerance 10+	
+1 Modifier	Diligence 10+	Diligence 10+	Peacefulness 10+	
+1 Modifier	Peacefulness 10+	Honesty 10+	Honesty 10+	
-1 Modifier	Conformity 3-	Innovation 3-	Tolerance 3-	
-1 Modifier	Diligence 3-	Diligence 3-	Diligence 3-	
-1 Modifier	Peacefulness 3-	Honesty 3-	Peacefulness 3-	

Example (Roll): Strong Indy World (SIW) A 525ACF – C

Conformity (7) +1 Govt = 8 Diversified;
Honesty (6) -1 Govt = 5 Fair;
Innovation (9) +1 Starport, -1 Govt = 9 Conventional;
Responsibility (8) +1 Starport, -1 Govt = 8 Prudent;
Peacefulness (9) +1 Starport, -1 Govt = 8 Agreeable;
Tolerance (2) +1 Starport, +1 Pop -1 Govt = 3 Intolerant.
Unity (10) +0 Unified.
Productivity (9) +0 Productive
Diplomacy (12) -1 Intolerant = 11 Peaceable

The sophonts of SIW are not conformists (Diversified), they wear a variety outfits and express different opinions. They treat others with respect (Fair) and most are conservative, supporting the system of government (Conventional). They are responsible (Prudent) and polite to interact with (Agreeable). The law level is repressive but the population believes they have all of the personal freedoms they are entitled to. Citizens are permitted to express themselves artistically and politically by belonging to any of the six official political parties. The populace accepts this as being best for everyone (Conventional).

However, they do not like or respect others who differ from them and go out of their way to avoid those who are different (Intolerant). Cultural groups do not interact

with other groups, creating an effective caste system. The differences are primarily political and the residents congregate with their own. They are polite with disdain for others (Agreeably Intolerant).

The ruling charismatic oligarchy enjoys widespread support of the population. (Unified). SIW has 60 billion inhabitants who are employed building quality starships which are sold throughout the subsector (Productive). As the largest most powerful planet in the sector SIW has good relations (Peaceful) with its neighbors, who are also the primary customers of their industrial output. They are arrogant and intolerant towards other worlds, but since no one can challenge them economically or militarily they continue.



Aquarians

By Jo Jaquinta

Origin and Distribution

The Aquarians described here are found in a system of your choice, inhabiting the subsurface ocean of an icy satellite of the system's gas giant. They conform to the general body plan of "Europen Rays" found in many such environments, but it is the referee's choice if this is from convergent evolution, or species dispersal. This particular species is not found elsewhere, but is prevalent over the subsurface of the world. Estimates are that there are 10,000 to 40,000 individuals.

Behavior and Physiology

Aquarians conform externally to the typical aquatic manta ray configuration. Their eyes can pivot more, and independently, and their cephalic fins are prehensile. Internally they are considerably different. They mainly subsist by filtering out heavy elements from the waters of their world, sorting and accumulating different types for different needs. Their internal organs form quite the sophisticated and configurable chemical factory. In some cases they harness the energy of some reactions to provide biological sustenance.

In other cases they synthesize additional compounds they use for creative purposes. Most of their constructs are semi-solid and neutral buoyancy. These can be as advanced as further external chemical processors to create an even wider variety of substances, or as simple as art.

Their biology is highly resistant to chemical attack. They can deal with a wide variety of pH values, and are virtually impossible to poison.

They can perform basic manipulation with their cephalic fins, which are equipped with many apertures of varying size. The fins

do not have the musculature to grasp with any firmness, but they can control water pressure from various directions to a fine degree of control. This is their prime method of manipulation.

They have bioluminescent spots across portions of their body. These are most notable along their "wings" and down their "spine", and it is these that are used for signaling and communication. The remainder vary between individuals and are used for personal expression.

Culture and Language

The Aquarians are divided into multiple tribes. Each tribe is led by a dominant family, to whom tribe wide decisions are delegated. Children are raised communally, and don't have strong family ties. Tribes migrate from upwelling to upwelling, as their chemistry needs change over time. Intertribal conflict is surmised, but not observed.

Individual members of a tribe have "jobs" which are presumed to be assigned by the dominant family. These generally have to do with the collecting of raw materials, synthesis of materials into new compounds, and final production into the final form as needed by the tribe. They don't, generally, have personal possessions, as everything is done for the tribe, orchestrated by the dominant family.

Because of the "soft" nature of their material culture, and the sensitivity to currents, they have elaborately detailed protocols defining how fast, with what warning, and with what method of locomotion individuals can maneuver



around each other. Those who habitually break the rules suffer a form of partial ostracization, or social shaming. They are assigned jobs that are below their skill level, until they are sufficiently contrite. Lone Aquarians have not been observed. It isn't clear if they cannot operate outside of the communal nature of the tribe or if actual exile is just extraordinarily rare.

It has been hard to study the Aquarian language. It is mostly conducted through gesture, and some tinting of phosphorescent spots. Context is extremely important. They do not have a strongly encoded concept of nouns, but instead gesture to the subject they are communicating about at the appropriate time in the narrative. This makes it hard to talk about things in the abstract.

Contact and Relations

Because of radically different environments, Aquarians do not frequently come into contact with space faring races. When they do, their aims and objectives are usually divergent enough to make it a passing curiosity.

Contacting cultures may not be aware of the sentience of Aquarians. Mining outposts, present to filter valuable chemicals from the subsurface ocean, might "harvest" their constructs, reservoirs, or even the creatures, because they contain concentrations of chemicals that are desired.

Similarly, the Aquarians themselves may also not understand that such incursions are from other sentients, but see them as dangerous animals competing for resources. They are not militant by nature, but being experts at chemistry in their environment, they can synthesize compounds that may cause rapid degeneration of machinery, seals or other vital components of their competitors' habitat.

More positive interactions can be centered around mutual exchange of

advantageous goods. Aquarians are masters at filtering and concentrating compounds from the ambient environment. But their chemistry is limited when it comes to high temperature reactions. Novel compounds externally manufactured would be of great interest to them, as raw materials and catalysts, expanding the scope of the reactions they can conduct.

Scenario Ideas

First Contact. The players may be called in to assess a situation where a filtration mining colony is experiencing widespread equipment failure. This stems from the miners and Aquarians failing to understand the sentience of each other. The scenario can start with the equipment failure problem, leaving the players to work out what they are detailing with. Or it can start once the fact that they are dealing with an intelligent species is concluded, and they have to open communication.

Traffic Research. Having read a research paper on the Aquarians, a protocol officer in the government has decided that Aquarian navigation traditions are a highly evolved form of traffic protocol. If the exact cultural rules can be recorded and systematized, they could be adapted for use in guiding the autopilots of grav vehicles and alleviating the famously snarled traffic of some major arcologies.

Aquarians in Space. Although optimized for an aquatic environment, Aquarians can also live in a high humidity setting with microgravity. As such, a tribe might be relocated to either a null-G space habitat, or one where artificial gravity has been used to cancel out the local gravity. Being socialized to other sophants, they may be in charge of a refinery, contaminant cleanup, or leak inspection.



Exotic Weather

By Brett Kruger

The weather in role playing games is often an afterthought for most GM's, but it can add greatly to the overall atmosphere of the game if done correctly and at the appropriate time. The weather can also be used to create challenges or obstacles in your games.

In this article I'm going to explore how different climatic conditions can affect the lives of the characters and the worlds they live in. I'll take a brief look at how standard weather can be used in your games and follow it up with some examples of more exotic weather you can use.

While most GM's, and possibly most players as well, think that the weather can only be used in fantasy or modern type games, and can be used quite effectively in science fiction games as well, especially storms, which I've used on more than one occasion myself.

So, let's look at some weather events and how they can be used in your games.

- A stormy night can set the mood for an adventure in a dark forest, the thunder and lightning creating opportunities for surprise attacks or dramatic reveals. A sudden lightning strike can disable the player's vehicle, leaving them far from communications with others and open to attacks from the locals. I've also thrown in high mountain ranges with particular electromagnetic fields that blocked communications, which can also intensify the lightning. Just don't step out of the vehicle in the middle of the storm!

- A heat wave can affect the character's equipment and vehicles, requiring them to seek shelter from the sun, find water sources, or deal with heat-related

malfunctions. The heat can also cause fires to spread quickly, as anyone who lives in wildfire zones can attest to.

- A snowstorm can hinder the characters' movement, visibility, and communication. They can cause vehicles to malfunction or become bogged, and the snow can also cover tracks, hide traps, or reveal secrets.

- A foggy morning can create a sense of mystery, uncertainty, and danger. This can also apply to smog in city streets. The characters may have trouble finding their way, recognizing friends or foes, or spotting threats. The fog/smog can also conceal clues, ambushes, or hidden passages.

- Storms can contain extremely strong wind gusts, which can affect the character's piloting abilities or sailing skills. They can be blown off their feet, vehicles can be damaged or even overturned. The wind can also carry sounds, smells, or objects.

These are just a few examples that you can use in your games to give your players a little something unexpected. There are plenty of examples of the weather being used to affect the story in movies and tv shows, take your favourite, and use it in your game.

Now let's look at some more exotic weather events to spring on your players.

Blood Rain

Blood rain (or the spores that give it its colour) has been identified as a type of rust fungus or algae, dust from local farms, biological material from a passing comet, and even identified by some as pathogens engineered by competing governments.



The rain can form a greasy slick, making manoeuvres difficult for the characters, cause illness or a disease that the characters may have to find cure for, or just gum up any equipment exposed to it.

Firestorms

Firestorms are a very intense and destructive fire usually accompanied by high winds but can also be started by attacks with nuclear or incendiary weapons that creates a powerful updraft which causes very strong inrushing winds to develop in the surrounding area.

Firestorms can be taken to another level in science fiction. Movies and tv shows have portrayed moving walls of fire and wind, either generated by the rising sun or fission explosions from power stations or weapons.

Firestorms are deadly to unarmoured sophonts and vehicles, killing or destroying them within a matter of seconds, or minutes, and will even damage those that are armoured. Treat as double flame thrower damage or half vehicle mounted plasma weapon damage.

Vehicles on the spaceship scale, while armoured to protect them in space, can still take minor damage to things like sensors. This is up to the GM of course and depends on the plot of their game.

Hair Ice

Forests of this thick, hairlike substance can be found on any cold world and is sometimes compared to cotton candy (or candy floss). When it's cold and humid, the hair grows thick on branches.

Hair Ice (also called frost wool or ice beard) has very recently been linked to a fungus. When the temperature drops, the fungus releases chemicals at a steady rate, allowing thin strings of chemical to be frozen into "hairs." The nature of the fungus

also prevents stacking or combining of the chemical, so each is like an individual, giving the ice it's hairy look.

On some worlds this process can be hyper-accelerated, causing the hair to not only grow at a rapid rate, think meters per minute, but also entangle those unlucky enough to be passing by.

Treat Hair Ice attacks as a grapple attack, causing 3D6 cold and chemical damage per turn of successful grapple.

Razor Sand

So, what happens when the sand in a sandstorm generates enough static electricity to fuse together at high speeds? You get Razor Sand!

Forming on desert worlds when conditions are right, Razor Sand consists of hundreds of thousands of five-centimetre daggers of silicon travelling at between one hundred and one hundred fifty kilometres per hour.

While individual Razor Sand shards are not much more than a dagger attack, during a storm characters, buildings and vehicles can be hit by multiple shards each turn. For each turn the character is exposed to the storm, roll 1D6, multiply by 10, then multiply by another 1D6.

Unarmoured vehicles and equipment will get the same damage applied. Armoured vehicle and building damage is up to the GMs discretion.

Void Lightning

Void Lightning is a rare and extremely dangerous event that can occur when starships exit faster than light travel.

If starships exit FTL at an incorrect angle they can drag some of the void space/hyperspace/jump space/dimensional space into real space with them. When this happens there is a



sudden release of energy as the particles annihilate each other, resulting in what spacers call Void Lightning.

When Void Lightning does occur, treat as a particle beam if it hits the ship, doing 10D6 damage, or up to 50% more damage than an equivalent weapon in your universe.

Ion Storms

Ion storms are storms which contain very high densities of energised electrons and can usually be seen in the ionosphere of worlds as produced by their star.

Ion storms are the positive versions of geomagnetic storms and have a very high density of electrons. The total electron content (TEC) is used to measure these densities and is a key indicator of the strength of ion storms.

Ion storm occurrences are strongly linked with sudden increases of solar wind speed, where solar wind brings energised electrons into the upper atmosphere of planets and contributes to increased TEC.

Most spaceships and orbital platforms are shielded from ion storms, but rare, extreme TEC storms can slip by detection grids and cause damage to electronic equipment,

especially ship computers, sensors, communication arrays and weapons. Consider 1D6 to 2D6 damage to these components.

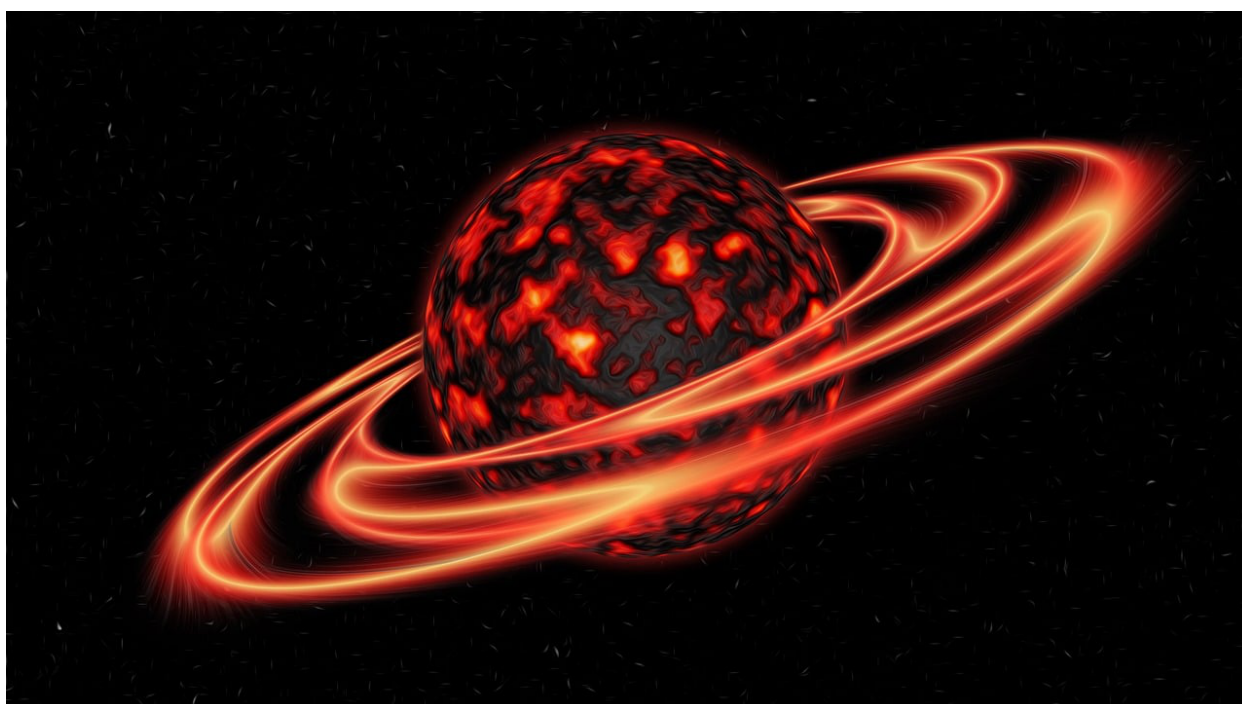
Coronal mass ejection (CME)

A coronal mass ejection (CME) is a significant ejection of magnetic field and accompanying plasma mass from a star's corona into space. CMEs are often associated with solar flares and other forms of solar activity.

While CMEs can be detected by ship's sensors, they are often difficult to detect as they are usually masked by the system's star. Early warning systems will detect and warn ships in the path of a CME, if the system has such a detection grid in place.

CMEs are considered a plasma/fusion weapon attack if they hit a starship, doing 6D6 equivalent damage.

Anyway, I hope this short discussion on weather has inspired you to inject some weather-related events into your game.



Radio Archaeo-Astronomy

By Jo Jaquinta

Radio Telescopes are devices which are tuned to amplify wavelengths of light in the radio spectrum. They are used widely in astronomy to view different aspects of the heavens. Additionally radio waves can penetrate different mediums than light (e.g. dust clouds) and so can reveal environments that are not visible to other wavelengths.

Stellar objects are not the only thing that emits radio waves. In an advanced interstellar society, most civilizations will use radio for many things. Even when more advanced methods of communication are available, radio will always be cheaper and easier to manufacture and use.

High tech radio telescopes with superconducting elements, easily accessible places in the outer reaches of solar systems, and advanced software filtering, greatly enhances the ability to detect and decipher radio signals, even over interstellar distances.

These advances enable the field of Radio Archaeo-Astronomy

Archaeology for a New Age

The past is often deciphered through its material record. Stone tools, cut marks on bones, clay tablets, statuary, microfossils, and many other remains can tell us a whole lot about a past culture. However the material record is a very thin slice of what made up that culture.

As you move into more technologically advanced societies, much of their record becomes even more transitory. Paper doesn't preserve as well as clay, and digital media can decay even faster. Once you reach into space you are in a very harsh

environment. Many substances break down even faster in the extreme temperature and radiation conditions found in most places. And areas that are prime development areas are likely to be continuously inhabited, with newer settlements taking up the precious space used by previous ones.

Radio waves, however, are forever.

Although the devices used by a society will be tuned to only use enough energy to get the message where it needs to go, such transmissions are seldom tight beams, and can radiate out into the interstellar void. There they travel at the speed of light forever, in a wave slowly expanding across the universe.

If you place a highly sensitive radio telescope in a place, and point it at a spot, say, 100 light years away, you will be able to listen in on what happened there 100 years ago. In an interstellar society where faster than light travel is possible, this is a way to look into the past.

In many ways it is an archaeologist's dream. Signals captured are directly from the originating culture, without any interpretation or layered meaning. All events are accessible, from the mundane to the monumental. This can speak volumes to nuances of culture that weren't considered important at the time and worth capturing. It is also agnostic to subsequent history. You can't recast an event witnessed as it actually happened to the benefit or detriment of a later polity.

Location and Operation

The vast majority of worlds and moons in any realistic star system generation sequence are small, cold, and of little



economic interest to any one. These are ideal locations for radio telescopes. Many are only a few degrees above absolute zero, which is highly preferential for the equipment needed. Worlds that are tidally locked to their primary star are perfect, as there will be regions that are permanently shaded from the noise of the star itself (and any loud inner system planets). Worlds that are not may opt for installation of multiple receivers, the ideal distribution is four spaced tetrahedrally over the surface of the world.

Such installations can be staffed, or fully automated. The advantage of being fully automated is that it is cheaper, but has the disadvantage of downtime if anything goes wrong, and they cannot react to unexpected developments. Staffed facilities can be more reliable, and they can be tuned in real time as events transpire, but are lonely outposts.

Communication with such outposts is limited. They are usually many light hours (to days) away from more inhabitable parts of the stellar system and so real time adjustments cannot be made. Also, radio is the last thing you want to use to communicate with them, as that would disrupt their collection. Either more advanced methods of communication need to be used, or else pre-established black-out windows where the collectors shut down to exchange data is established.

It is natural for an area to be mostly interested in its own past. However, for every year in the past you want to observe, you need to be one light year away. You cannot use a local facility to study your own past. Because of this, many telescopes are part of a formal or informal wider network. They have contacts who run telescopes in other parts of the setting that might be better situated for studying records of local interest. There is an active

“time swap” market out there where people offer up time on their telescope to other time explorers in return for time on theirs.

Many such telescopes are run by universities and other academic interests. However, the technology is pretty standard for high tech cultures and the running costs are not outrageous. The construction and operation of them are within reach for rich hobbyists, social clubs, and even political groups.

Sample Outpost

Thenli is a small moon of a medium sized world in the outer reaches of a star system of your choice. Its primary takes 278 years to orbit the central star, and Thenli orbits its primary in 22 hours. The surface gravity is .1G, and the ambient temperature is 30° above absolute zero.

There are a total of four linked radio telescopes, spread evenly over the globe, so that any spot can be observed. The orbit of the world allows for all regions of the heavens to be observed. They are linked together via meson communicators, so as not to disturb the radio signals. All is coordinated from a central outpost.

The outpost is a drop-in pre-fab with a total internal space of 500t. It's a dome configuration and boasts a landing bay large enough for a 200t vehicle. The shelter has its own fusion plant for power, and is exceedingly well insulated. When unoccupied it keeps itself heated (to just above freezing) otherwise everything would drop to the ambient temperature and it would take a long time to warm up to being habitable.

Unallocated areas can be used for other features the referee finds necessary, filled with machinery, or insulation.



The referee can use this just as a means of rounding out character personalities. The outgoing crew are likely to be keen on getting as "social" as possible before their isolation. The returning crew is going to be a bit stir-crazy, or unsocialized after coming back. Or there can be some mystery awaiting the characters at this exotic location where they are mostly on their own.

The Past is not The Past. Watching the past unfold live is of great academic interest, but it may not always be politic. There might be certain events and information that some people would prefer remained "interpreted" by the current view of history. The players are contracted to visit a listening station and to either disrupt its recording for a very specific window, or else to insert an alternate recording into the automated record. The referee can throw in some automated defenses, very bored staff, actual curiosity in the actual

record, or a rival team contracted to confiscate the signals and use them to extort more money.

Dual Use Technology. Radio telescopes are designed for making little tiny signals from very far away decipherable. Typically these are transmission from a far away star. It isn't impossible to adapt their hardware and software to interpret signals from a much closer source.

Either the players have access to a radio telescope (one is a Noble and their uncle is a hobbyist), or there is one in the system in question that they are pretty confident in "assertively chartering". Their mission might require them to pick up the internal transmissions of a ship, or decipher computer data by listening to the "hum" of its processors in the radio spectrum, or to pick up the leakage of a tight beam transmission.



Mandy

By P-O Bergstedt

Mandy was a talented girl at her School at Lancaster. She then went on to study economics at the University of Lancaster, graduating with a focus on interstellar trade. She was a beautiful and determined young woman with long blonde hair. She knew what she wanted to do and was willing to risk everything. She borrowed money and became an investor.

She soon realized that a lucrative investment was in the offices in the spaceport dealing with interstellar trade, her specialty. She bought her own warehouse in the spaceport and started a business for the import and export of everything legal. It went well, and her fortune grew rapidly.

Mandy noticed that some of her competitors were not always legal. Some dealt with strictly forbidden goods like weapons and drugs. Some increased their income by smuggling less strictly controlled items.

Mandy followed the latter path and began avoiding taxes on goods through creative accounting.

Mandy's shady business eventually stepped on the toes of several other entrepreneurs. It was only a matter of time before one of them would grow tired of Mandy and try to crush her.

Then came the day when they struck against Mandy. They burned down her office and warehouse. They shot her and several of her employees and threw the bodies into the fire. But Mandy did not want to die. Injured and burned, she managed to crawl to a room on the outskirts of the building and succeeded in closing the door. She passed out.

A spaceship captain, Gordon Goodfellow, and his second hurried to the fire in their air/raft. Gordon had hired Mandy many times, both to sell and buy. Gordon arrived about the same time as the spaceport's fire brigade. While the firefighters sprayed fire-retardant on the office and smoke divers prepared, Gordon had already entered. He soon found Mandy, burned and shot.

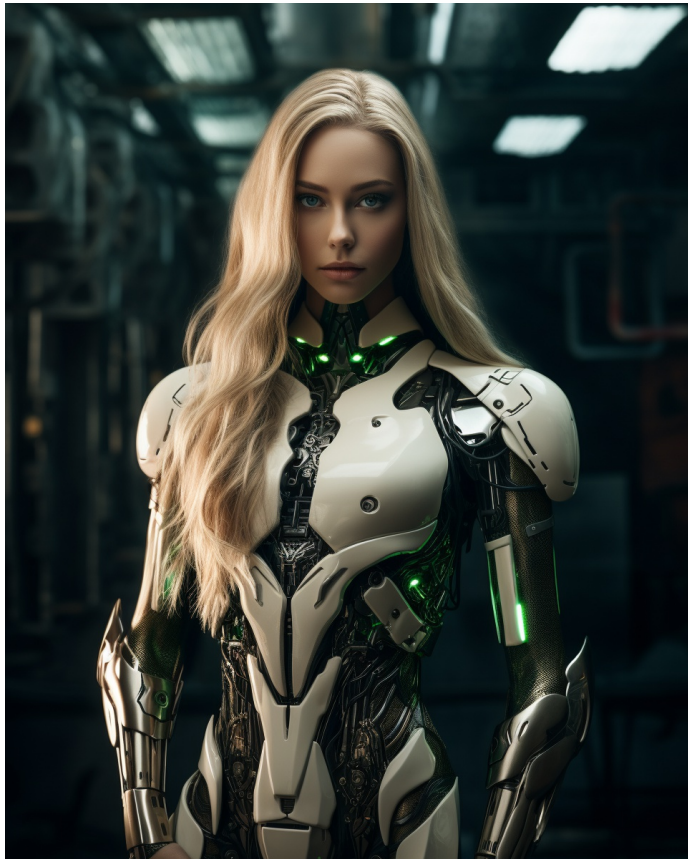
Gordon took her in his arms and carried her to the air/raft. Since the fastest place to provide care for Mandy was on Gordon's spaceship, the Pinball Wizard, he took Mandy there. If he had taken her to the spaceport's medical facility, it would have raised a lot of questions and taken time. Even more time if they had taken her to a hospital in Lancaster. On the spaceship, they also had a good doctor who was accustomed to injuries the crew incurred during various legal and less ethical missions assigned by Mandy.

Gordon and his crew decided to take care of Mandy since she could be in danger at the hospitals at Lancaster. They ignored taking the most lucrative cargoes and went straight to Philadelphia, while the doctor managed to keep Mandy alive, mostly sedated in cryopods due to the pain.

At Philadelphia, Mandy got prosthetics. She was now a cyborg. But these were inexpensive prosthetics. Mandy checked her credit status and found that she was listed as missing but still had a substantial fortune. She contacted her law firm and could prove with DNA and passcodes that she was Mandy Meles. Now she had access to her money. She upgraded to military-grade. But she was not yet ready to return.



Mandy asked Gordon for a favour. Mandy knew of a private and secret research facility working on robotics, the so-called tech barons. They used reverse-engineered alien artifacts, alien killer robots that had deteriorated or been repaired. It was, of course, illegal, as artifacts must be reported, and if they can be of use, they should belong to the Pennsylvania Federation. Gordon took Mandy there,



and she upgraded herself again with parts from alien killer robots. Meles-2 was born. Now she was ready to take on those who wanted to eliminate her.

Meles-2 and the crew of the Pinball Wizard returned to Lancaster. Mandys' former employees who had survived were contacted and offered new jobs. The top computer geniuses at Lancaster University were hired to help hack into competitors. Meles-2 took on her enemies one by one. In less than a week, she had put an end to her unethical competitors. One attack per day. Meles-2 was nearly indestructible. Ordinary firearms had no effect on her, and she now had superpowers. Her team helped disrupt communication and hack into the enemy's systems before each attack. She dealt with the various bosses using only her hands, crushing them, often with their underlings watching. Then she cheaply acquired her enemies' offices and assets.

Now Meles-2 was the boss of bosses at Lancaster. However, she did not plan to take over the highly illegal aspects of her enemies' trade. She had decided that it was enough to be one of the larger (mostly) ethical offices, engaging in some side activities involving smuggling and creative accounting, along with the spaceship captains she trusted.



What's New

By Brett Kruger

The following products were released during the months of June through December 2023. A big couple of months for Old School Role Playing and lots of goodness from other publishers as well.

Old School Role Playing	Zozer Games	RPG Ramblings Publishing
Derelect	Hostile Situation Report 010 -	Scoundrels: SD2 The Clean
Lighthouse	Street Scum	Hands
One Thousand Items of	Hostile Timeline	Scoundrels: SD1 Under A Hard
Salvage For the Frontiers	Retro Sci-Fi Rules	Sun
of Space	Earth	
One Thousand Alien Artifacts	HOSTILE Situation Report009 -	Stellagama Publishing
From the Frontiers of	Extraction	The Starlight Caper
Space	HOSTILE Situation Report 008 -	Terra Arisen Bundle [BUNDLE]
Psion	Life Cycle	
Star Base	HOSTILE Situation Report 007 -	Alexander RG House
Gate	The Ark	Cepheus Engine: Mission
Ghost Planet	Modern War: 1944 Fortress	Creator
Return of the King	Europe	
A Little Bit of Ultra-Violence	Medusa	Cubatory
Personalities of the Frontiers of		Zaibatsu HPI
Space	Independence Games	
Population Control	Bridgetown-class Escort and	Divergentibus Cerebri
Intervention	Cape-class SDB	Publishing
Distress	Bounded Fortune:	Sentient Species
Compensation	Independent Merchants	
Reckoning	in Clement Sector	Felbrigg Herriot
Aliens Among Us	Coner-class Trader	Gunner: The New Spaceman
	Cybersneaks: Hacking in	
	Clement Sector	Game in the Brain
Michael Brown		Mneme Space Combat full
Stella Mirandi	Donovan D. Corzo	
By Winter's Light	Dutchman-Scenario	Nienhaus Games
Syntithesis	Jury Duty: The Battle for	Science Ship, Investigator
The Qaranshi Apparatus	Lehanna Station	Class
Field of Reference	100 Black Market Finds Vol 3.	
Cognitio		Parts Per Million
The Unquiet Country	Moon Toad Publishing	Into The Westlands Solo
Proximity	Quick Ship File: Starguard	
A Hymn for the Exalted	System Defence Boat	Wild Bee Publishing
Cepheus Engine Bookmark	Quick Ship File: Catino Class	Kosmic Role-Playing Game
Adventure 1	Fast Armed Trader	Core Rules
Past Imperfect	Quick Vehicle File: Stalwart	
The Cepheus Engine	Class ATV	
Character Sheet		
Bookmark	FSpace Publications	
Atmosphere	Micrond Hellfire and Hyperion	
	[BUNDLE]	
	Meshan Traveller [BUNDLE]	



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