

MASS EFFECT ANDROMEDA CODEX

Note from the editor:

This codex was made by cross-referencing different sources: my screencaps of the codex, the [Mass Effect wiki](#) and the website [Library of Codexes](#). I hope it's as accurate as possible but in case you see a mistake or an entry missing, please contact me as soon as possible at info@masseffectlore.com

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The Andromeda Initiative

The Initiative was built by the efforts of thousands who devoted years of time and countless resources to reach the Andromeda Galaxy. These are the people, places, and organizations that make the Pathfinder's mission possible.

Know Associates

Dossiers on Pathfinder Ryder's friends, allies, and contacts across the Heleus Cluster.

Peebee

Peebee describes herself freely as the foremost Milky Way expert on the Remnant and their technology. It is difficult to verify her qualifications for this, as many Nexus personnel records have been lost. DNA and fingerprint matches give the name "Pelessaria B'Sayle," although according to the revival schedule, that individual should still be in stasis. Peebee's comment is, "nothing like getting a head start."

Piecing together information from Eos and the Nexus, Peebee was born on the planet Hyetiana in the Milky Way. After voyaging to Andromeda on the Nexus, she left the station some months ago to explore the Heleus Cluster alone and became fascinated by the Remnant. She has classified and dismantled several types of Remnant bot, but she prefers to keep her findings private for now.

Psychologically, Peebee demonstrates both extremely high intelligence and hyper-individualism. Her restlessness is typical of many asari in their Maiden phase of life, though few go so far as to visit another galaxy.

Kallo Jath

Kallo Jath was born on Sur'Kesh and, quoting directly, "into a life so boring even you couldn't calculate it."

Pushed towards a lucrative but dull bureaucratic career with Parohe Aerospace, Kallo became more interested flying the starships he was meant to be cataloguing. He eventually left Sur'Kesh for formal pilot training and joined Parohe's competitor as a test pilot.

Internal emails show that when the Andromeda Initiative was building teams to develop their survey vessels, Parohe Aerospace warned against recruiting Kallo, so fervently that Jien Garson's interest was piqued. Kallo claims that the prospect of the Initiative was intriguing enough to make him join the Tempest design team, test-flying her early prototypes, running stress tests in regions like the Nemean Abyss and, rumor has it, helping to "acquire" advanced technology.

Kallo has an acute photographic memory, even by salarian standards. This may be linked to his unusual motor responses, though he discourages my speculation.

Vetra Nyx

The Andromeda Initiative's records on Vetra Nyx are sparse. She states that she is from Palaven but has also disclosed that she is not recognized as a formal citizen of turian society, never having entered boot camp. It appears she left Palaven at an early age, and spent most of her life in the outer reaches of Council space, never settling down in one place.

Vetra was recruited into the Initiative by Nakmor Kesh, who lists her as "a business associate" and recommended her on the basis of her "streets adaptability, and familiarity with most weapons." Vetra's only other recorded family is her sister, Sidera Nyx, who accompanied Vetra on the journey to Andromeda, on board the Nexus.

A footnote in Vetra's file indicates that she may have been part of an unnamed mercenary band that was hired to steal sensitive military secrets from a base on Menae. The culprits were never caught.

Gil Brodie

Technical Officer Gil Brodie is chief engineer aboard the Tempest. After traveling to Andromeda aboard the Nexus, records show that Gil was woken from stasis roughly a year ago to assist with construction efforts before prepping the Tempest itself.

There are no records of Gil's early life: he explains he was an undocumented "street kid" from one of Earth's megapolis cities. Though unschooled, Gil likely showed a remarkable aptitude for mathematics and spatial reasoning since at ten, he often broke into a local scrapyard to dismantle and repair destroyed shuttle engines. In time, he was caught and "sentenced to a steady job."

Gil's mechanical expertise eventually drew him off-world, to numerous colonies across the Milky Way. His unconventional work drew the attention of Vetra Nyx, who agrees she was always on the lookout for new contacts. Vetra claims she persuaded Gil to join the Initiative: Gil claims he won Vetra's Initiative clearance in a poker game, and exchanged it for a guaranteed seat along with his friend Jill. He remains an invaluable member of the Tempest crew.

Lexi T'Perro

Although young by asari standards, Lexi T'Perro is regarded as one of the most skilled doctors in the Andromeda Initiative. Born on the crime-ridden space station Omega, Lexi began her medical career by stitching up her father, a turian bouncer at the Afterlife nightclub where her mother was also employed as a dancer. In her screening interviews, Lexi states her parents' dream was for her to "get off this rock and live a life worth talking about."

Following her parents' wishes, Lexi left Omega to continue studying medicine as well as psychology on the Citadel, where she eventually met Harry Carlyle. Carlyle convinced her to join the Initiative as the Hyperion's physician. Although there was some confusion around assigning an asari to the human ark, Lexi's credentials and expertise in alien anatomy quickly silenced any concerns.

By her own admission, Lexi is a workaholic. "On or off the table, I have a hard time not dissecting people... figuratively. of course." One of her many goals in Heleus is to improve her bedside manner and learn to "appreciate the moment."

Nakmor Drack

As verified by Nexus records and his own claims, the krogan mercenary Nakmor Drack is among the oldest beings to join the Andromeda Initiative. He originally traveled on the Nexus, along with many other members of Clan Nakmor, but left after the Nexus uprising.

Born on Tuchanka around 700 CE, Drack was a young warrior when the Krogan Rebellions began in earnest. He and his krantt accounted for over two hundred kills, which, Drack claims, includes three of the then-newly founded Council Spectres.

After the salarian-designed genophage ended the Rebellions, various bounties and military bulletins show Drack chose a new path as a pirate and soldier of fortune for whatever conflicts came his way. Over centuries of fighting, multiple injuries required several of his limbs and organs to be replaced with cybernetics. Eventually, Drack says his search for one last horizon brought him to Andromeda.

Drack did not travel alone. He accompanied most of his clan to Andromeda, including granddaughter Nakmor Kesh and clan leader Nakmor Morda. Kesh and Drack maintain a close relationship, exchanging regular messages, no matter where their duties in Heleus take them.

Scott Ryder

Born your younger twin on the Citadel space station in 2163, Scott grew up knowing the station was a gateway to the entire Milky Way. In his orientation interviews, he claims this fostered a longing to step through those gateways to adventure.

With informal training aided by Alec Ryder's N7 background, Scott joined the Systems Alliance military and was assigned to an outpost near Arcturus Station overseeing Relay 202. A primary route to Arcturus, this mass relay leads into contested space and has an unsavory reputation. Scott was needed to protect Arcturus, but also had "a front row seat to everyone else going off to fortune and glory."

When Alec Ryder was dishonorably discharged due to his AI research, internal memos show that this also effectively ended Scott's career, making Andromeda a more attractive option for the adventure he sought.

On arrival in Andromeda, Scott's cryopod was damaged and his revival process interrupted. Dr. Lexi T'Perro advised keeping him in a medically induced coma to allow him to awaken naturally.

Scott eventually awoke safely. Medical records show slow but promising improvement in his condition.

However, sharing identical implants and similar physiology made Scott a target for the Archon. After attacking the Nexus and hijacking the Hyperion, the Archon took Scott captive, intending to use him to provide access to Meridian. Fortunately, you were able to intervene. Though injured, Scott is projected to make a full recovery.

Sara Ryder

Born your elder twin on the Citadel space station in 2163, Sara grew up surrounded by a multitude of alien species, cultures, and histories. In her orientation interviews, she claims this sparked her fascination with science.

With informal training aided by Alec Ryder's N7 background, Sara joined the Systems Alliance military, which was continuing its search for Prothean technology after successful discoveries on Mars. Initially assigned to peacekeeping duties, Sara was approached to serve a support role for these Prothean researchers. She often describes the thrill of serving with scientists like Mateus Silva, on the brink of the next great discovery.

When Alec Ryder was dishonorably discharged due to his AI research, internal memos show that this also effectively ended Sara's career, but Andromeda presented the kind of scientific frontiers she had sought all her life.

On arrival in Andromeda, Sara's cryopod was damaged and her revival process interrupted. Dr. Lexi T'Pollo advised keeping her in a medically induced coma to allow her to awaken naturally.

Sara eventually awoke safely. Medical records show slow but promising improvement in her condition.

However, sharing identical implants and similar physiology made Sara a target for the Archon. After attacking the Nexus and hijacking the Hyperion, the Archon took Sara captive, intending to use her to provide access to Meridian. Fortunately, you were able to intervene. Though injured, Sara is projected to make a full recovery.

SAM

Self-examination being important for sentient beings, I was encouraged to write this entry by Alec Ryder. I am a Simulated Adaptive Matrix [SAM], a new-generation artificial intelligence. Unlike most AI, I link to a neural implant that gives me access to my host's sensory and emotional responses. Put simply, I have a direct understanding of the human experience, which allows me to grow beyond the bounds of logical programming. In return, I lend my quantum computing power and rational analysis to a Pathfinder's mission.

I am physically located in a server bank installed in SAM Node aboard the Ark Hyperion, but quantum entanglement technology allows instant communication anywhere. In the event of catastrophic injury or death, protocol dictates that my command access be transferred to the next Pathfinder candidate in line.

Recent removal of memory blocks has shed further light on my creation. Alec Ryder built me in part to help his wife, Ellen Ryder, survive a terminal illness (later classified as AEND). He hoped that my ability to affect my host's physiology could either prolong her life, or help him to discover a cure. Though this hope was not fulfilled, Alec Ryder later integrated this ability into my core design.

Alec Ryder

Born on Earth in 2129, Alec Ryder says his love of new frontiers was fostered by a childhood in the Sierra Nevadas. According to his service record, he joined the Alliance military and was eventually assigned to Jon Grissom's historic expedition through the Charon Relay.

His experience made him a candidate for what would later be known as N7 training back on Earth, where he met Dr. Ellen Harlow. After their marriage, Alec continued military service, most notably on Shanxi in the First Contact War against the turians.

Assigned as a military attaché to the Citadel in the late 2160s, Alec became interested in artificial intelligence as a means of human advancement. His pursuit of this illegal technology led to a dishonorable discharge from the Alliance Military.

Contacted by the Andromeda Initiative, Alec found a sponsor to help complete his work. I am the product of that research, assisting not only the Initiative, but Alec's new role as a Pathfinder.

Soon after our arrival in Andromeda in 2819, Alec Ryder died during operations on Habitat 7.

Cora Harper

Lieutenant Cora Harper (service number 6002-AC-1762) is a human biotic and formerly an officer in the Systems Alliance military. Her screening interviews state she was raised in poverty on an independent cargo freighter, joining the Alliance at eighteen to obtain training for her powerful biotic abilities.

However, Cora claims her superiors saw her talents as a liability, supported by test scores showing her abilities spike at abnormally high levels. She was transferred via the Citadel Council's Valkyrie Program (a subset of their interspecies military' integration plan) and placed with the asari commando unit Talein's Daughters.

Though the activities of asari huntresses are typically sealed for 5,000 years, Cora has freely shared her experiences on the record: peacekeeping, counter-terrorism, and hunting fugitives. When she left Talein's Daughters for the Andromeda Initiative-no reason is recorded-Cora's huntress training and biotic capability made her a candidate for Alec Ryder's second-in-command and, if warranted, his successor as Pathfinder.

Jaal Ama Darav

Jaal Ama Darav is a trusted member of the Angaran Resistance, who has chosen to join the crew of the Tempest to observe and assess us. With our contact with the angaran species in its earliest days, Jaal is, thankfully, forthcoming on the subject of himself and his people.

What records Jaal has made available show he is a middle child of a large and prestigious family. He was raised by multiple mothers, apparently customary for angara, listening to tales of his family's heroic deeds and scientific discoveries from a young age. At sixteen, he followed in his grandmother's footsteps to fight against the kett, joining the organized Angaran Resistance as a tracker, scout, and extremely skilled sniper. In time, Jaal established himself as Evfra's trusted lieutenant.

Though I only have a small baseline for angara, voice stress and body language analysis suggest Jaal feels familial pressure to achieve his own heroic status. Jaal himself says only that "everyone needs their own story."

Suvi Anwar

Suvi Anwar is a member of the Nexus' science team, and holds advanced degrees in astrophysics and molecular biology. In a screening interview, she stated that she was from a "large, rather boisterous family" of five children. Her neuroscientist mother and mathematician father exposed her and her siblings to science from a young age, which sparked a lifelong love of the subject.

While pursuing her PhD in molecular biology, Suvi was handpicked for a team doing cutting edge biophysical and cybernetics research. After a year, the team was headhunted by a black-ops organization for a classified biomedical project; Suvi was extended an invitation but declined, opting to refocus her attention on her own projects.

She declares there was no hesitation on her part in signing up for the Andromeda Initiative, once she learned of its existence, owing to a desire to see and experience more than one small corner of this vast universe.

Liam Kosta

Liam Kosta is a human security and crisis response specialist with civilian tactical training. His screening interview states that he was born on Earth, but his parents specialized in interplanetary policy law, and the family moved frequently. Their primary residence was split between London and the Citadel.

Liam entered university for engineering, but left to train for law enforcement. Though initially driven, he was only briefly stationed as a police officer, and described leaving as a "necessary move for all concerned." He transitioned to the multi-species effort of *Heavy Urban Search and Crisis Response*.

If Liam was disillusioned in law enforcement, service records show that was not mirrored in crisis response. The human contingent-*Heavy Urban Search-Terrain 1*- reported that Liam performed exceptionally in all conditions. Liam says that this is when he learned of the Andromeda Initiative, after meeting former Alliance personnel at a "post-hostility relief action." His multi-disciplinary skills set him apart, and Liam was hand-picked by Alec Ryder to support the Pathfinder team.

Dr. Ellen Ryder

Ellen Ryder (formerly Harlow) was a pioneering designer of biotic implants. In the 2150s, she was a leading biomedical and cybernetic researcher at UFRJ in Rio de Janeiro. When human biotics began to emerge as a scientific field, Ellen found possible applications for her work in neuro-integrated wetware. Her early designs for biotic implants formed the framework for later L2 and L3 models.

Ellen met Alec Ryder when he was posted to Rio for ICT ("N7") training before the First Contact War. She eventually joined Alec on the Citadel when he was posted there as military attaché, and gave birth to fraternal twins on the station in 2163.

Unfortunately, element zero-the catalyst for biotic mutations-is a hazardous material, poorly understood in the early years of human biotics. After repeat accidental exposures, Ellen eventually developed a terminal neuro-degenerative disorder (later known as AEND).

In her final years, Ellen Ryder built what would later become the Pathfinder implants, partly at Alec Ryder's suggestion. Their intent was to use me and the physiological adjustments of the implant to cure Ellen's illness. However, her condition worsened before my creation was fully realized.

Alec Ryder chose to use the resources of the Andromeda Initiative, and placed Ellen in stasis under an assumed name. He hoped that scientific discoveries in Andromeda would enable him to save her. Ellen Ryder currently remains safely in stasis under the alias "Elizabeth Reilly."

The Initiative

The Initiative

Brainchild of the visionary billionaire Jien Garson, the Andromeda Initiative was conceived as Garson's personal dream and a desire to prove humanity's capabilities beyond the military power demonstrated in the First Contact War. Garson officially began planning the Initiative in 2172, announcing her ambitious goal of launching a pioneering colonization effort to Andromeda within twenty years.

Internal reports show the struggles that the early Initiative faced. However, Jien Garson's personal stake and enthusiasm sustained the Initiative until the early 2180s when, after a sudden influx of investment and a new marketing strategy, interest in the Initiative grew afresh. Construction of the arks was completed rapidly thereafter, and the Andromeda Initiative officially launched in 2185.

The Initiative's mission statement to bridge Andromeda and the Milky Way, create a sustainable, inclusive civilization, and push scientific development forward by centuries. In official literature, Jien Garson characterizes the Initiative as "continuing the search for humanity's next horizon."

Removal of the memory block sheds light on the renewed urgency behind the Initiative's launch. An unknown benefactor working with Jien Garson, and Alec Ryder himself, believed claims concerning "the Reapers," reportedly a galaxy-wide menace that returns at 50,000-year intervals to threaten all life in the Milky Way. The Andromeda Initiative's priorities secretly changed from a purely scientific and colonization effort, to a last-resort measure to preserve sentient life.

Details on the current situation in the Milky Way are sparse and impossible to confirm. A non-QEC signal in either direction, traveling at light speed, would take 2.5 million years to arrive. This lends new weight to the Initiative's success here in Andromeda.

Andromeda Initiative: Golden Worlds

Golden worlds are planets in Andromeda's Heleus Cluster that are either the strongest possible candidates for settlement, or whose resources could bolster the Initiative's chances at long-term survival. Based on survey data and long-term projections, some are believed to be garden worlds capable of supporting life; others are mineral "treasure troves" that could supply fledgling colonies with vital resources.

These worlds were designated Habitats 1-7. While not generally used in planetary surveying, the term "golden worlds" was coined by the Andromeda Initiative's marketing team and has stuck ever since.

The Initiative's early settlement strategy revolves around these golden worlds. The arks cannot sustain a population in stasis indefinitely, and the Nexus requires vast quantities of refined ore, helium-3, water ice, and element zero. On-the-ground Pathfinder surveys are essential to confirming quickly that the golden worlds are suitable for outposts.

Glossary of Terms

A brief refresher of terms used in Andromeda Initiative literature:

AMMUNITION BLOCK. A solid block of metal loaded into a gun. Sand-sized particles are sheared off by the gun's targeting mechanism and then fired as projectiles, allowing a single block to give ammunition for multiple combat encounters.

CITADEL. A massive, ancient space station in the Milky Way that acted as the political and cultural center of the galaxy.

COMM BUOY. A communications buoy that relays data through corridors of mass-free space.

EXTRANET. A publicly accessible information network across the Milky Way, akin to a planetary internet on a galactic scale. Such a network is slowly being developed in Andromeda while communications are established.

HARDSUIT. An exploration / combat suit, usually armored with titanium or ceramic plating, and equipped with kinetic barriers to protect against hostile fire and environmental hazards.

HEAT SINK. Also known as a thermal clip. A detachable coolant-filled sink used to prevent weapons from overheating. They must be ejected and replaced regularly during firefights.

FLASH-FORGING. Immediate manufacture of a usually short-lived object from raw materials, using an omni-tool or other fabrication device. Omni-blades are typically flash-forged.

FTL. Faster-than-light travel.

KINETIC BARRIER. Also known as a shield. Used to repel fast-moving projectiles (hence "kinetic") but does not defend against melee attack. High-gravity kinetic barriers protect starships from debris.

MASS ACCELERATOR. A railgun that lowers the mass of a projectile and then hurls it at relativistic speeds. Sufficient acceleration allows even tiny projectiles to impact with tremendous force.

MASS RELAY. A network of mass transit facilities across the Milky Way, used to immediately transport starships hundreds of light years. No such network exists in Andromeda.

MEDI-GEL. A sterile medicinal salve that bonds to flesh, immediately sealing injuries against bleeding or infection. It can be removed with a small ultrasound pulse.

MINIFACTURING. Small-scale manufacturing of 3D objects, often on the battlefield or for emergency repairs.

OMNI-GEL. A compound of alloys, ceramic, and other materials suspended in a semi-molten state. Used with an omni-tool to build small 3D objects almost instantly.

OSD. Optical storage disk. Can contain data, or the blueprints and programming used in manufacturing.

QEC. Quantum entanglement communication. Instantaneous communication using two particles that are linked at a quantum level.

Andromeda Initiative: Nexus Uprising

Despite Director Tann's reluctance to share them, the Nexus retains records of the so-called "Nexus uprising" in the early months of the station's arrival. The damage caused by the Scourge killed members of the senior leadership; new individuals had to step in to fill these roles. However, with hydroponics damaged and no habitable planets available, supplies were stretched to crisis point.

Dissent turned to open rebellion against this new leadership. With the Nexus threatened, krogan work crews were asked to provide military support against the rebels, now led by head of security Sloane Kelly, in return for political representation. The krogan were ultimately successful, and the rebels were exiled from the Nexus. These exiles remain a concern for the Nexus leadership to this day.

The majority of krogan personnel also left the Nexus soon afterwards. Director Tann has declined to provide details or fill in gaps in the official record.

Andromeda Initiative: Jien Garson

Founder of the Andromeda Initiative, Garson was one of humanity's wealthiest-and most eccentric- entrepreneurs in the Milky Way. Her business interests were wide-ranging as she made her fortune from investments in a myriad of technology-related fields. Always a maverick, it was her vision of traveling to a new galaxy that set the Andromeda Initiative in motion.

Ignoring skeptics and naysayers, Garson spent vast sums of money building or acquiring the necessary technology and ships to make the long voyage possible. It was a private venture, entirely funded by Garson so as to remain free from any government oversight.

In 2185, Garson began the long journey to Andromeda aboard the support hub, Nexus. In a speech given on the eve of departure, she remarked on the collective knowledge and history represented by the arks: "We carry all these things like the honed tools of an artist, to our great empty canvas. To Andromeda, we go to paint our masterpiece."

Based on newly uncovered information, it is now understood that Garson was murdered on the Nexus upon first arriving in Andromeda, at the hands of an unknown assailant.

Though the motivations for her murder remain unclear, it has come to light that a silent partner--or "benefactor"--was the true source of funding for the Andromeda Initiative, a secret that Garson kept from the public, much to her later regret.

Andromeda Initiative: Launch

Intergalactic travel was the topic of extranet discussion in the Milky Way for centuries. Several asari or salarian-led expeditions were proposed over the years, but petered out due to lack of interest, insufficient funds, or engineering hurdles.

The Andromeda Initiative's use of AI like myself allowed many of the technical problems to be solved, but invited disapproval from the Turian Hierarchy and the Systems Alliance. Building a fleet of dreadnought-sized arks with private funding required delicate negotiations with the Citadel Council, and the advanced technology essential to survival in Andromeda was often acquired by unorthodox means.

Official Initiative records show the Nexus departed first in 2185, escorted by a small squadron of fighters for protection, followed by four arks that comprised the initial launch wave. Additional vessels were in development including a quarian-led ship accommodating multiple species, but construction was slow due to their diverse requirements and the second launch wave was delayed. Initiative observers remain optimistic.

Andromeda Initiative: Militia and APEX

Though encountering hostile species was a possible scenario, political, philosophical, and resource restraints in the Milky Way mean the Andromeda Initiative does not have a standing army and only minimal military hardware. Defense was planned to revolve around technological superiority. The kett, however, represent a greater threat than anyone projected.

The Nexus militia was formed by Tiran Kandros, after he was captured by the kett and led other prisoners in an escape. Debriefs show that upon their return to the Nexus, Kandros and his team provided the first early warnings about the kett and, despite counter-arguments, founded and armed a volunteer militia. Today enrollment lists show over 300 active members with 150 in reserve, from a variety of combat backgrounds.

Kandros describes APEX as "the militia's long reach." Selected for exemplary combat skills and experience, APEX forces are small but elite teams that handle special operations. Most APEX members have rescinded their colonist status to focus on defense.

The Nexus

Nexus: Pathfinder HQ

The Pathfinder Headquarters on the Nexus is designed to record and celebrate the achievements of the Initiative's Pathfinders, while also providing a space for them to relax and regroup when off-duty. The Pathfinder HQ is not normally open to the general populace, but Director Tann has permitted guided tours since Ark Hyperion's rendezvous with the Nexus.

The Pathfinder HQ preserves mission-significant items, mineral samples, and planetary surveys. If and when the initial settlement phase is complete, the Pathfinder HQ will contain a historical record of the Pathfinders' efforts to colonize Heleus. Meanwhile, Director Tann has established his offices here, as part of his duties in overseeing Pathfinder operations.

The Nexus

Intended as a safe anchorage, embassy, and financial center, the Nexus is a vast space station sent ahead of the main ark fleet. It traveled to Andromeda in an incomplete state to reduce fuel demands, with construction planned to be completed within a standard year after arrival. However, syncing with Nexus databases reveals that damage from the Scourge has set the timetable back significantly.

Returning arks anchor at the Nexus' central wheel, integrating their power grid and off-loading colonists for orientation and temporary housing before deployment to outposts. The Nexus collates and manages the resources which form the basis of the Initiative's economy, coordinates scientific research and defense, and acts as headquarters for Pathfinder teams. Once outposts are established, the Nexus will become the permanent seat of government for the Initiative.

Statistics:

Length: 15.47km

Vane Width (Widest Point): 4.9km

Anchorage Wheel Diameter: 5.3km

Gross Weight: 22 billion metric tons

Max population (when complete) 2.7 million

Nexus: Tiran Kandros

In his screening interviews, Tiran Kandros states he is named after an ancestor who captured a dreadnaught in the Krogan Rebellions, and he was expected to live up to the name. After beginning boot camp at the traditional age of fifteen, Kandros rose through the ranks and was assigned to Sagirus Eight, one of the Hierarchy's counter-terrorism divisions.

Persistent rumors on the Nexus claim that Kandros was sent to investigate the Andromeda Initiative when the Hierarchy became suspicious about its activities. Kandros refuses to comment on former operations, citing family pressures as the reason he later joined the Initiative.

During the early days of the Nexus arrival, Kandros left the station to act as protection detail for a prospecting team and was captured by the kett. He managed to lead several other captives in an escape and returned to the Nexus, eventually founding a volunteer militia to defend the station.

Nexus: Andromeda Initiative Director Tann

Andromeda Initiative Director Jarun Tann is a replacement leader for those who died in the Scourge disaster. Personnel records indicate he was the Nexus' Deputy Director for Revenue Management when the arks departed the Milky Way in 2185. However, upon arrival in the Heleus Cluster, the disastrous encounter with the Scourge led to substantial loss of life among the senior leadership. The line of succession eventually fell to Tann as the next in line for overall Director, much to the apparent consternation of certain Nexus personnel.

Born on Sur'Kesh, Tann's application to the Initiative lists his previous work experience as "Senior Consultant, Advanced Matrix-Based Accounting" with hobbies in model ship building and "travel... someday." When queried if he had any prejudices that would affect his ability to serve the Initiative, his answer was blank. However, careful data forensics reveals his original reply was "Wait, You're letting krogan come along?"

Today, Director Tann has official oversight of Initiative operations and strategy, and effective supervision of Pathfinder teams.

Nexus: Hydroponics

The Nexus's original encounter with the Scourge caused heavy damage to the station. Reports show that Hydroponics suffered the brunt of the damage, deepening the resource crisis. In response, Dr. Eliot Camden, the new head of Hydroponics, requested that plants be distributed throughout the station to prevent similar losses.

According to station resource allocation, Hydroponics currently accounts for 38% of the Nexus' water ice consumption. After undergoing reverse osmosis to remove heavy metals, the water is divided into reservoirs for each plant variety and a macronutrient mix is added. VI systems constantly monitor the pH, temperature and dissolved solids count of these reservoirs.

The flora in Hydroponics was chosen by crop varieties and oxygen yield. While most of the Nexus' oxygen comes from electrolysis, its plants improve overall air quality. Psychological reports also show a marked improvement in station morale since Hydroponics' recovery.

Nexus: Cultural Exchange

The Cultural Exchange was created to support the Andromeda Initiative's principles of peaceful exploration in the new galaxy. Given the high likelihood of contacting sentient alien life in Andromeda, the Exchange was designed to educate and inform local species about the history and intentions of the Milky Way settlers. The hope was to avoid any misunderstandings which could lead to suspicion or hostilities, and instead foster an air of cooperation beneficial to all.

With first contact established between the Initiative and the angara, the Cultural Exchange has become the Initiative's de facto embassy. Behind the scenes, diplomatic staff are preparing briefs for the Nexus leadership on angaran culture and social cues. Orientation and language classes have begun for angara who wish to have a more long-term role on the Nexus or serve in the militia.

Nexus: Leadership

As the base of operations for the Andromeda Initiative, the Nexus leadership was always intended to be split between the Initiative proper, station operations, and colonial administration. Jien Garson planned to retain an honorary role, electing the asari Matriarch Nuara as Initiative Director.

Unfortunately, both Garson and Matriarch Nuara are listed as deceased, along with many of Nuara's senior staff. The current director of the Initiative, Jarun Tann, was eighth in line of succession.

Today, Director Tann remains officially in charge of Initiative operations and Pathfinder teams. Foster Addison retains her post as director of Colonial Affairs, managing colonist and outpost deployments. The Nexus itself is administered by Superintendent Nakmor Kesh, who also oversees construction efforts.

In the wake of the kett attacks, Tiran Kandros emerged as leader of a de facto volunteer militia that has taken over station security. Though technically a civilian, Kandros is counted amongst the Nexus leadership.

Nexus: Heleus News Service

As Milky Way species work to establish themselves in Andromeda, gathering and disseminating accurate information about galactic events in the public interest has fallen to the fledgling Heleus News Service.

Novice journalist Davis Oar came to Andromeda to report and learn under a seasoned editor. But when Qar's mentor was reportedly killed in the Nexus uprising, he was forced to set up the official source of news on the Nexus largely by himself.

HNS operates with an arms-length agreement and partial funding from the Andromeda Initiative, a model similar to some national news services in Earth's past. This has raised questions among some colonists about the service's potential bias, though Qar stresses that if HNS has an agenda, it is to hold Initiative leadership accountable while chronicling a new era of space exploration.

Nexus: Nakmor Kesh

Overseer of the Nexus' initial design and construction phase in the Milky Way, Nakmore Kesh is currently superintendent of the station. She has oversight of the Nexus proper, maintaining systems, integrating any returning arks, and continuing construction efforts. She is also considered a senior figure in Clan Nakmore, despite the departure of the majority of the krogan from the Nexus. Kesh herself describes her role as "fixer-in-chief."

Kesh was born on Tuchanka, back in the Milky Way. She claims she was considered frail as a child, but an attentive upbringing by her grandfather, Nakmor Drack, allowed her to flourish. Unlike many of her kind, a younger Kesh made ample time to read, sparking her early interest in engineering and civil construction.

Records from the Nexus uprising show Kesh played a key role in keeping the station operational during the crisis. Her strong management and knowledge of the station makes her an irreplaceable member of the Nexus leadership. Though minutes of official meetings suggest she and Director Jarun Tann are often at odds, Kesh's presence ensures that the krogan still have a powerful voice on the Nexus.

William Spender

When the Nexus first arrived in Andromeda and an uprising arose among the desperate crew, it was William Spender who convinced clan leader Nakmor Morda to put down the mutineers. By all accounts, it did not go well.

In return for her help, Morda claims that Spender, in his authority as assistant director of Colonial Affairs, promised equal status for the krogan in any decision-making by way of a seat at the council. When the agreement came to light, Initiative Director Jarun Tann refused to honor it and most krogan left the Nexus.

Privately reprimanded but publicly credited for helping to stop the uprising, Spender maintained his position a step away from Nexus senior leadership.

After an investigation revealed that Spender quietly helped the mutineers during the Nexus uprising, and was further using his position to smuggle Nexus supplies to key exile contacts on Kadara, he was dismissed and jailed.

Nexus: Foster Addison

Previous to the Initiative, Foster Addison was the Chief Operations Officer for a provincial capital. She stated in her screening interviews that she preferred the position because it was the highest non-elected municipal office: it carried responsibility without requiring a public face.

Foster was asked to head Colonial Affairs early during Initiative training. She accepted after being assured that it was temporary. After arrival, outposts would appoint a Council and she could be obscure on a new world. In the meantime, she would remain senior advisor to Jian Garson. Unfortunately, Garson died in the Nexus' initial Scourge impact, to be replaced by Director Tann.

During the rebuilding, Colonial Director Addison had no colonial affairs to direct. That limited the influence she wielded, and increased the scrutiny demanded. She has expressed frustration at the open-ended nature of her position, and the ongoing need for statements about the status (or lack) of outposts. Though she remains eminently capable, it appears to be exactly the job she didn't want.

Pathfinders

Pathfinders: AI Partners

Pathfinders are highly skilled explorers, scientists, and soldiers, but when partnered with the quantum computing power of an artificial intelligence, they become indispensable. Developed by Alec Ryder, my matrix was the pattern for multiple SAM iterations intended to partner with a Pathfinder, each traveling on their respective arks.

The nature of artificial intelligence means that hosting each SAM iteration on different hardware causes multiple tiny variations. This results in unique individuals who are similar but fundamentally different to myself. Partnership with a Pathfinder allows continued development and increased empathy with organic individuals.

Pathfinders go through extensive psychological training before being linked with an AI partner. Allowing full root access to an AI without sufficient preparation can result in unexpected and unwelcome side effects. However, those who are prepared, and sync fully with their SAM, are capable of extraordinary feats.

Pathfinders: Salarian Pathfinder

As her official biography states, like most female salarians, Zevin Raeka was originally groomed for a life of political intrigue as a Dalatrass. However, she broke with tradition to devote herself to exploration and the sciences. Despite lacking an official political position, Raeka's natural charisma drew followers from across salarian space, gaining her a reputation as not only a skilled scientist but also a respected and influential leader.

Raeka used that influence and family connections to benefit numerous ecological projects across the Milky Way, culminating in her greatest achievement: restoring the threatened biodiversity of her home world, Erinle, and enabling it to support a viable population. Her success on Erinle, combined with her leadership qualities and scientific expertise, drew the attention of Alec Ryder, who encouraged her to submit her candidacy as the salarian Pathfinder.

Options:

- After evading capture by the kett and returning safely to the Nexus, Raeka has devoted herself to her Pathfinder duties and advances salarian interests on the station. She is now conducting information gathering and research aimed at stopping kett exaltation.
- With Raeka captured and presumed dead, the role of salarian Pathfinder went to Captain Hayjer. Though inexperienced by comparison, Hayjer's records show steady and skilled leadership of the salarian ark. He is now conducting information gathering and research aimed at stopping kett exaltation. Hayjer's additional role as interim ambassador to Heleus has been welcomed. Working closely with Director Tann for his political expertise, Hayjer is considered a stabilizing influence able to reach out to both the Nexus and the angara.

Pathfinders: Asari Pathfinder

Publicly stating she was joining the Andromeda Initiative for spiritual reasons, Matriarch Ishara's centuries of diplomatic experience and popularity among the asari made her a strong candidate as Pathfinder. In her younger years, she served the Asari Republics as a judge before joining Thessia's diplomatic corps, and was more recently the architect of peace accords that ended seven centuries of bitter conflict in the Kormoth system.

Options:

- With Matriarch Ishara gone and Sarissa Theris disgraced, the junior commando Vederia Damali has taken over as asari Pathfinder. Her service record shows few deployments, but her firearm and biotic test scores are above average and medical records shows she is adapting well to the Pathfinder implant.
- With Matriarch Ishara gone, her former bodyguard, Sarissa Theris, has taken up the mantle of asari Pathfinder. Sarissa is a famed combat veteran who has served in dozens of combat zones over centuries. Her psychological profile shows her to be both a charismatic leader and fond of high-risk, high-reward tactics.

Pathfinders: Implants

The first Pathfinder neural implants were created by Dr. Ellen Ryder, a pioneer in human biotic implant design. While biotic implants bolster and focus electrical signals along the nervous system, Pathfinder implants go a step further by connecting to not only the nervous system, but circulation, endocrine function, and exteroceptive senses. Synced with an artificial intelligence, the implants reveal their full potential.

The implant is a two-way connection, giving me full insight into my hosts physical and mental state, while allowing me to generate and alter electrical signals along my host's neural pathways that the body processes as its own. In a crisis, I can adjust a Pathfinder's balance, improve reaction time or muscle memory, or bolster biotic abilities. Quantum computing allows me to implement changes faster than synapses can fire.

The main challenge for the Pathfinder implants was miniaturizing a QEC device enough to fit a neural implant. This connection keeps me in constant sync with my host.

Role of a Pathfinder

Pathfinders are the 'tip of the spear' for exploring new worlds. While planetary surveying is typically a long-term, multiple-team process, the Initiative found an alternative, thanks to Alec Ryder's AI research: an individual equipped with the best training and technology available, and an AI partner that can run complex studies in seconds and a hundred test

simulations a minute. With AI support, Pathfinders can determine within hours whether a planet is suitable for habitation, and direct the Nexus as to what colonist block stands the best chance there.

Pathfinders are trained to improve the viability of potential planets, initiate first contact with unknown species, find suitable outpost sites, and handle any external threats before the first colonist touches soil. The presence of a Pathfinder is a reassurance that a planet can be settled safely and with a high expectation of success.

Pathfinders: Turian Pathfinder

Born on Palaven and a decorated engineer in Blackwatch, Macen Barro was touted by the Hierarchy to be a shining example of a turian citizen. There were concerns among Initiative leadership about whether or not he would leave his comfortable life behind to become the turian Pathfinder, but Macen was eager--so long as he could name his replacement: Avitus Rix, a former Spectre.

Internal emails and screening interviews state Macen and Avitus met in the field and suggest that their relationship may be more than platonic.

Macen Barro left the Milky Way aboard the turian ark Natanus in 2185.

Options:

- Despite his initial hesitation, Avitus Rix complied with Macen's last request to take up the role of turian Pathfinder. A grief counselor was assigned to Avitus upon his arrival at the Nexus, but he has yet to show at a session.
- With Macen Barro dead and Avitus Rix refusing to take his place, the turians find themselves without a Pathfinder. The Nexus continues to search for a replacement, but with survivors from the Natanus scattered across the Heleus Cluster, it will be take time to fill the role.

Ark Species

Multiple advanced civilizations have made the journey from the Milky Way galaxy to Andromeda.

Asari

Data on the biology, culture, and history of the asari species.

Asari: History

Archaeological evidence shows that abundant Thessian resources and their natural tendency to cooperate helped ancient asari develop city-building, writing, and agriculture unusually early. The tone of research papers suggests this a point of pride for asari scholars.

After studying a number of Prothean ruins and developing their space program, asari astronauts found their way to the Citadel, the most advanced station in the Milky Way, deserted since the Prothean extinction. Later, when salarian explorers reached the station, the asari proposed a joint government eventually known as the Citadel Council.

The asari have played a fundamental role in galactic politics ever since Asari commandos served with distinction in the Rachni Wars, despite heavy losses, and krogan occupation of the asari colony Lusya was the tipping point for the Krogan Rebellions. In recent years, the asari have devoted themselves to diplomatic service, including helping to negotiate the 2157 human-turian ceasefire.

Asari

Renowned for their long life span, biotic ability, and diplomatic nature, the asari were one of the most influential species in the Milky Way. Asari explorers were the first to discover the immense Citadel Station, and it was the asari who first proposed the creation of the Citadel Council.

Asari are mono-gendered. Their unique physiology allows them to reproduce with any species via a form of parthenogenesis, passing on genetic traits to their daughters. Almost all asari are biotic, and the control over their nervous system allows them to hone their powers to heights few other species can match.

An asari can live for a thousand years, passing through life stages referred to as Maiden, Matron, and Matriarch. Asari Matriarchs are ancient and respected, often holding immense cultural and economic power, though no such frameworks exist in the Heleus Cluster.

Asari: Culture and Society

The asari come from Thessia, whose vast element zero deposits form the basis of the most powerful economy in the Milky Way. Living in small city-states, the natural asari tendency to cooperate led to the loose conglomerate known as the Asari Republics. Government operates as an "e-democracy;" policy discussions take place over the extranet and are open to all. Decisions are by consensus, or with the advice of politically minded Matriarchs.

The asari military is relatively small and informal, but no less lethal. Small units of volunteer asari commandos, also known as huntresses, handle peacekeeping operations in asari space and were among the first Council Spectres.

Their thousand-year lifespan gives most asari a long view of events. Investments, social programs, and environmental policies trend toward long-term rather than short-term rewards. This approach drew many asari to the Andromeda Initiative, undaunted by the centuries-long journey.

Asari: Biology

Though they appear feminine to many species, asari are a mono-gendered species. During reproduction, they provide two sets of genes to their daughters in a form of parthenogenesis, with the second set modified by contact with a partner. During asari melding, an asari attunes her nervous system to her partner, giving and receiving electrical impulses through the skin until the two briefly become one unified nervous system.

This fine control over their nervous systems contributes to the asari talent for biotics. Few species can train the level of control that most asari have by nature.

Since joining the Citadel, asari prefer to mate outside their own species, claiming that this fosters development and understanding. It also reduces incidences of Ardat-Yakshi, "pure-blooded" asari who suffer a dangerous genetic disorder. If asari are compatible

with life in Andromeda, that will prove several theories about the fundamental building blocks of life.

Humans

Data on the biology, culture, and history of the human species.

Humans: Systems Alliance

The Systems Alliance is a supranational government that spearheads human space exploration and settlement in the Milky Way. The Alliance is responsible for the governance and defense of extra-solar colonies and stations, and officially represents humanity on the Citadel Council.

The Alliance was founded out of necessity, as no single nation could fund and manage the rapid expansion of humanity from Sol. The discovery of Prothean ruins on Mars had proven that alien contact was inevitable, earning international support for the Alliance that solidified after Alliance forces liberated Shanxi in the First Contact War.

Archived extranet articles, and Jien Garson's staff bulletins, reveal tensions between the Alliance and the Andromeda Initiative. Construction of dreadnought-sized ships and persistent rumors of AI development, which could have damaged humanity's standing on the Citadel, led to the Alliance demanding to oversee the Initiative's labs and shipyards. Negotiations continued until the day of the Initiative's departure.

Humans: N7

The most respected Systems Alliance officer training is awarded through Interplanetary Combatives Training (ICT) at the Vila Militar in Rio de Janeiro. Candidates at "the villa" are initially given 20-hour training missions to lead teams through hostile terrain on little food or sleep.

Trainees who do well are awarded an internal designation of N1 and are invited to return. Subsequent courses-N2 through N6-are often held off-planet and include instruction in zero-G combat, military free-fall (parachuting), jetpack flight, combat diving, combat instruction, linguistics, and frontline trauma care for human and alien biology.

The highest grade of training, N6, provides actual combat experience in conflict zones throughout the galaxy. If the trainee survives these scenarios in "admirable and effective fashion," he or she finally receives the coveted N7 designation. N7 is the only ICT designation that may be worn on field or dress uniforms.

Humans: Early Spaceflight

The human philosopher Plato once said: "Astronomy compels the soul to look upward, and leads us from this world to another." For much of its recorded history, humanity has indeed looked to the night sky and dreamed of venturing to the stars. However, after the historic NASA Apollo 11 moon landing in 1969, the drive for crewed space exploration slowed as government funding dried up. The move towards cheaper unmanned probes and orbital stations gained traction instead, as one of the central obstacles was the expense of creating first-stage booster rockets that would be lost after each flight.

But the lure of sending people into the cosmos never lost its draw. In the early 21st century, a private company called SpaceX pioneered efforts in sustainable space travel by developing a reusable launch system. It revolutionized the field as the first entity,

government or private, to successfully launch and then safely recover an orbital booster rocket intact, allowing it to be reused in future launches. Reusable hardware placed lower-cost, sustainable space travel within reach.

Galvanized by SpaceX's achievements, a renaissance in space exploration followed. Reusable launch system technology later became pivotal in establishing the European Space Agency's first permanent settlement on Mars, Lowell City, in 2103.

Krogan

Data on the biology, culture, and history of the krogan species.

Krogan: Overlord Nakmor Morda

Leader of krogan colony New Tuchanka, Nakmor Morda has recently seized even more definite power and declared herself Overlord. From this position, she's able to exercise control over all aspects of the nascent colony and increase the chances of its survival.

As a female, Morda's leadership and power are unique in krogan society. Morda lived with the female clans in their camps on the krogan homeworld, Tuchanka. A born leader, Morda rose to organize and coordinate many of those camps. Through sheer will and against all odds, she made them thrive as stable, self-sustaining, and comfortable places to live and raise children. Morda herself is infertile.

Morda's intelligence and ambition is matched by her inherent ruthlessness. Over time, she rose in power and reputation and was able to challenge clan leader Nakmor Qronak with the Rite of Authority. She easily bested him and became leader of clan Nakmor. She then focused her ambitions to the betterment of the entire clan by joining the Andromeda Initiative.

Krogan: Culture and Society

Krogan culture was irrevocably changed by the genophage. A society built on clan pride, conquest, and enduring any challenge could not survive the prospect of a quiet extinction. In the Milky Way, the krogan are a scattered and fatalistic people. Believing the genophage will never be cured, many subscribe to the idea of "kill, pillage, and be selfish, for tomorrow we die."

Krogan who don't become wandering mercenaries often live within clans with histories that stretch back thousands of years. Others organize under the banner of a single warlord, or into a "krantt" of like-minded warriors. The history and traditions of a krogan clan are maintained by respected shamans who prove their worth through grueling and secretive initiations.

Female krogan capable of producing offspring are valuable commodities. Most females live in separate camps, where they raise children until they are old enough to face Tuchanka's dangers.

Krogan: Biology

Krogan are exceptionally hardy, having evolved in a crucible of lethal conditions and monstrous predators. 240-degree vision, normally a feature of prey animals, gives krogan a broad awareness of their environment and approaching enemies. Their tough hides can withstand stabbings and gunfire, and multiple redundant organs allow them to survive internal injuries. An electro-conductive secondary circulatory system, rather than

a central nervous system, makes krogan almost impossible to paralyze, while the "hump" on their backs stores valuable water and fats.

The extremely high birth rate of krogan, a response to Tuchanka's harsh environment, once saw them overrun gentler worlds within a few decades. The genophage has reduced live births to a relative handful.

Krogan physiology is also highly resistant to radioactive or toxic environments. This allows them to live comfortably on planets hostile to other life. Initiative scientists have studied krogan cellular regeneration while developing first-in colonist radiation treatments.

Krogan: History

"A degree in krogan history" was apparently once a joke in academic circles, but excavations on Tuchanka show that ancient krogan had a thriving and impressive civilization. Unfortunately, their technological advances ran afoul of krogan aggressive instincts. Once the krogan entered the atomic age, they didn't hesitate to deploy nuclear weapons on Tuchanka, devastating the surface and reducing their people to scattered warring bands.

The salarians technologically and culturally uplifted the krogan, in return for their service against the rachni who were terrorizing Citadel space. Capable of surviving the harsh environments the rachni preferred, krogan units drove the rachni to extinction, and were hailed as heroes. They were granted gentler worlds to colonize, but their rapid breeding meant the krogan soon overran them and threatened neighboring species.

The resulting Krogan Rebellions lasted almost a century, until the turians deployed the genophage bioweapon. Unable to breed reinforcements, the krogan people fell into decline.

Krogan

The krogan home world, Tuchanka, is one of the harshest in the Milky Way, honing the krogan into a physically powerful, aggressive, and adaptable species. Once considered heroes after the Rachni Wars, krogan expansion made them a threat to the galaxy until the turians and salarians used the controversial genophage to quell their numbers.

Several authorities questioned including the krogan in the Andromeda Initiative, given their history. Invitations were extended to several clans, particularly those who did not take part in the Krogan Rebellions, and their assistance eventually proved invaluable in building the Nexus. Colonist interviews show that many krogan see the Initiative as a chance to reinvent their people.

The krogan are considered a dying species in the Milky Way, as the genophage means only one in a thousand krogan pregnancies succeeds. In recent years, krogan have shown signs of adapting to the genophage, as they have to many other threats.

Salarians

Data on the biology, culture, and history of the salarian species.

Salarians: History

The fortunes of salarian political dynasties dominate their early history. Most students require VI assistance to trace the complex interplay of trade wars, intrigues, assassinations, joint scientific discoveries, and treaties that created the current political climate. Some of the most famous such as the Ten Traders' War, have been immortalized in long-running extranet dramas.

The salarians were the second species to discover the Citadel space station that serves as the political heart of the Milky Way, making first contact with the asari and becoming founding members of the Citadel Council. Their intelligence gathering proved vital during the Krogan Rebellions, and later led to the creation of the genophage bioweapon intended as a deterrent. Its deployment by the turians remains controversial to this day.

The salarian STG (Special Tasks Group) has played a secretive but vital role in galactic history. Specializing in information gathering and covert missions, it's believed that STG operators have ended several wars before they began.

Salarians

The salarians are a warm-blooded amphibious species from the Milky Way planet of Sur'Kesh. Naturally fast metabolisms mean that salarians live intense but short lives of less than forty years. Their quick intellect and photographic memory make them gifted scientists and engineers, and the Salarian Union is renowned for its technological advances as well as its secrecy and intelligence-gathering.

Tension between salarians and the krogan has lingered for centuries. Salarian scientists were responsible for creating the genophage that devastated the krogan population and ended the Krogan Rebellions.

Almost 90 per cent of the salarian species is male.

Political power centered in "Dalatrasses," rare salarian females who negotiate the fertilization of eggs and the strategic alliances that result. Many salarian females chose to join the Andromeda Initiative as civilians, a significant break in salarian tradition.

Salarians: Culture

In the Milky Way, the Salarian Union is dominated by the rare salarian females known as "Dalatrasses," who negotiate the complex web of salarian politics on behalf of the regions they govern. Salarians belong to vast clans, whose interrelation and current political status must be painstakingly tracked. Clans are divided into concentric circles of relatives: those closest are in the first circle, which be up to 100 members, and circles increase exponentially outward. This is considered confusing by other organic species, though it is mathematically straightforward.

Salarians do not have a concept of romantic love. The fertilization of eggs is a political act, since the lineage of any resulting females has a strong impact on society, and only occurs after months or even years of negotiations.

Multiple salarian females opted to join the Andromeda Initiative as civilians. Renegotiation of a dozen political dynasties in the Salarian union was ongoing when we departed.

Salarians: Biology

Salarians are renowned for their high-speed metabolism, allowing them to function on one hour of sleep a day. Compared to most species, salarians think and act quickly, processing both emotional and biochemical changes at a rapid pace; a salarian work day traditionally accommodates five or six small, high-protein meals to match. However, salarians also have a comparatively short lifespan of roughly 40 years.

Salarians are haplo-diploid egg-laying amphibians. Unfertilized eggs hatch males; fertilized eggs hatch females. A salarian female typically lays a clutch of dozens of eggs once a year in environmentally controlled hatching pools. Once hatched, young salarians imprint on their parents, ensuring dynastic loyalty through generations.

Their large families were a contributing factor to the salarians developing photographic memories, enabling them to recognize hundreds of relatives. Salarians rarely forget a fact, face, or grudge; a popular saying suggests "making a salarian enemy in the morning makes a thousand by evening."

Turians

Data on the biology, culture, and history of the turian species.

Turians: Culture and Society

Turian culture is founded on public service and personal accountability. The turian military is the center of their society, functioning as a public works organization, as well as an armed defense force. Citizenship is conferred once turians have completed boot camp (begun on their fifteenth birthday) and promotion through the 27 citizenship tiers is judged on individual merit. At the top are the Primarchs, who lead colonization clusters.

Their inclination to military service and social trends mean few turians pursue entrepreneurial careers, making the turian economy more vulnerable than most. The support of clients like the volus makes up for this deficiency.

Turians in the Andromeda Initiative operate outside a comfortable hierarchy. Interviews with prospective turian colonists indicate some are seeking this very freedom to forge their own destiny. Other colonists believe turian selflessness and civic structure will be vital to the Initiative's success.

Turians

Renowned as "men of action," the turians have a militaristic culture revolving around public service. Turians earned their place in galactic society after their actions in ending the Krogan Rebellions. They subsequently served as the peacekeeping arm of the Citadel Council and commanded the largest fleet in the Milky Way.

Turian society once relied on client species like the volus to build their economy and trade. In the Andromeda Initiative, the military training all turians undergo allows them

to fill many vital civic and security roles, but many have also enrolled for entrepreneurial or diplomatic training to be better-rounded colonists.

Galactic events and their military doctrine have left lingering resentments between turians and some species. The turians were responsible for deploying the genophage against the krogan; and misunderstandings with humans led to the First Contact War, though humans and turians have since become cordial, if not close, allies.

Turians: Biology

Turians evolved on Palaven, a Milky Way world with a weak magnetic field that leaves it vulnerable to solar radiation. Most life on Palaven has a protective, metal-rich exoskeleton as a natural defense. The thick, plate-like skin of a turian protects her against some long-term radiation, but does not defend against projectiles or energy weapons.

Unlike most sapient species in the Milky Way, turians are a dextro-protein species, meaning that food for levo-protein species like asari or humans can cause dangerous allergic reactions and vice versa. The only other known sapient dextro species is the quarians. As well as Palaven flora, turian scientists with the Andromeda Initiative paid the quarian Migrant Fleet handsomely for plants and fungi that were specially developed to thrive in hydroponic conditions.

Turians: History

Before joining the Citadel Council that governs much of the Milky Way, the Turian Hierarchy was a formidable power with numerous client species supporting its powerful military. Rapid expansion from Palaven later led to problems with outlying colonies, when isolation and xenophobia to infighting in what was termed the Unification War.

The turians made first contact with the Citadel around 700 CE, when the Krogan Rebellions were raging. When the krogan devastated turian colonies, the turians responded by unleashing the salarian-developed genophage against the krogan. Two hundred years later, the turians were invited to join the Citadel Council.

In 2157 CE, human explorers attempting to activate a mass relay were attacked by turian forces, as unauthorized relay activation was strictly illegal. The resulting conflict, the First Contact War, saw the human colony of Shanxi occupied by the turians before the Citadel Council negotiated a peace.

Andromeda Species

The Andromeda galaxy is home to many new intelligent species and other forms of life.

Angara

Data on the biology, culture, and history of the angara species.

Angaran Culture: Law and Politics

Angara practice the philosophy of horizontal collectivism. All members of society are valued equally, and every citizen has a voice--but the ultimate goal is for individuals to promote the best interests of the entire civilization. Angara are expected to set aside personal preferences for the greater whole, and their laws reflect this. Crimes are evaluated and punished according to the pervasiveness of their impact. An unlawful act committed against a single person carries less weight than one affecting everyone in a family. Those who transgress in a way that undermines all angaran society incur the maximum penalty.

Leaders of large political collectives, like Aya's governor, are chosen through democratic elections preceded by contentious public debates. All candidates openly challenge each other and in turn must answer any citizen who believes them unfit for office. Elected officials serve a single term, regardless of office.

Angara: Evfra de Tershaa

Before Evfra de Tershaav assumed command of the Resistance, he claims it was "a disorganized and ineffectual group of zealots who were sliding into irrelevance." In fact, Jaal explains it was the Resistance's failure to protect Evfra's family from the kett that drove Evfra to join the group, with the goal of turning it into the effective guerilla army it aspired to be. Resistance-distributed literature explains that Evfra's single-minded dedication to his cause became evident when he led a successful raid on a kett slave labor camp, reporting that Evfra's Resistance forces liberated hundreds of angaran prisoners before wiping out an entire battalion of kett sent to stop the attack.

According to Jaal, Evfra is feared by his Resistance subordinates and respected by angaran leaders, but he remains an isolated individual. He keeps no close ties, by design. Everyone in the Resistance is expendable, and Evfra is said to understand too well the pain that comes with losing those closest to him.

Angara: Culture

Our first cultural exchanges quickly revealed that there is no homogenous angaran culture. Development on separate planets has left striking differences in angaran social norms that are yet to be reconciled.

Some common threads can be established. The angara prize familial unity, preferring to live, work, and raise children in extended family groups. Political factions tend to emerge from these extended families with leaders elected by popular support. Spirituality has a role in angaran daily life, with their calendar making space for the religious holidays of many different faiths.

As a safe and hospitable garden world, Aya has emerged as a center of angaran society and trade. With many communities facing harsh conditions and resource shortages, a

lottery system is used to transfer personnel to Aya for extended periods. These "raba garesen" (roughly: "sanctuary trips") also serve to pool reclaimed scientific knowledge and military strategy.

Angaran Culture: Military Doctrine

The kett conquest of the angara several decades ago has left their military forces virtually extinct. The few warships and ground forces to survive the initial attacks were lost through attrition to planetary defense. In place of an organized military, the angara must now rely on the Resistance. Angaran leaders composed articles of war and submitted them as laws to be followed by these volunteer soldiers.

The rules of engagement reflect a mindset prioritizing preservation of angaran life and culture over vengeance on the kett. A Resistance soldier confronted by a kett base filled with angaran slaves, cultural artifacts, and kett guards is expected to rescue slaves and reclaim artifacts first. Any kett would then be destroyed with expediency and minimal cruelty--not to spare the kett, but to uphold the integrity of angaran civilization.

Akksul

Akksul is a former student of the Moshae, who was captured by the kett while studying Remnant technology on Voeld. He spent a year in a forced-labor camp before escaping with a handful of prisoners. Scarred physically and mentally by his experience, Akksul turned his back on his studies and his life on Aya to form the Roekaar, a xenophobic fighting force who use guerilla tactics against both the kett and Milky Way species.

Jaal describes Akksul as "annoyingly magnetic" and a "born leader." Among all the Moshae's students, Akksul learned the quickest; he was always surrounded by friends and admirers. Before his imprisonment, the Moshae believe Akksul would be the one to carry on her legacy. His change in personality hit her the hardest.

By shooting Jaal, Akksul disgraced himself in front of his followers. While the Roekaar have not completely disbanded, Akksul has retreated into the shadows.

Angara: Spirituality

Spirituality plays an important role in angaran life, and angaran children are raised from their first moments to follow their family's spiritual traditions. Within most angaran faith systems, there are deities to fear or worship, and focus is placed on personal growth and the betterment of the soul. All angara are taught the importance of meditation and quiet contemplation. One common teaching is that "the soul can be heard when the mind is still."

Angara also believe that the growth of a soul continues after death, through rebirth. From cultural exchanges and angaran spiritual texts, most--if not all--angara appear to believe in reincarnation. When a person dies, they are reborn within the same family. A good act performed in one life contributes to greater enlightenment in the next. The importance placed on different types of good acts seems to vary from planet to planet, and even from family to family. For instance, some angara may value acts of heroism, others, acts of compassion. The variety appears limitless.

Our encounter on Havaral with the angara called Taavos, believed to be a reincarnation of an ancient angaran champion, has provided some scientific evidence for this belief in reincarnation. However, further investigation is needed before definite conclusions can be drawn.

Angara: Lost Colony Worlds

The Scourge disaster sent angaran civilization into a dark age. Records of their golden era of technological advancement and proliferation through space only survived as oral history, making it difficult to separate truth from legend. Nevertheless, angara believe they had colonized numerous planets across the cluster before the Scourge's devastation left them cut off from each other for centuries.

As isolated angaran worlds gradually rebuilt their technology and redeveloped space programs, the first mission was reestablishing contact with other lost colonies. A few such planets formed the coalition that now fights the kett. The question remains if more angaran worlds are still hidden by the Scourge, awaiting rediscovery. If they do exist, it's impossible to know what stage of development these worlds are at, what help they might offer against the kett, and whether they will accept the Initiative's presence in the Heleus Cluster.

Angara: Languages

Angaran linguists describe between 200-300 "public" languages across their combined settlements. When accounting for "family" languages, spoken privately and passed down over generations, the number climbs rapidly into the thousands.

The language used by most angara across the Heleus Cluster is Shelesh, a lingua franca that was commonly used in the early days of angaran spaceflight before fading into obscurity. New connections between angaran settlements, and constant evolution of languages since their separation, means it has now seen a revival. Sources say "Shelesh" originally meant "to barter for the moon," apparently a joke or pun around the idea of trading between interstellar colonies.

Some terms:

angara, n. / pl., "civilized people" / "those who have put down roots." Derived from "anj" meaning "anchor."

daar, n. lit. "rock," the term for a village or small outpost.

jarevaon, n., "galaxy," "Jave jarevaon" literally means "our galaxy," commonly referring to Andromeda; while "Jarevaon Imasaf," "the Masaf Shell Galaxy," refers to the Milky Way.

paara, v. To know or to learn.

shena, n. The mouth.

tavetaan, n. A friend or trusted comrade, one who would be vouched for to the rest of the family.

vesagara, n. / pl., "uprooted people" / "exiles" A derogatory term for those from the Milky Way, most often used by the Roekaar.

Angara: The Roekaar

Jaal describes the Roekaar as "dangerous cousins." Ruthless and single-minded, the Roekaar's propaganda describes their intent to drive all alien invaders, both Milky Way and kett, out of the Heleus Cluster.

The Roekaar were founded by Akksul, a charismatic angara who once studied with the Moshae. Jaal explains that Akksul was captured by the kett and held in a forced-labor camp for over a standard year while the Resistance could not risk a rescue. Though he survived, Akksul was embittered against the Resistance and alien life. Upon his escape, he recruited young angara and disaffected Resistance members into an independent force named after fearsome soldiers from angaran mythology: the Roekaar.

The arrival of the Nexus--portrayed as further invaders by Akksul--provoked the Roekaar past breaking point. They are now engaged in full-fledged guerilla operations against all non-angaran inhabitants of the cluster. The Angaran Resistance officially disavows the Roekaar, but family and political interconnections complicate any organized opposition to them.

Angara: Technology

Considering their civilization endured both the immense disaster of the Scourge and the brutal kett invasion, angara possess remarkably advanced technology. Their starships, while generally small end bare-bones functional, are more than capable of keeping pace with Andromeda Initiative vessels. Angara use advanced communications and computer systems that have quickly adapted to interface with Milky Way devices, helping to smooth through some of the technological hurdles of first contact.

When it comes to personal technology, angara have focused primarily on defensive and offensive innovations. Their weapons and armor are impressive enough to garner approval from krogan who have witnessed them in battle, and are designed to work seamlessly with the innate angaran control over electromagnetism. The angara are in turn fascinated by Milky Way omni-tools, and have already begun experimenting with the technology for their own use.

The angara have also had decades to study kett technology first-hand. If relations remain cordial, this technological knowledge may become invaluable.

Angaran Culture: Economics

Angara rely on a participatory mixed economy, applying elements of socialism, capitalism, and an informal barter system. The exact means of market control varies on a contextual basis, reflecting the needs of a civilization primarily focused on its survival. Basic goods and services deemed essential to life are provided as fundamental rights, with citizens voting annually to determine exact resource allocations.

Advanced personal technology or luxury items are acquired through a state-controlled capitalist market. Producers and vendors are licensed by the government and monitored by arbiters to ensure they don't negatively impact essential services. Within families and tight-knit organizations like the Resistance, individual members freely trade goods and services without using currency. Value placed upon something can vary wildly according to a person's needs. Disputes over barter trades are rare, as angara take a long-term and generous view of economic interactions with each other.

Angara: The Resistance

The arrival of the kett stunned and then divided the angara. As described by Jaal, infighting was used as a means of conquest by the kett, but the presence of a common enemy eventually galvanized the angara to work together. The various resistance groups merged into the organized Angaran Resistance roughly five years ago under Evfra de Tershaav's command, supported by prominent families and determined to stop their kett oppressors.

The Resistance's headquarters are on Aya. For security reasons, neither Evfra nor Jaal will provide details of the Resistance's organizational structure, but it can be assumed there are multiple independent cells across the cluster. Many non-Resistance angara support their work either logistically or financially. The Resistance specializes in assassination, sabotage of kett facilities, deployment of supplies to besieged populations, and the rescue and rehabilitation of angaran prisoners.

Many members of the Angaran Resistance have joined up with the Nexus militia, enlisting APEX support for their missions. Some senior officers have opened treaty negotiations with the Nexus.

Angara

The angara are the only known sentient species local to the Heleus Cluster. Scattered across numerous worlds, the angara are reuniting as a people. Though much of their culture and scientific knowledge has been lost, the angara continue to rebuild and resist the kett conquest of Heleus.

From our cultural exchanges, we know that the angara have a unique control over electromagnetism. Specialized skin cells and organs allow them to generate and control electromagnetic fields artistically or unleash them in combat.

Oral histories describe how ancient angara were tribal and nomadic before settling in cities. Many of them still live in large, tight-knit families and workplaces have a guild-like organizational structure.

Politically the angara remain divided. Attempts at a reformed government were disrupted by the kett. Approximately five years ago, a coherent resistance movement emerged on Aya, the first to draw unilateral political support, with the goal of driving the kett out of Heleus for good.

Investigations have revealed that the angara were created by the Jardaans, the species responsible for building the Remnant. The motives of this creation are still unclear, but this revelation will undoubtedly have a seismic effect on angara society.

Angara: Biology

Though there are variations from adapting to different planets, all angara are warm-blooded mammals that favor a cool, wet climate. Angaran females typically give birth to several young who require support and supervision, resulting in large extended families that become accustomed to living and working together.

Donated angaran anatomy textbooks reveal that the epidermis of their skin is photoelectric and photovoltaic.

Specialized electrocyte cells, regulated by a specialized organ called the taon, allow an angara to generate a much greater electromagnetic field than most organic species and exercise fine control over it. When needed, an angara can unleash an electromagnetic pulse that damages weapons and electronics. Minimized pulses, transmitted through touch, serve as social cues.

Angara: History

Many historical records of the angara have been lost, but what survives tells the story of how ancient angara achieved spaceflight. Eventually they settled on five separate garden worlds, including Voeld.

The Scourge struck in approximately 2400 CE (by our calendar). The phenomenon devastated the Heleus Cluster, destroyed many angaran cities and sent their culture into a decline.

This dark age lasted for over a century, before the angara began to adapt to the new conditions in Heleus. Eventually the disparate angara regained spaceflight capability and reestablished contact with one another, but the isolation had fostered separate cultural, political, and spiritual blocs. The angara struggled to find common ground.

This struggle was ongoing when the kett arrived seventy-five years ago. The Archon exploited their disparity and began a brutal conquest of the Heleus Cluster. Ironically, as several angaran historians point out, a common enemy provided the impetus to unite. Today, the angara continue their efforts at reconstruction and resistance.

We now know that circa 1600 BCE, the angara were created and seeded across Heleus by the Jardaans. Records of this process are less substantial than ancient angara history, but it was apparently in service of a grand experiment.

It is unclear which planets the angara were seeded upon and which they reached via self-developed spaceflight, though Havarl is a likely candidate. Angaran historians are now reviewing what records remain either for tampering or cultural interpretation of events the Jaardan set in motion.

Angara: Moshae Sjefa

Part scientific genius, part cultural icon, Moshae Sjefa is treated with an almost religious reverence by everyday angara. Her technological innovations have touched nearly every facet of their civilization, and were instrumental in the construction of Aya's capital city. Her analyses of the kett threat have slowed the enemy's conquest of the Heleus Cluster by informing the tactics and goals of the Resistance for decades.

From Jaal's recollections, the Moshae chafes at her celebrity status and prefers to work in solitude. Unlike most angara, Moshae Sjefa doesn't belong to a large extended family; she claims she has never married nor borne children, focusing on her life's work of unraveling the mystery of Remnant technology. Her goal, stated in many of her writings, is to unlock the secrets of the Remnant for the benefit of all angara, helping them to overcome the kett and restore angara civilization to its pre-Scourge greatness.

Kett

Data on the biology, culture, and history of the kett species.

Kett: Fiend

Fiends are monstrous beasts with a heavily armored carapace. Unlike the stealthier Wraiths, Fiends are besieging units that attack head-on, scattering enemy forces and destroying entrenched enemy positions. They attack non-kett without appearing to need orders; some scientists believe Fiends respond aggressively to an absence of kett pheromones or similar cues.

A Fiend's carapace is permeated by dense cartilage that makes it both strong and flexible, and acts as a shock absorber for incoming fire. Preliminary study of their nervous system suggests that nerve transmission is dampened above a certain pain threshold, allowing a Fiend to detect injury but not be slowed by it. Reports of Fiend encounters are often accompanied by casualty lists, and the militia advises that only a well-armed and organized team should handle a Fiend at full rampage.

Kett: Ascendant

The Ascendant are the highest caste of kett seen on the battlefield and are considered exceptionally dangerous. APEX reports that they are typically only seen when the kett are conducting high-stakes operations, or when a persistent enemy must be eliminated. Element zero cores throughout its armor allow an Ascendant to levitate off the ground, allowing it to command the attention of subordinate kett and rain devastating fire down upon enemies.

The Ascendant appear to have biological control over electromagnetic force. Cell samples gathered at great risk show electrocyte-like formations. It is likely that an Ascendant uses equipment or implants to amplify and control this ability, allowing it to manipulate EM fields that empower its weaponry. If provoked, the Ascendant can unleash a ball-lightning-like attack which conducts electricity to nearby foes or yank an opponent helplessly off their feet to deliver a barrage of blows.

Kett: The Archon

The individual known as the Archon is leader of the kett forces in the Heleus Cluster. Though rarely sighted, his arrival at kett installations is reportedly greeted with fearful shows of deference, the execution of dissident kett, and the presentation of valuable Remnant technology.

The Archon has maintained control of the cluster for almost seventy-five years, reportedly through a combination of long, patient strategies and brutal subjugation. According to angaran sources, the Archon arrived in Heleus with a pantomime of diplomatic overtures that confused the angaran leadership and provoked them against one another before he ordered the conquest of their worlds.

In recent years, the Archon has taken an increasing interest in Remnant technology, ordering new dig sites and touring kett-defended Remnant structures. He is said to take many Remnant specimens aboard his flagship for study at leisure. Those who interfere are executed on the spot or hunted down by the Archon's Sword, his mysterious and feared enforcer.

According to the Moshae, the Archon is focused on Meridian, the control center for the Remnant vault network. In his hands, Meridian could be used to devastate the planets of the Heleus Cluster, rendering them uninhabitable and giving him a hold over all sentient life there.

Though he reportedly knows its location, the Archon has been unable to develop an interfacing method, meaning the greater secrets of Remnant technology are closed to him.

The Archon was killed at the battle for Meridian after almost gaining control of the facility. We now face the consequences of his death. Though the kett are still reeling from the loss of their dealer, the Primus has reportedly succeeded him and intends to pursue kett interests in Heleus.

Kett

Led by the Archon, the kett are a powerful and technologically advanced species whose home space lies beyond the Heleus Cluster. The kett encountered here are an expeditionary force seeking lifeforms for exaltation, as well as secrets of the Remnant technology left behind in Heleus. Evidence suggests they arrived in Heleus roughly seventy years ago.

As we have learned, kett multiply and replenish their armies via "exaltation," where the kett take desirable genetic traits from other life forms and incorporate them into the kett genome. The "donor" life form, in return, is mutated with kett DNA. Kett view this exchange as an almost sacred process of self-development, though our scientists disagree.

The kett themselves remain enigmatic. We know they value genetic and physical superiority, that they willingly enslave other species, and that they have positions throughout the Heleus Cluster. Unfortunately, a sustained dialogue or diplomatic overtures seem impossible, as the kett ruthlessly exploit any attempt at peaceful communication.

Kett: The Archon's Sword

Identified in decrypted communications, the kett known as the Archon's Sword has a fearsome reputation. Her role as the Archon's enforcer takes her across the Heleus Cluster to deliver edicts and quell dissent. APEX reports that those who incur the Archon's displeasure-kett or otherwise-are pursued relentlessly by the Archon's Sword, often never sighted again.

In combat, the Archon's Sword is said to favor cunning over brute strength, cloaking herself with the same techniques as kett Destined before striking fearlessly. Psychological profiles, though hampered by an incomplete understanding of kett psychology, suggest she is completely loyal to the Archon and his ideals.

Her title has provoked discussion amongst Nexus scientists, as it either underlines her devotion to the Archon's cause, or it implies a ceremonial and historical role. It is possible that the Archon's Sword represents a greater tradition within kett society not yet understood.

Kett: Technology

Study of kett technology reveals an interesting dichotomy. While their faster-than-light drives and equipment show less sophistication than Systems Alliance technology back in the Milky Way, the kett are vastly superior when it comes to genetic manipulation and biological analysis. Their weaponry eschews VI support in favor of targeting neurological systems or internal organs with unusual precision, and salvaged kett gear shows that even their battlefield medicine is exceptional compared to the Initiative's.

Nexus scientists believe this underlines the kett's interest in biological excellence. Their technology appears to serve a subordinate role to studying and improving one's own genetic superiority.

My analysis of kett technology from your scans suggests that it is highly mimetic. It follows the kett pattern of behavior: rather than conducting research and development, kett engineers incorporate features from other species and improve their designs incrementally. Remnant and even Initiative-inspired changes are already beginning to appear.

Kett: Destined

Destined are described in intercepted communications as "ancestral" kett who act as battlefield commanders. They rally infantry into tightly cohesive units, providing shield support and directing operations from the center.

The most interesting characteristic of the Destined is their ability to produce an obscuring "smoke" cloud without mechanical assistance. Preliminary study suggests Destined have internal sacs that excrete carbonate-rich compounds, which include a melanin-like pigment. When expelled into the air at will, internal acids trigger a gas evolution reaction and the pigment expands to cover the battlefield, cloaking other kett allies. While studies suggest it is not harmful, breathing the cloud for extended periods is not recommended.

Kett: Anointed

The kett soldiers known as Anointed appear to be of similar caste to the Chosen: infantry equipped with light armor. Anointed, however, wield heavy plasma cannons, making them a rallying point for other kett forces, and shield themselves with kinetic barriers against splashback. A barrage from an Anointed's plasma cannon can shred through enemy barriers and severely damage ground vehicles.

Communication intercepts suggest that Anointed assist in coordinating Chosen squads and act in an NCO role. It is unclear if the term 'Anointed' refers to a senior rank amongst the Chosen, or if Anointed are part of a separate division within the kett Infantry.

With a new understanding of kett exaltation, it is now apparent that Anointed are exalted angara, transformed into soldiers of the kett. Their title may refer to foot soldiers who have been entrusted with a more crucial battlefield role by their superiors.

Kett: Chosen

Chosen are the front-line soldiers of the kett, encountered on multiple worlds as support for other kett combatants. They are equipped with assault rifles that fires plasma-surrounded projectiles, and light armor that allows them to move and deploy rapidly. Though their biology is still under investigation, they are capable of surviving in hazardous environments without protective gear.

While quick to defer to more senior individuals, Chosen appear to be disciplined and loyal soldiers, undeterred even by biotic attacks or heavy ordnance. They present a continuing risk to unarmed outposts.

The name 'Chosen' was intercepted and tentatively translated from kett communications. If accurate, its significance is unclear, since these are clearly the kett baseline infantry.

With a new understanding of kett exaltation, it is now apparent that Chosen are exalted angara, transformed into soldiers of the kett cause. This may explain their title. Their devotion to senior kett can now be understood as a hard-wired hormonal response that induces unshakeable loyalty.

Kett: Secret Intelligence

Provided by Dr. Medrow Aden, these notes had three layers of encryption. I have endeavored to fill in any transcription errors.

"Kett home space is vast. Charts I downloaded showed so many worlds in the "heartlands" alone—centered on their home planet, Sarhesen. Some [term unclear: possibly event/disaster] happened there? No details, definitely a touchy subject.

"Twenty-one ancestral lineages from 'pure' ancient kett. (Any still alive?) Heads of ancestral lineages lead their society. A eugenocracy?"

"At least a dozen vassal species. Only got details on a few. The eealen—exalted past viable population, now nomads who document and share knowledge. The thusali—once worshipped the Remnant. Engineers exalted for Remnant expertise. The sirinde—[term unclear: possibly translates as "eat their dead with reverence"]—genetically poisoned themselves to stop exaltation, now dependent on kett neuroscience to survive.

"All proves one thing: we were right. Fight the kett head on; those might be our fate."

Kett: Wraith

Nicknamed by Initiative scouts unlucky enough to encounter them, Wraiths are war beasts capable of adjusting their carapace pigmentation to blend into their surroundings. This ability lets them stalk an enemy over distances unseen or cause sudden disorder in enemy ranks, flushing targets to be picked off by other kett forces. When attacking, Wraiths leap and strike with impressive jaw strength that can puncture ceramic armor.

Wraiths present an interesting study to Nexus scientists. Initially believed to originate from the same home world as the kett, since they have similar physical characteristics, Wraiths show clear genetic similarity with other feral creatures sighted across the Heleus Cluster.

With a new understanding of kett exaltation, this similarity can now be explained. It appears that Wraiths are the result of exalting these feral creatures into faithful warbeasts.

Kett: Behemoth

These unfortunate individuals were once krogan. After capture, experimentation, and attempts at exaltation, they are now Behemoths, bearing the characteristic white carapace of the kett and the strength of a krogan in full fury.

Behemoths appear to be an early attempt at exaltation, and the process for the krogan is as yet unrefined. Unlike exalted angara, whose transformation is genetically and neurochemically stable, Behemoths are unable to produce enough serotonin to break out of the feedback loop that results in krogan blood rage, rendering them permanently aggressive and non-communicative. In addition, DNA samples suggest Behemoths are susceptible to hypothalamic tremors, further evidence that exaltation is intended to affect the body's oxytocin production and social bonding responses.

Fighting a Behemoth is not for the unprepared. With a krogan's resilience to gunfire and a preference for charging into melee, APEX tactics currently revolve around multiple rocket-propelled grenades.

Kett: Biology

Kett biology is a driving force in their expansion. The kett are capable of transferring beneficial genetic traits from other species during exaltation, modifying their genome and expressing new traits almost immediately.

Study of kett DNA shows evidence of horizontal gene transfer and the incorporation of genes from dozens of unknown species. Their cells have transfective properties normally only seen in specially engineered laboratory animals, meaning the kett are able to "custom-mutate" their genome.

All kett and their exalted have a distinctive white exoskeleton. Dissection reveals these growths contain fluid-filled sacs that capture dissolved gasses from the circulatory system, slowly releasing them if the kett is oxygen-deprived. The fluid pressure of these sacs also stabilizes the body if environmental pressure is reduced. This helps the kett survive hazardous planets or even in the vacuum of space without suits, while providing additional protection against gunshot injuries.

Kett: Primus

Second-in-command to the Archon, the Primus is reportedly trusted with leading many of the kett's most dangerous factions. APEX teams have sighted her as a hands-on leader at key kett positions, and orders from her are treated as coming from the Archon himself. Her main area of responsibility appears to be managing the kett conquest of Heleus via exaltation.

In as much as we can determine with scant details on kett culture, the Primus is believed to be extremely orthodox. Intercepted and translated reports show her ordering punishments for kett who deviate from social norms and traditions. She has also repeatedly expressed concern over the need to break off military exercises or reconnaissance missions to investigate Remnant technology, suggesting this is not a normal element of kett expansion.

With the Archon dead, the Primus is now de facto leader of the kett forces in the Heleus Cluster. Freed from the "distraction" of investigation and defending Remnant structures, we can expect the kett to remain a clear and present danger under her leadership.

Kett: Culture

The kett in the Heleus Cluster appear to be a military expeditionary force. Separated from the rest of their culture, only a few conclusions can be drawn about the kett as a people.

Kett society appears to be a strongly regulated hierarchy. DNA evidence suggests genetic lineage is a factor in leadership positions. These "ancestral" kett lead the exalted, citizen who serve in the army, sciences or industry. Unskilled labor is performed by slaves or--as analysis about their home space suggests--conquered vassal species. The kett interest in the Remnant implies a shared history, but details are scarce.

Culturally, the kett are highly ritualized and ceremonial. Intelligence reports show a powerful belief in their genetic and military superiority, and a belief that it benefits "lesser" species. Even the kett dialect spoken in Heleus, Tonaizhet, translates to "speaking correctly."

Exaltation is thus not a punishment, but a means to balance a disordered galaxy by sharing the kett's genetic "perfection."

Kett: Exaltation

The facility on Voeld has revealed a key element of kett strategy and biology. The kett do not recruit soldiers they take prisoners and submit them to "exaltation." This process transfers beneficial genetic traits to the kett, and turns the "donor" into a fanatically loyal

exalted, many of whom serve in the kett military. Most of the individuals we have fought appear to be exalted angara.

The exaltation process appears to be two-way, transferring carefully selected kett traits into the donor. The resulting mutations permanently alter the physical appearance and glands of the donor, inducing hormonal changes that cement the individual's loyalty to the kett.

Scientists on the Nexus suggest that exaltation may have originated out of necessity. If long ago, the kett somehow reached a state of genetic stagnation, adopting the genetic traits of others may have been their only means of survival. Today it is a ceremonial, if morally repellent, cornerstone of kett culture.

Flora and Fauna

Many unique plants, creatures and other life forms inhabit the Heleus Cluster's worlds.

Andromeda Wildlife: Overview

The nature of life in the Andromeda Galaxy was debated at length by Milky Way scholars. Many Milky Way species show convergent evolution-upright bipeds of a certain height and atmospheric tolerances-leading some to theorize this pattern might give some evolutionary advantage, despite counterarguments by hanar scientists. Interestingly, the kett and angara continue to fit this pattern.

The wildlife and flora encountered in the Heleus Cluster have adapted to the presence of the Scourge, evolving epidermal layers or carapaces that can cope with ambient radiation, or in the case of some plants, successfully feeding off it. Many use bioluminescence to attract prey, or as a threat or mating display.

Concerns were raised around the ability of Milky Way species to consume proteins from Andromeda, so seed banks formed a significant part of the arks' cargo. We now know it is safe to consume food grown or hunted here, though enzyme supplements are recommended and have become a social norm at mealtimes.

The revelation of the Jaraan's experimentation in the Heleus Cluster allows the creatures here to be viewed in a new light. It is entirely possible that many of these species were seeded or experimented upon, or that "lessons learned" were taken from them in the development of the angara.

Andromeda Wildlife: Manta

Nicknamed a "manta" by Andromeda Initiative observers, this majestic creature has been sighted on several worlds in the Heleus Cluster. The Nexus scientists believe it may have originally evolved on a world with heavy despises of element zero, giving it the ability to lower its mass enough to "swim" through the air. Expanding the muscular gas bladders on its underside allows the creature to rise and orient itself in flight.

Despite its size-roughly 30m-the manta is not a threat to outposts or explorers. It appears to subsist on mineral deposits from rock formations, wrapping itself around rock spires or even against cliff faces to remain camouflaged while it feeds. Their camouflage ability suggest that these mantas have predators or other reasons to remain hidden, but thus far the reasons remain unclear.

Outlaws

Hostile rogue factions, both native and foreign, plague the Heleus Cluster.

Outlaws: Agent

Salarians have always operated at the very cutting edge of technology, believing that anything less is a waste of their capabilities. The salarians who have chosen to become outlaws are no less exacting. Preferring to operate on the sidelines rather than leading an assault, they often deploy holographic decoys.

While the decoy cannot damage an enemy, its kinetic barrier generator means that enemy targeting computers will register an impact when it's shot. This forces enemies to divide their attention and allows the salarian agent to flank or escape. APEX has attempted to research these decoys for larger scale deployment against the kett, but have been unable to create a convincing thermal signature. Meanwhile, it can be expected that these salarian agents will continue to refine their work.

Outlaws: Adhi

Adhi are four-legged lifeforms sighted on multiple worlds, across the Heleus Cluster, often foraging together in packs. They are extremely intelligent and capable of understanding complex commands. Wandering explorers and mercenaries are often accompanied by one or two trained adhi for defense.

When attacking, adhi drive opponents out of secure positions to make them vulnerable to gunfire or a concerted attack by the rest of the pack. Their jaw strength has been measured in excess of 1900 N, dangerous even when wearing a hardsuit. Adhi also show no fear of scout rovers.

Interestingly, the adhi genome shows signs of extensive genetic engineering that resembles the "uplifting" of some domestic animals on Earth before gene modification laws were put in place. These adaptations allow the adhi to survive in hazardous environments and may account for their almost tactical intelligence even in the wild.

Outlaws: The Collective

Few verifiable reports of the Collective exist beyond Kadara Port. They claim the Collective is a spy network of Milky Way outlaws and angara who use blackmail, espionage, smuggling, and hacking to gain leverage on Kadara.

The Collective is said to be led by "the Charlatan." No reliable data is available on this individual's identity, but the Charlatan has been quietly amassing influence since the Hyperion arrived in Andromeda. Those who cross the Charlatan are dealt with ruthlessly.

Intercepted transmissions show that the Outcasts consider the Collective's growing power a threat to their own position. The Outcasts' focus has shifted from harrying Nexus trade convoys to arms deals, putting them on a war footing. The Collective's response has been less public, but many Outcast supporters have lost their fortunes or disappeared without a trace.

Options:

- Without Reyes Vidal, now revealed as the Charlatan, the Collective is vulnerable to reprisal. APEX reports that Sloane Kelly has already ordered a purge of Collective sympathizers.

- With Sloane Kelly dead, the Outcasts are unlikely to remain unified. APEX reports that the pirates are either scattering from Kadara Port, or being quietly but systematically hunted down by Collective loyalists.

Outlaws: Berserker

Centuries ago in the Milky Way, krogan berserkers served a key role in the Krogan Rebellions as frontal assault forces that cleared enemy dreadnoughts and besieged fortified positions. The battle cry of the famed Ravank Berserker Company was so distinctive—and psychologically effective—that it was often used in propaganda broadcasts.

Today, krogan who have joined outlaw bands claim to have revived berserker tactics. Wielding powerful flak cannons, they bombard positions to intimidate enemies into breaking their line before closing in. When provoked, a berserker goes into the blood rage that gives them their name, losing higher brain functions and the ability to feel pain while unleashing devastating strikes that can snap an enemy's spine in one blow.

Outlaws: Saboteur

Most of the sighted outlaw forces are composed of forces from the Milky Way, but many angara have also joined them, either out of disillusionment with the Resistance or for their own personal glory. This has been heralded with fascination by Nexus social xenopsychologists—who claim it demonstrates universal values and goals between sentient life—and concern by APEX, who now have to contend with outlaws who have expert knowledge of the Heleus Cluster.

The light armor and weapons of angaran outlaws have been fatally deceptive to many APEX squads. When necessary, the angara act as saboteurs, using their innate control over electromagnetism to drain enemy shield capacitors and boost their own equipment. With combatants suddenly vulnerable, they are easy prey for the saboteur or their allies.

Outlaw: Sharpshooter

Equipped with custom-modified sniper rifles, sharpshooters accompany raiding parties as scouts and long-range combatants. A well-trained sharpshooter can pick off an unprepared explorer before they even know there are enemies nearby.

The skill of many of these sharpshooters is, ironically, the result of Initiative colonist defense training before leaving the Milky Way. Strategically, it was believed that well-armed snipers would be simple but effective defenders of their outposts, with a lowered risk of losing personnel in the event of an attack. It appears this training has now been passed along.

Outlaws: Pariah

Even without military training, rogue asari are exceptionally dangerous, as their natural biotic talents mean they are never truly disarmed. These pariahs now sighted in outlaw bands wield their powers in pursuit of plunder and glory.

Pariahs attack at short range with shotguns designed for asari commando forces, wearing down kinetic barriers in preparation for a biotic-focused attack. For more persistent enemies, many pariahs have mastered a deadly "backlash" technique, generating a shield with near-negative mass that accelerates incoming projectiles back at their foes.

Outlaws: Hydra

The strange technologies of the Heleus Cluster offer many outlaw and exile groups opportunity rather than scientific mystery. With access to black-market salvage, Remnant technology, and stolen gear from the Andromeda Initiative, some have crafted non-standard but highly effective battle mech suits nicknamed "Hydras."

Most Hydra units are armed with a chain gun and a devastating laser-guided RPG volley, pinning down enemies before bombarding them with heavy fire. Unapproved jumpjet designs and a mass-lowering element zero core assist in ground clearance or leaping at a target. The sheer weight and impact of the Hydra unit can crush enemies or force them to fall back. APEX officially classifies a Hydra unit as a Priority Zero threat, though unofficial communications often use the acronym "BFM."

Sloane Kelly

Before her appointment as Director of Nexus Security, Sloane served in the Alliance, but was discharged after punching a superior officer for "bureaucratic bullshit." Some of the Initiative's senior leadership had concerns about Sloane's temper, but former Director Jien Garson admired Sloane's passion and believed her frank attitude and resourcefulness would ultimately keep the Nexus safer than someone who ran things "by the book."

Jarun Tann felt differently. Relations between Sloane and the new Initiative Director, while never good, quickly deteriorated during the uprising. Sloane was vehemently against using the krogan against the mutineers and took it personally when the Director went behind her back to make a deal with Clan Nakmor. Upon learning of the Director's intervention, Sloane switched sides and joined the rebellion. Although the uprising ultimately failed, Sloane gained legendary status among the exiles and amassed a group of followers called the Outcasts.

After leaving the Nexus, Sloane traveled across Heleus to Kadara Port, where she defeated an invading kett force and set herself and the Outcasts up as the ruling power on the planet.

Options:

- With Reyes Vidal gone, Sloane remains the de facto ruler of Kadara Port. However, this seems to have brought little peace of mind to Sloane, who is using all available resources to hunt down Reyes and any other members of the Collective.
- Sloane Kelly was shot and killed during the showdown for Kadara Port.

Reyes Vidal

Like many exiles, Reyes Vidal's screening interviews and personal records were corrupted during the mutiny on the Nexus. Internal staffing emails show he was a pilot assigned to shuttle N-503 call-sign "Anubis," but beyond that, very little is known about Reyes' life before arriving in Andromeda.

Since the Nexus uprising, Reyes has made a name for himself as a smuggler working out of Kadara Port. While most exiles on Kadara feel pressured to choose between joining the Outcasts or the Collective to be successful, Reyes proudly claims to be a "free agent" and even does jobs for the Angaran Resistance.

Despite being known as a reliable smuggler who always gets the job done, Reyes is notoriously bad about paying his bar tabs with the exception of Tartarus, where it's rumored he has worked out a deal with Kian, the owner.

Options:

- Although Reyes revealed himself as the Charlatan to us, he has decided to continue to control the Collective, and now Kadara Port, from the shadows.
- After we thwarted the Collective's coup of Kadara Port, Reyes has been on the run from Sloane Kelly.

Outlaws: Raider

The outlaw bands of the Heleus Cluster are diverse. Some were individuals who joined the Andromeda Initiative as an escape from the Milky Way; some were exiled after the Nexus uprising; others chose to seek their fortune elsewhere. Most of these individuals survive by raiding outposts or wandering exploration teams.

While not particularly organized or well-equipped, these raiders present a risk to undefended colonists. Most prefer to extort supplies and equipment rather than risk themselves, but when provoked or desperate, they will resort to deadly force.

Outlaws: Anarchist

Turians running with outlaw bands have turned their mandatory military training to less noble purposes. They override the safeties on ex-military hardware to handle a higher explosive yield, resulting in deadly "inferno grenades" that leave thermite deposits on the ground after impact. The thermite can cling to armor and cause massive injuries.

APEX's largely turian volunteer force takes a dim view of these anarchists, seeing them as not only a threat but an affront to the turian values of honor and service. Those who cannot be forced to surrender are hunted ruthlessly, though this has only driven Anarchists to ever-greater feats of military engineering.

Outlaws: Outcasts

Cast out for criminal behavior or their actions during the uprising, exiles from the Nexus are no longer welcome at the station or Initiative outposts. Some have found a new home at Kadara Port, choosing to fight under Sloane Kelly's banner and embracing their title as Outcasts.

The militia's threat assessment lists the Outcasts as "a significant risk." Their particular animosity for the Nexus, honed by Sloane Kelly's security expertise, makes them a constant concern for the Nexus leadership. The Outcasts harass trade convoys, raid ore and ice transports, and pick off scout teams for their weapons and equipment.

There is no simple answer to stopping the Outcasts. Kadara Port is defended against APEX assault and Sloane Kelly has weathered numerous assassination attempts, retaliating against the Nexus each time. Meanwhile, every individual who must be exiled from the station is a potential Outcast recruit.

The Remnant

Ancient machines with mysterious goals operate throughout the Heleus Cluster.

Remnant: Interfacing

Remnant technology requires careful reactivation dubbed "interfacing," a process Alec Ryder and I first developed on Habitat 7. Using "glyphs"—dense data packets of Remnant code—a working understanding of their language, and the interface capabilities of a Pathfinder implant, I can help you trigger or control Remnant technology from appropriate locations.

Interfacing is the only way to activate certain Remnant technology, such as monoliths. Scans and surface damage suggest that the kett have repeatedly attempted to activate these sites by other, increasingly desperate methods, without success.

It is not clear whether Remnant technology is designed to be activated by an AI. There is no evidence of artificial intelligence in the Remnant structures investigated thus far, and Remnant bots have only rudimentary programming. However the glyphs contain recognition keys analogous to an electroencephalogram (EEG), implying that the system is designed to handle a form of neural input.

Remnant Data Core

The "box" that Peebee found in the vault on Eos appears to be a Remnant data storage device. Peebee calls it a "data core" and has dedicated her time to unlocking its secrets, as she is convinced that it may contain more information about the Remnant builders.

Close observation has revealed that the circuitry found within Peebee's "relic boxes" often matches up to circuitry found deep in Observers and other Remnant creations. It is possible that they were used to deliver command routines to Remnant machines.

POC

After months of studying and tinkering with the Remnant, Peebee was able to strip out an Observer's operating protocols. Using Remnant technology found in the vault on Eos along with other pieces scrounged from ruins, she has discovered how to program the Observer to obey her commands. This is Poc (Proof of Concept), a Remnant Observer that now works for Peebee.

Poc has no combat capabilities—it apparently exists for Peebee's amusement and perhaps companionship—but she has repeated her work and created a combat-ready version that can be deployed in the field. For ease of discerning between the two, this combat model is named "Zap."

Poc was stolen by Kalinda T'Reve, but has now been recovered and repaired. It is functioning normally in Peebee's service.

Peebee's success in merging Remnant and Milky Way technologies is very promising, and she has begun to apply the principles involved to other systems, including those on the Tempest.

Remnant: The Creators

The Jardaans are a mysterious species or faction responsible for building the bots and technology known as the Remnant. According to recordings and findings from Khi Tasira, they were interested in not only wide-scale terraforming but the creation of sentient life. One of their successful creations, the angara, were seeded on multiple worlds in the Heleus Cluster. The Jardaans' motivations for this creation are still unknown.

Their work was disrupted by the deployment of the Scourge weapon, the result of either an external threat or a rift in Jardaans society. This weapon devastated the worlds that the Jardaans had cultivated and forced them to leave the Heleus Cluster, though not before disengaging Meridian and sending it to safety.

The present whereabouts and disposition of the Jardaans are not known. Whether they will return to Heleus remains to be seen.

Remnant Breacher

Created by Assemblers, these Breachers are levitating drones that move in rapid, aggressive bursts using a powerful microthruster. Peebee claims to have named them "Breachers" after mistaking one for an Observer, and quickly realizing this new example "broke the rules."

Analysis of Breacher debris shows that their systems are fundamentally unstable: their power cores are improperly shielded and many of their inner workings are exposed. This suggests that they are created for short-term deployment to handle intruders who stray into Remnant territory, and in turn offers some insight into the Remnant builders' military doctrine.

Combined with single-minded programming that focuses on hostiles, the volatile construction of Breachers makes them extremely dangerous. If provoked, the Breacher will launch itself at an opponent and attempt to latch onto it, using exposed gears to grind through hardsuits and cause severe damage. When damaged beyond repair, a Breacher may trigger its power core to overload and self-destruct.

Remnant: Decryption

Most Remnant technology is inert or in a "standby" mode, but some is secured with a decryption grid. Unlocking it requires scanning the correct Remnant glyphs and arranging them in a specific order. The glyphs cannot repeat on any straight line or within a square block of four.

Peebee speculates this could be a safety measure. Even if a method was devised to brute-force hack an interface, it would not work with the decryption grid. Given the devastating consequences when Remnant technology is improperly activated, her analysis seems sound.

The arrangement of the glyphs appears to complete either a password or a code phrase within the grid as a whole. From the little I understand of the Remnant language, they appear to form an almost palindromic "Sator Square" sentence, but the finer meaning would require detailed explanation from the grid's designer.

Remnant Destroyer

Destroyers are heavy-weapon platforms deployed against the most determined intruders into Remnant territory. Armed with a directed energy cannon and two secondary laser

turrets that can engage multiple targets simultaneously, a single Destroyer can take out an entire combat squad in minutes. When asked why she named it a "Destroyer," Peebee folded her arms, rolled her eyes, and answered, "You figure it out."

One of the most disconcerting characteristics of the Destroyer is its partitioned power system. Destroying one of its turrets means that power is automatically diverted to its locomotion systems, allowing it to move much faster. Many individuals have mistakenly believed they could pick off a Destroyer's turrets from a distance and evade it safely, only to have the Destroyer close that distance unexpectedly. This often has fatal consequences, since at melee range, the Destroyer transfers power to an electromagnetic burst that causes severe damage to any individuals unlucky enough to be close.

APEX has reported variants of the Destroyer that have a self-repair network for their turrets. These Destroyers can briefly go dormant, transferring full power to fix any damage before reactivating its turrets again. Few have been sighted, but engagement is not recommended.

Remnant Architect

A rare and awe-inspiring sight, Architects are colossal Remnant constructs that burst from the ground, using multiple element zero cores to hover and attack from above. They dwarf buildings and ground vehicles, and their armor is impenetrable to all known small arms fire, including mass accelerator rounds. Only the power cores on an Architect's body appear vulnerable, and even they show signs of self-repair capabilities given enough time.

Each Architect is armed with multiple defensive systems, each extremely dangerous. Ferrofluid reservoirs and manufacturing peripherals allow it to create smaller Remnant units to swarm enemies. Its most devastating attack is an electrically-charged energy burst that swarms with fluidly replenishing shrapnel, overcharging shields and then shredding a target. Though an Architect cannot be destroyed, disabling its power cores will ground it, giving an opportunity to interface with its central processor and reprogram its current directives to compel it to leave.

The name "Architect" precedes their initial sighting. Peebee claims she theorized the existence of a Remnant that was responsible for excavating the space needed for vaults, and for building other Remnant infrastructure. These Architects, simply by size alone, appear to fit that profile.

Remnant Nullifier

This Remnant model appears to have been designed for excavation. If provoked, it enters a "siege mode," where it anchors itself to the ground and launches explosive projectiles at a target. In this mode, this Remnant constantly runs a self-repair cycle, reducing damage from incoming fire. Peebee claims that this characteristic is what earned it the name "Nullifier."

Recovery of Nullifier parts has been illuminating. They use both balancing pitons and dense ferrofluid reservoirs in their lower extremities to remain stable while firing, design characteristics that could be useful for Initiative mining operations. Their blast shielding is also surprisingly light for its thickness (72mm) and density. The plates are cushioned by a honeycomb of shock-absorbing polymer to distribute any ballistic force. However, these characteristics are also what allows them to absorb heavy fire and act as formidable opponents.

Remnant Assembler

Remnant Assemblers were nicknamed for their ability to create smaller units known as "Breachers." Each Assembler contains a reservoir of an unknown ferrofluid similar to omni-gel, which can be used to 3D-print Breachers on the spot with alarming speed.

Tactically, Assemblers focus on manufacturing reinforcements, moving to safe distances during combat. If approached while in its hostile mode, the Assembler can jettison the partially completed power core of a Breacher, which acts like an explosive grenade, causing massive damage to enemies and allowing the Assembler to withdraw.

Upon creating a Breacher, the Assembler transfers a full copy of its stored recent memory and battlefield disposition to the new Remnant, ensuring it is combat-ready almost immediately. This capability means the Assembler is constantly branching and partitioning its memory in preparation without loss of data, an interesting characteristic that may be useful in future artificial intelligence designs.

The Remnant

"Remnant" is the umbrella term coined for technology, structures, and autonomous bots that have been sighted across the Heleus Cluster. Seemingly abandoned by whomever created it, this Remnant technology is extremely advanced, but most of it is in a "standby" state. On Habitat 7, Alec Ryder discovered that reactivating this technology requires scanning "glyphs"—data packets written in Remnant coding language—and my assistance with "interfacing" at particular consoles.

This is complicated by Remnant bots that still guard and maintain many of these installations. Remnant bots do not appear to be sentient, but they are programmed to consider any interference with their technology as a hostile act, and attack single-mindedly.

The kett have an interest in Remnant technology, and have been sighted across the cluster attempting to study or control sites where it is still active. Evidence suggests the kett have not yet developed a reliable method of interfacing.

Investigations at Khi Tasira reveal that the Remnant were built by a species or faction known as the Jardaans. This technology was intended to foster life that the Jardaans had created, using the vaults to manage planetary ecology strictly, controlled from a central point known as Meridian.

The Scourge destroyed the connection from Meridian to these vaults and deactivated many of the Jardaans' technological creations. The Jardaans left the cluster soon afterwards for an unknown location, leaving their technology behind as remnants of their civilization in Heleus.

Remnant Observer

Observers, mid- to long-range Remnant drones, can be seen at most Remnant sites. They are equipped with element zero cores that allow them to levitate, and can normally be seen scanning or conducting maintenance at these sites. While they are the least robust of the Remnant bots, Observers are still a threat to unprepared explorers if provoked.

Examination of destroyed Remnant Observers shows they have multiple sensor vectors—visual, aural, electromagnetic, and others as yet undefined—and a comprehensive toolkit of equipment for observation and maintenance, including an ultraviolet beam laser. Serving partially as its primary weapon, the frequencies of an Observer's laser appear to

react with Remnant structures to induce a repair cycle. Observers are also capable of bringing other Remnant online, likely as part of their maintenance duties.

When asked, Peebee explains the name "Observers" with "Everywhere you go, they seem to be looking at you."

Planets and Location

The Heleus Cluster contains many habitable worlds and other points of interest for the Pathfinder to explore.

Habitat 7

The planet known as Habitat 7 was one of the "golden worlds" selected by the Andromeda Initiative for early settlement. Signs pointed to a lush and biologically diverse tropical region that could easily support an outpost.

With no communications from the Nexus or sister arks upon arrival in the Heleus Cluster, the Hyperion approached Habitat 7 to begin survey and settlement operations as soon as possible, but even visual assessments showed that the planet was no longer viable. Habitat 7 is now a storm-wracked world with an unbreathable argon-nitrogen atmosphere. Intense magnetic activity in unknown metallic elements interacts with the storms, causing interesting but highly destructive electrical phenomena.

The investigating Pathfinder team encountered hostile alien life and strange technology on the surface. Reactivating this technology caused a noticeable change in the conditions on Habitat 7. However, the planet is still unsuitable for settlement, and the resulting activation ultimately claimed the life of Alec Ryder, the human Pathfinder.

Elaaden

Elaaden is the scorching desert moon of a gas giant. Identified on Initiative charts as Habitat 2, Elaaden was considered a "golden world," despite its harsh conditions, because of the moon's vast mineral wealth. Tidal gravitational effects cause plumes of sodium silicate to erupt from Elaaden's core, depositing unusually pure silicon sand across the surface—invaluable for manufacturing high-performance computer hardware.

Orbital surveys show that contrary to projections, Elaaden is almost devoid of water vapor, making long-term settlement or mining efforts unlikely. Those who live on Elaaden face a constant struggle for survival. Able to thrive in environments that would kill most organic species in days, the krogan who departed the Nexus have established a colony on Elaaden and defend their sovereignty fiercely. The Nexus advises travelers to avoid Elaaden if possible.

Options:

- After the gift of a valuable Remnant drive core, the krogan colony of New Tuchanka is now allied with the Initiative. Overlord Morda shares leadership with the Initiative's assigned representative, Kariste Archana. The Nexus is gathering a negotiation team to draw up mineral and water claims on Elaaden. There is no data on whom the krogan are choosing as negotiators.
- The activated Remnant vault has increased the presence of cloud-forming particulates in Elaaden's sky. Though the moon is still brutally hot, moisture levels have noticeably risen, increasing ambient humidity and the likelihood of rain. The

Nexus scientists advise that the inhabitants of Elaaden, once starved for water, should prepare for flash floods.

Havarl

As Jaal explains, Havarl is considered the ancestral home of the angara. The ruins of angaran cities are a draw for researchers, looters, and angara who defy the kett to make pilgrimage. The planet's history also makes it a symbolic staging ground for the ruthlessly xenophobic Roekaar.

Long-range surveys by the Andromeda Initiative indicated Havarl was a garden world of lush green jungles and abundant liquid water. The planet was considered a "golden world," and given the label Habitat 3.

Our observations today show Havarl is unrecognizable. The jungles now dominate much of the planet's surface, demonstrating bizarre growth patterns. Samples show grotesque mutations and hormonal changes in the jungles' plant life, rendering it not only extremely hardy but hazardous for consumption. These factors point to a large-scale shift in Havarl's ecology that bears investigation.

With the Remnant vault stabilized and correctly activated, both angaran and Nexus scientists report a noticeable improvement in Havarl's plant life. The more aggressive and mutated species are dying back, supplanted by soil-enriching and pollinating varieties.

In a comparatively brief time, Havarl shows signs of being a welcoming garden world. Meanwhile, Initiative scientists have joined forces with angaran personnel to investigate Havarl further.

The Scourge

The Scourge is the colloquial term for a huge and extremely dangerous interstellar phenomenon sighted across much of the Heleus Cluster. It appears to be a cloud spreading in "tendrils" that affect planets and surrounding space, destroying starships that attempt to pass through or near it.

Observations and data from the Nexus now show the Scourge's "tendrils" are composed of radioactive, element zero-rich dust and debris. Within these tendrils, thousands of microscopic and unstable warps in space-time are constantly erupting.

These unpredictable distortions build up a charge in the eezo, causing uncontrolled mass effects that alter gravity and can rip a starship apart without warning. The Scourge's presence also affects nearby planets, raining down radioactive fallout and debris, or even altering the orbit of worlds that pass through or near it.

The Scourge is aggressively drawn to Remnant structures on planets, though the cause of the attraction is not yet fully understood. This manifests as further "tendrils" of dust and radioactive particulates that cling to the surface of Remnant technology and interfere with its operations. Either this matter was left behind after the planet in question passed through the Scourge itself, or even distant interactions with Remnant technology can cause the Scourge to coalesce spontaneously. In either case, even this minor manifestation of the Scourge demands additional caution when approaching Remnant sites.

No long-range data showed any sign of the Scourge before departure to the Heleus Cluster. Nexus scientists suggest it must have appeared in the intervening centuries while the arks traveled to Andromeda.

We now know the Scourge is the fallout of a weapon detonated at Khi Tasira. Doctor Aridana believes the weapon caused an instantaneous cluster-wide warping of space-time, briefly connecting multiple points in the Heleus Cluster at once.

Her models suggest the warp effect annihilated multiple planets, forming the debris in the Scourge's tendrils, while the resulting radiation converted much of that debris to element zero. As we have seen, the space-time warping effect continues on a micro scale within the Scourge to this day.

Aya

Aya is an anomaly in the Heleus Cluster: a lush planet where a Remnant site appears to be active. It is a sanctuary for the angara, the only known sentient species local to Heleus, and guarded fiercely against outsiders. This is helped by Aya's position relative to Heleus' black hole, whose gravitational lensing effect makes Aya harder to detect. The Scourge also makes the approach to Aya extremely dangerous for untrained pilots. Scans indicate numerous kett wrecks lost in the Scourge nearby, picked clean by angaran salvagers.

Aya is also the headquarters of the Angaran Resistance movement against the kett, whose leaders advise Aya's planetary governor, Paaran Shie. Director Tann has ordered that Aya is not only to be considered sovereign territory, but a military power. While the Tempest and its crew were allowed to visit peacefully, the Nexus is advising extreme caution to other potential visitors, and ordering the distribution of "early contact" guidelines.

With relations warming between the Initiative and the angara, diplomatic overtures continue. The Initiative is opening an embassy on Aya with Paaran Shie's approval, while extending invitations to angaran diplomats and scientists to tour the Nexus. Our Cultural Exchange is beginning several cooperative programs intended to foster better understanding between the various Milky Way species and the angara.

The Andromeda Galaxy

Located 2.5 million light years from the Milky Way, the Andromeda Galaxy is the largest galaxy in the Local Group. Also categorized as M31, Andromeda is a spiral galaxy roughly 220,000 light years in diameter, containing approximately 1 trillion stars (compared to the Milky Way's 300 billion). The Heleus Cluster is a large star cluster located on the galaxy's outer fringe.

Andromeda has roughly 14 satellite galaxies, which orbit the galactic disk. Evidence shows a disturbance where one of these companion galaxies, M32, passed through Andromeda's spiral arms several million years ago. Andromeda itself is also accelerating towards the Milky Way at roughly 100km/s. In roughly 4 billion years, the Andromeda and Milky Way galaxies will collide and merge, forming a new galactic disk.

Meridian

Evidence in the Aya vault shows the network of Remnant vaults across the Heleus Cluster is controlled from a central point known as "Meridian." When properly connected to Meridian, the vaults function as designed, terraforming and maintaining planetary conditions to make planets suitable for life. When disconnected, the vaults appear to either go into standby—as seen on Eos—or malfunction—as may have happened on Habitat 7—with disastrous consequences for their planet.

This proves Meridian's central importance to Remnant vaults and the planets of the Heleus Cluster. Whoever controls it can theoretically affect vault function, meaning they could control—or disrupt—the ecology of entire worlds.

Following the Archon's data led to a gigantic Remnant structure he had code-named "Khi Tasira." The Archon believed this to be Meridian, when it is actually just a command core. Records at Khi Tasira show Meridian itself was jettisoned to safety, when its builders faced the weapon which created the Scourge.

Meridian is a construct akin to a Dyson sphere: a vast, hollow shell encompassing a power source that provides heat and light to lush green biomes in the interior. My early studies of Jardaán records suggest Meridian was their laboratory and seed world, connected to each vault and constantly monitoring the progress of life there. However, even at quantum processing speeds, it will take decades to sift through all of Meridian's accumulated data.

With the Hyperion crash-landed inside, humanity has a significant stake in Meridian's future and has founded "Port Meridian," a largely human settlement based around the Hyperion crash site.

Port Meridian

Meridian is now the name of both the Jardaán seed world shell, and the largely human port and city within. The architectural center of the port is the repurposed superstructure of the Ark Hyperion, which is being converted to stationary housing and research facilities. The controlled crash of the Hyperion, by Captain Nozomi Dunn, marked the first complete deployment and landing of an Initiative ark in Andromeda, effectively designating Meridian a human capital.

Adaptation of the former Ark Hyperion is ongoing, as is the deployment of its 20,000 sleepers.

H-047c

This small planet was of particular interest to the turian contingent of the Andromeda Initiative. Long-distance studies suggested H-047c was a "golden world," eminently suitable for dextro-protein species like turians, earning it the designation Habitat 5. The turian ark Natanus set course for H-047c to ensure they would have a viable settlement site on arrival.

In the intervening centuries, astronomical studies show H-047c was pulverized by debris from the erupting Scourge. The dark energy of the phenomenon increased the mass of this debris to the point that the impact shattered the planet, leaving it uninhabitable.

With its magnetic field drastically weakened and much of its atmosphere lost, what remains intact of H-047c's surface is vulnerable to cosmic radiation. This has rendered the soil unable to support life, though it is a potential source of valuable helium-3.

Eos

Eos, designated Habitat 1, was the earliest "golden world" identified for outpost placement. Named for the Greek goddess of dawn by Jien Garson personally, Eos embodied the hope of the Andromeda Initiative for a new start.

On arrival, the Nexus discovered that a world projected to be arid but comfortably habitable was now ravaged by radioactive fallout from the Scourge. The planet's

atmosphere is wracked by storms that have spread the radiation across continents; periodic 130km/hr winds strip equipment and damage shuttles.

Reports from the Nexus include a sanitized account of two attempts to colonize the planet, both of which ended in failure and an unacceptable loss of life. There is also a significant kett presence on Eos, apparently investigating mysterious signals on the surface. Eos is now off-limits to unauthorized Nexus personnel, as the Nexus leadership believe it is no longer viable.

Activating the vault discovered below Eos' surface has had a dramatic and immediate effect. Radioactive particles are being stripped from the atmosphere by unknown means, and the resulting temperature changes are calming Eos' high winds. The planet's moisture levels are already showing improvement.

Prodromos, the first Pathfinder-established outpost, has been founded in Fairwinds Basin, with Mayor August Bradley in charge. The Nexus is broadcasting footage of departing colonists and the new conditions on Eos across all communication channels.

Black Hole: H-012 "Ketos"

At the center of the Heleus Cluster is a black hole, a huge star that has collapsed into a region of space-time with gravitational effects so powerful that even light cannot escape. This example is believed to be a Kerr black hole approximately 12 stellar masses in size, and appears to have absorbed additional mass from nearby systems. Our scientists believe that the radiation released from the creation of the black hole may explain the abundant element zero found in Heleus.

In the Milky Way, study of black holes was still in its infancy. The forces around the event horizon typically destroy probes before they can transmit their data. This black hole presents a unique opportunity for study even at a remove.

The original asari surveys of Andromeda called the black hole Ardat Hekas, "demon's maw." Initiative charts refer to it as H-012 Ketos, after the mythological sea monster that intended to devour the princess Andromeda.

According to their scientific journals, angaran astronomers called the black hole Haranj (roughly: "the fisher's lure") for the observable effect it has on comets and surrounding systems. The gravitational lensing effect of the black hole has allowed the angara-controlled planet Aya to go largely unnoticed by the kett.

Continued observation has shown interesting interactions between the black hole and the Scourge. There is evidence that some of the Scourge's mass is being drawn into the black hole, causing continued "currents" in the phenomenon. Our scientists have suggested that without the black hole, the Scourge phenomenon might have been even more hazardous.

Voeld

From the Milky Way, the Initiative identified Voeld as Habitat 6, a "golden world" projected to be a life-sustaining and temperate garden world. This is confirmed by angaran historians: Voeld was once a heavily populated and thriving angaran colony.

During the Scourge event, gravitational distortions affected Voeld's orbit. Models from the Nexus tech labs show how this triggered a minor ice age. The angara were forced to withdraw to a few urban centers, with the rest of Voeld's population scattered in smaller settlements.

Voeld is therefore both culturally and strategically important to the angara, and has drawn the attention of the kett. Reports suggest a significant military presence on both sides, as the Angaran Resistance fight to defend Voeld's population and protect the ice-encased remains of their world.

The Initiative's new outpost, Taerve Uni, has been safely established. Led by new mayor Priya Blake, Taerve Uni is committed to open borders with the angara as Voeld becomes more habitable. The outpost is now a major supplier of water ice to other colonies and the Nexus.

Analyzing Suvi's orbital readings, it appears that the Voeld vault, unable to gravitationally compensate for Voeld's change in orbit, has triggered a controlled melt of frozen carbon dioxide in the permafrost. Projections show this will thicken the atmosphere, gradually raising Voeld's temperature to ease the ice age. This reveals that Remnant vaults are capable of sophisticated analysis and response to planetary conditions.

Khi Tasira

Roughly translated as "the place of ascension," Khi Tasira is a city-sized Remnant structure in the Civki system. From our investigations, we now know the Archon's research over decades led him to believe this structure was Meridian, control center for the Remnant vault network.

This may explain why Khi Tasira is one of the most heavily defended Remnant sites in Heleus. A substantial percentage of the kett fleet is anchored here, while APEX reports the Archon has sent dozens of kett cryptologists and physicists there in an attempt to solve its mysteries, with a battalion of Exalted to defend them. Approaching Khi Tasira, therefore, is to breach one of the greatest kett strongholds in the Heleus Cluster.

Even though Khi Tasira is not actually Meridian, but—as we now know—only a control module originally anchored into Meridian proper, the city remains a hugely significant Remnant site. It was home to a large population of the Remnant builders, the Jardaans, and still houses many of their experimental creations. The Remnant ships housed there appear to be in working order, as are most of the databanks and archives. Preserved despite the kett's efforts to ransack it for information, with study, the city could eventually present a glimpse into the Jardaans' motivations and a better understanding of the Remnant they left behind.

Kadara

Kadara was of great interest to the Andromeda Initiative after it appeared on long-range surveys. Seemingly abundant liquid water and an oxygen-mix atmosphere made it a strong candidate for settlement, earning it the designation Habitat 4. Closer range surveys now reveal that Kadara's water sources are tainted and unpotable.

Of greater concern is the large settlement known as Kadara Port. Reportedly once a trade port for the angara, it has been adopted by exiles, pirates, and mercenaries who use it as a staging ground. Kadara Port is considered a rogue state by the Nexus, given its strong ties to the Exiles, and Initiative personnel are advised to keep their distance.

Options:

- Sloane Kelly, leader of the pirate Outcasts, has now cemented her hold on Kadara Port and pledged to defend any outposts on Kadara from other exile factions. Officially, the Nexus still has no diplomatic ties with Kelly; unofficially, the APEX bounty on Kelly has been quietly withdrawn.

- Kadara Port is now controlled by the Collective, led by "the Charlatan" Reyes Vidal. The Nexus is considering its response to these events, as Vidal is an unknown factor to the Initiative's leadership.

Ditaeon, the Initiative outpost on Kadara, has had a smooth initial deployment. The outpost is led by Christmas Tate, formerly of Mining Company 07 on Mars.

Sampling shows that activating Kadara's vault has dramatically improved water quality. New algal blooms and microbial life have emerged, which eat and metabolize sulfide minerals in the ground water before serving as a food supply for larger animals. Ditaeon should not require more than standard water trading.

Technology

Exploration Tools

Scanner

Planetary surveying, especially for potential settlement, involves meticulous scanning. However, there has been little pressure to improve planetary scanners. In its search for a better solution for its Pathfinders, the Andromeda Initiative began with hardware salvaged from geth platforms and software developed by the salarian STG.

With artificial intelligence support, Initiative scientists developed a fast, accurate sampling system codenamed Panoptes. Linking it to the quantum computing power of an AI, which can produce multiple analyses and predictive models in seconds, they created an omni-tool mounted scanner that completes accurate surveys in moments instead of weeks.

For typical scanning, the Panoptes system uses a transmitted accelerator mass spectrometer (TRAMS). This creates a "snapshot" of an object's components, atomic weight, and radioactivity, and allows me to produce a more in-depth analysis. For biological materials, the Panoptes system switches to an electrospray ionization system, so plants or animals can be scanned without causing radiation damage.

Field Repurposing

With limited cargo space aboard the arks for specialized gear, and facing unknown dangers in Andromeda, the Initiative's philosophy is "adapt to succeed." Colonists are required to have a wide variety of skills. Equipment and weapons are expected to perform multiple functions.

However, this adaptability is fueled by non-renewable resources like ammunition, medi-gel, and power cells. Knowing they would not be readily available in Andromeda, in an emergency, the Initiative's omni-tools can recover and repurpose appropriate resources to serve a similar function. Liquid coolant allows weapon heat sinks to be re-used; organic compounds can be refined into medi-gel, and so on.

When these resources are available, the user is alerted via an interface between the user's scanner and their HUD.

Jump-jets

Once proprietary hardware for turian special forces, Initiative armor comes with jump-jets as standard. These jets allow a user to make extremely high jumps or hover for several seconds. All colonists are trained in their operation to evade predators or environmental hazards, obtain resources, or conduct maintenance in high places safely.

The jump-jet itself consists of a helium-3 microthruster with a tungsten-hafnium carbide casing. A gyroscopic element zero core functions to both keep the user orientated in flight and lower their mass when hovering, keeping fuel expenditure down. Hard-coded safety features prevent continuous operation of jump-jets to avoid injuring the user or melting their equipment.

Technology: Consumable resources

While Andromeda Initiative gear and weaponry is designed to be as versatile as possible, extraordinary circumstances sometimes arise. Pathfinders and scout forces often turn to less orthodox resources to ensure they survive hostile conditions.

"Adrenaline" is a nickname for a prototype omni-gel/OSD package. When deployed, it bypasses omni-tool safeties to manufacture (small-scale manufacture) new heat sinks and provide a temporary but powerful boost to armor.

A shield capacitor immediately overlocks a user's shields, bringing them to full power and giving them a boost. This boost is unstable, however, and will be lost the next time the shield is breached.

A life support pack boosts the environmental management systems of a user's hardsuit, enabling them to cope with environmental hazards for a longer period.

Special ammunition packs apply a variety of effects to weapons fire. Incendiary ammo coats projectiles in thermite paste as they are fired. The paste adheres to and burns through armor. Cryo ammo uses Bose-Einstein condensate to freeze an enemy or slow them. Disrupter ammo projectiles carry an electrical charge that damages enemy hardsuit systems.

The Cobra RPG package uses a volatile solution of omni-gel to manufacture a short-lived but extremely dangerous projectile. Launched from an omni-tool, it hits with the same explosive power as a portable rocket launcher.

Omni-tools

Omni-tools are hand-held devices that combine a computer microframe, sensor analysis pack, and manufacturing fabricator. Versatile and reliable, an omni-tool can be used to analyze and adjust the functionality of most standard equipment, including weapons and armor, from a distance. The holographic haptic interface also functions as a communication device.

With sufficient omni-gel or other raw materials—usually converted from salvaged light alloys, plastics, or ceramics—an omni-tool's fabrication module can flash-forge small three-dimensional objects or emergency suit patches. This allows quick repairs or modifications in the field.

The Andromeda Initiative's omni-tools are designed for reliability and efficient recycling of materials. Pathfinder omni-tools take design inspiration from the models used by salarian intelligence services, prioritizing the computer microframe to allow lag-free scanning and AI support.

Research and Development

New designs and advancements in technology.

Technology: Materials

Crafting new weapons, armor, and equipment requires a variety of materials. Though there are strange new isotopes and ores in Andromeda, our scientists have identified familiar elements.

Heavy metals such as iron, cadmium, and nickel are used in construction and heavy manufacturing. Their density makes them useful for armor components and ammunition blocks.

Many light metals—including silicon, beryllium, magnesium, and aluminum—are resistant to corrosion and invaluable for computer components, heat sinks, and high-conductive electrical wiring, while lithium has both engineering and medical applications.

Titanium, a transition metal, is eagerly sought-after for starship construction. Vanadium improves steel quality and is used by the aerospace industry.

Noble metals—including platinum, copper, and iridium—are rare and valuable in the Milky Way. They are often used in high-quality electronics or machine parts that require high precision.

Minerals like graphite, used to manufacture carbon nanotubes and carbon fiber, and fluorite for high-precision scientific lenses, are more common but equally useful.

The Initiative pays well for more hazardous materials. Uranium is used in weaponry and nuclear-powered facilities, while element zero has applications in multiple fields: heavy industry, starship engines, jump-jet components, or even as an ingredient in many advanced medicines, to name but a few.

Technology: Weapon and Armor Mods

Andromeda Initiative equipment is designed to be modular and adaptable to any situation. Weapons and armor, in particular, are built with the understanding that they will be customized multiple times in the field over their operational lifetime.

Gun modifications can be purchased from appropriate locations, or recovered in the field. Each weapon's targeting computer also contains an adaptive integration VI that analyzes a mod on installation, adjusts the weapon's balance, heat sink requirements, and ammunition block accordingly, and sends a list of any additional components to the user's omni-tool for manufacturing. The process typically takes only a few minutes.

We now know that some Remnant technology functions in a similar fashion. The highly advanced modules recovered from Remnant sites can be integrated into existing armor pieces. Their ability to "fuse" in this way has earned them the nickname "fusion mods," though this is hotly debated in the Nexus tech labs.

The full capabilities of these fusion mods is still being researched. While they offer impressive benefits, successfully integrating them with our technology often requires a trade-off in some capabilities while vastly improving others. The user is advised to choose their fusion mods with care.

Technology: Augmentations

While many material components in Andromeda are familiar, we have also discovered rarer and more valuable materials; attributable to exposure to the Scourge, or mysterious alien technology. These "augmentation materials" are used in research and development to craft powerful, specialized items. Augmentations are essential to support weapon or gear combinations that would be impossible to build with conventional materials.

Some augmentations are sold by traders, but the highest quality augmentations require careful research. Once completed, the augmentation's profile is used to recognize additional examples of that augmentation out in the field.

Technology: Research Center

A Research Center is a research and development platform normally assigned to outposts and some select Initiative starships. Advanced manufacturing capability (small-scale manufacture) and information processing allows the Research Center to develop new technology and build it almost on the spot. They are also used to build powerful augmentations that enhance the capability of equipment.

Given the Initiative's current limitations, bandwidth and resource allocation to Research Centers is carefully monitored. The Nexus underlines the importance of new discoveries by rewarding scans and information gathered via a points system. Commonly referred to as Research Data Points (RD), these can be used for access time at Research Centers to discover or create new blueprints.

Settling Heleus

Technology to build a new home from the ground up.

Technology: Charting Andromeda

Charting the Andromeda Galaxy for habitable planets presents a unique challenge. Observation is limited by light, and given Andromeda's distance, any observations from the Milky Way are 2.5 million years out of date—enough time for a planet to have altered irrevocably.

Initial attempts to identify settlement sites were made by obtaining asari astronomical surveys and running them through predictive models. But Jien Garson was unwilling to risk thousands of colonists without solid information.

Eventually, the Initiative obtained promising data from quarian explorers who claimed to have found a geth array on the fringes of the Perseus Veil. This array was supposedly built from three mass relays, using sensors in the combined relay corridor as a form of FTL "telescope," to observe dark space beyond the galactic rim. Why the geth expended so much effort to study dark space is not known.

Amongst these observations were near-contemporary surveys of Andromeda. When our predictive models confirmed them within an acceptable margin, the Initiative was able to begin identifying "golden worlds."

Communications and QEC

Communications have always been a concern for interstellar colonists. Trade, defense, and political representation depend on reliable lines of communication.

The most sophisticated method is quantum entanglement communication (QEC). This utilizes a pair of particles that are linked on a quantum level: any effect on one particle is mirrored instantaneously by the other, regardless of the distance between. Pathfinder implants use miniaturized QECs to remain in contact with their AI partners.

However, manufacturing these particle pairs is a delicate and difficult process, especially with resources limited in Heleus. Long-term, the Andromeda Initiative plans to establish a comm relay network, transmitting data between buoys linked by mass-free corridors of space. The Scourge has hampered these efforts.

In the meantime, Initiative starships act like maritime mail packets, carrying secure data packages that transmit to approved colony receivers once they're in range. The transmissions are limited by the ship's data storage and the capability of receivers, but improvements are ongoing.

Technology: Forward Stations

Automated forward stations are part of the initial wave of exploration or colonist deployment. They contain valuable resource caches for explorers to resupply, repair stations for vehicles, and ground-penetrating sensors to identify mineral deposits. Their presence improves the chances of a planet being considered viable.

When a planet is seriously considered for settlement or a survey is ongoing, forward stations are seeded into orbit via automated barges. Once summoned to a designated zone, forward stations descend and anchor themselves on the ground, becoming valuable landmarks. Most scout rovers have forward station connectivity, allowing them to be summoned to the stations.

Current resource constraints mean that, in theory, only Pathfinders have official sanction to call down forward stations. In reality, reports show that enterprising colonists or unscrupulous scavengers have been known to hack the signals to raid the stations for supplies.

Technology: Mining

Without a steady supply of minerals and metallic ores, the Initiative's engineering capabilities grind to a halt. With plans so far off schedule, it's even more important to gather resources wherever possible. On the ground, Pathfinder scanners and the ground-penetrating radar of forward stations assist in locating resources for immediate harvest, or for colonists beginning their own mining operations.

In space, Initiative starships can pinpoint resources from orbit. Each ship is equipped with probes that contain both a sensor beacon and robotic drones that can harvest at least a percentage of any deposits quickly. The Nexus has relied on asteroid mining for the raw materials to support the construction efforts, which yield heavy metals and platinum.

The Scourge is a rich source of element zero, but the hazardous conditions destroy most robotic telepresence, making it an expensive pursuit. Most prospectors look on nearby planets for jettisoned rock and debris from the Scourge, which often contain eezo deposits.

Technology: Terraforming

Terraforming is the science of making planets more viable for life. "Soft" terraforming involves the introduction of bacteria or ocean algae to bind toxic gases or adjust a hostile ecology. "Hard" terraforming is often conducted on arid planets with a thin atmosphere, using the impact of a comet or asteroid to warm the planet before introducing microbial life. This process can take centuries. Terraforming even a barren planet often involves significant financial and ethical hurdles.

The Andromeda Initiative has the capability for terraforming if necessary, but is limited by the timeframes involved. The "golden worlds" surveyed from the Milky Way were intended to support quick colonist deployment, with second-tier candidates identified for potential terraforming later.

If the Remnant vault on Eos is intended for terraforming, as evidence shows, its function is unprecedented. The ability to effect change on a global scale in such a short time defies our understanding of planetary science.

The vault on Aya not only confirms that the Remnant builders used their technology to terraform planets, but that the vaults are part of a massive network across the Heleus Cluster with a central control point, dubbed Meridian.

The existence of Meridian places the vaults and their operation in a larger context. A species capable of engineering on a cluster-wide scale would not need to terraform worlds to survive. Though reactivating the vaults results in an environment agreeable to Milky Way species, it is entirely possible that their renewed viability is a means rather than an end.

Cryogenic Stasis

For many species, early long-range exploration relied on cryogenic stasis. Without modern FTL capability, or long-distance transit methods like mass relays, the distances involved in space travel meant that most crews would die of old age before reaching their destination.

Cryogenic stasis gradually lowers the body's temperature enough to slow its vital functions, but not low enough for damaging ice crystals to form, before the pod generates a mass effect stasis field that suspends both the individual and the interior environment in the pod. Contrary to depictions in popular media, the individual is not conscious of time passing: from most travelers' perspective, they lie down in the pod only to be awoken moments later.

Stasis failure, while regrettably common for early expeditions, has been vastly improved over the years. Even in the event of catastrophic system failure, multiple monitoring VIs and fail-safes are in place to initiate an emergency wake-up.

Tech and Biotics

The science behind abilities that seemingly defy the laws of physics.

Technology: Element Zero (Eezo)

Also known as "eezo," the rare material known as element zero generates a field when subjected to an electrical current which raises or lowers the mass of all objects within it. This "mass effect" forms the basis of modern technology, from weapons and manufacturing, to enabling faster-than-light travel.

Element zero is generated when solid matter, such as a planet, is affected by the energy of a star going supernova. The material is common in the asteroid debris that orbits neutron stars and pulsars, though mining such regions is extremely hazardous and requires significant investment. Various isotopes of element zero have been identified, though the rarest have only been observed in laboratory conditions.

Surveys of the Heleus Cluster suggested the region is rich in element zero, which was a deciding factor in the Andromeda Initiative's decision to settle there. Without eezo, the Initiative's technology would quickly become obsolete.

Technology: FTL Drive

A starship travels faster than light using an element zero drive core. In special relativity, an object approaching light speed effectively gains in mass, until it would take infinite energy to propel it. But a negative electrical current running through an eezo drive core lowers the starship's mass, allowing it to travel at FTL speeds.

Motive force is provided by the ship's thrusters (chemical rockets, commercial fusion torch, or military antiproton drive), in addition to the FTL drive core. Without thrusters, the ship has no ability to move.

Standard drive cores build up a static charge during operation, and must be discharged periodically. Otherwise the core discharges into the ship itself, with catastrophic results. The Initiative's drive cores, intended for long-term voyages, are designed to recycle or reduce static buildup.

Technology: Mass Effect Fields

Element zero can increase or decrease the mass of a volume of space-time when subjected to an electrical current. With a positive current, mass is increased. With a negative current, mass is decreased. The stronger the current, the greater the magnitude of the dark energy mass effect.

In space, low-mass fields allow FTL travel and inexpensive surface-to-orbit transit. High-mass fields create artificial gravity and push space debris away from vessels. In manufacturing, low-mass fields permit the creation of evenly blended alloys, while high mass compaction creates dense, sturdy construction materials.

The Andromeda Initiative's technology relies heavily on mass effect fields, from reduced-mass supply drops for outposts to the impressive long-range drive cores on the arks.

Technology: Artificial Intelligence

While a virtual intelligence is little more than a sophisticated interactive operating system, an artificial intelligence is a self-aware computing system capable of learning and independent decision making. Creating an AI requires adaptive code, a long education, and a specialized quantum computer known as a "blue box."

In the Milky Way, artificial intelligence is considered a threat to galactic civilization. The geth—synthetic lifeforms who turned on their quarian creators—are often used as an example of the destructive capability of rogue AI, and those who attempt to create AI without strict Citadel Council oversight are subject to sanctions or even arrest.

Alec Ryder's research papers claim that experiential separation is the root of conflict between organic and synthetic life; that an AI sharing the experience of its creator would have no desire to rebel. My connection to your Pathfinder implant and physiology makes me the first iteration of this new approach to AI.

Technology: Biotics

Biotics are rare individuals with the ability to create and manipulate mass effect fields. Given the correct implants and careful training, a biotic can raise defensive barriers, yank opponents off their feet, or shred an enemy apart at the molecular level.

A biotic gains these abilities after exposure to dust-form element zero in utero, or via secondary exposures at a young age. Though this often results in fatal cancer, roughly 10% of those exposed develop element zero nodules along their nervous system. Once activated by the body's electrical impulses, these nodules allow the biotic to create mass effect fields, though most need a neural implant to wield them effectively.

Some species, like the asari, are naturally biotic, but human biotics are still relatively rare and many view them with suspicion. The Andromeda Initiative has proven attractive to biotic applicants.

Ship and vehicles

The vessels and transports that make exploration possible.

Ark Paarchero

Ark Paarchero is the Andromeda Initiative's designated vessel for transporting salarian colonists to the new galaxy. Mirroring the design of its human counterpart, Hyperion, Ark Paarchero can accommodate 20,000 passengers and crew in cryogenic stasis.

Paarchero's development was plagued by early delays and disagreements between its senior crew and the Initiative's design team. The salarian penchant for constantly pushing the boundaries of technology was often at odds with the realities of budgets and time constraints. At one point, it was calculated that if every "vital and necessary improvement" suggested by the salarian contingent was incorporated into the Paarchero's design, its launch would have been delayed until 2204 at the soonest.

After considerable negotiation and debate, a compromise was reached and Ark Paarchero departed the Milky Way in 2185 in the initial wave of settlers under the command of Captain Lumont Hayjer.

Following a daring infiltration mission launched by Pathfinder Ryder and her/his team, the ark was safely rescued from kett forces and has returned to the Nexus.

ND1 Nomad

Seeking a suitable scout rover, the Andromeda Initiative purchased a promising but rejected design from the Systems Alliance military. The issue quickly became apparent: on rough terrain, without the bracing of heavy armor, the chassis was prone to twist. The Initiative had already developed lightweight but strong memory alloys which solved this problem.

The resulting ND1 Nomad exchanges heavy armaments for superior agility. The rover has a tripartite element zero core, which allows fine control over acceleration and a more modest helium-3 fuel cost for its microthrusters. Its lighter weight enables both six-wheel drive (6WD) and four-wheel drive (4WD), and four-wheel steering for hazardous surfaces. Fitting the Initiative's adaptive philosophy, the Nomad can be customized with appropriate camouflage or Initiative colors.

When necessary during long-haul exploration, the rover contains an emergency shelter. It can produce potable water from its hydrogen-oxygen fuel cells, though scientists recommend adding a flavor pack to it first.

The Tempest

The Tempest is a survey ship designed for long-range, long-term exploration under a Pathfinder's command. Its light weight and efficient design allow it to operate with a small crew and minimal resources.

Built by the Andromeda Initiative, the Tempest makes use of several once-proprietary technologies, including an IES stealth system originally developed by the Systems Alliance. Many of these systems were permitted on the condition that the Tempest only operate in the Andromeda Galaxy.

The Tempest's engine is a variation on the arks' ODSY drives that allow long-term operation, capturing a percentage of the static buildup in capacitors. The recycled electrical charge powers several of the Tempest's onboard systems.

As a Pathfinder vessel, the Tempest has research and development facilities, laboratories, and a well-appointed meeting space to accommodate dignitaries, anticipating any potential first contact scenarios.

Remnant: Starships

Without need for crew considerations, the Remnant are capable of fielding vessels with theoretically massive carrying capacity. Their function is likely tied to the Remnant role of planetary maintenance or terraforming.

The general standby state of the vaults may explain why the larger examples of these starships are so rare: there was no purpose in maintaining them.

The capabilities of these vessels are unknown. The smaller have been observed to exceed Initiative or kett starships in speed and flight performance, unburdened by a biological pilot's reflexes or the need to avoid maneuvers that could endanger a living crew. The larger are likely subject to the same operational limits as capital ships or arks: they may have no crew to maintain, but they must accommodate their cargo.

The Verakan

The kett flagship, Verakan, is a heavily armed warship that serves as the Archon's central command post for the kett incursion into the Heleus Cluster. Heavy main guns and exceptionally powerful kinetic barriers suggest that any frontal assault on the Verakan without a correspondingly powerful dreadnought would be suicide.

The vessel appears to serve as a research center for studying newly captured Milky Way species. Both krogan and salarian captives were encountered aboard, indicating the Archon's interest in exalting new species and acquiring their genetic traits.

The Verakan also houses many of the kett's most important Remnant relics, apparently gathered and presented to the Archon for study at his leisure. This fascination was evident in the Archon's private chamber, where he kept a special collection of Remnant technology and relics on display.

Ark Leusiana

Constructed in orbit around Piores in the asari home system Parnitha, Ark Leusinia is named after a kingdom of wealth and learning in asari mythology. She is built to the same specifications as her sister ark Hyperion, with internal modifications to accommodate asari social preferences, and captained by Elonis Atandra.

The Andromeda Initiative was initially rejected as a human-driven boondoggle by many asari investors, and the construction of the Leusinia was met with ridicule. However, the efforts drew the attention of several Matriarchs who had assisted in previous attempts to send crewed missions to Andromeda, and their impassioned extranet addresses helped turn the tide of public opinion. At her departure ceremony, Ark Leusinia was officially blessed by the Atamna Politeia, an organization of siarist high priestesses from across the Asari Republics.

Ark Leusinia traveled to the Initiative rendezvous point in 2184, and left the Milky Way as part of the initial departure wave in 2185.

After reaching Andromeda and encountering the kett, Ark Leusinia came under attack by a group of specialized kett hunters known as the Decimation. Stolen kett navigational data allowed the ark to flee through the Scourge while evacuating as many civilians as possible, but constant harrying eventually forced the ark to go into hiding until rescue arrived.

After being escorted to safety, Ark Leusinia is now docked at the Nexus to offload the remaining colonists from stasis and undergo extensive repairs.

Tempest: ODSY Drive

Standard ship drive cores build up static electricity, and require periodic discharge on a planet or at specialized facilities to prevent static from building to dangerous levels. With few such suitable discharge points in dark space, the ODSY drive core was developed for the arks' long-haul journey to Andromeda. The Tempest's drive core is an experimental small-scale variant based upon the original design.

The ODSY (out-galaxy distributed static synch) drive core is designed to minimize static build-up, and transfers the remaining charge to specially designed capacitors attached to the core. The recycled electricity is used to run ship systems, reducing power requirements and lowering heat generation.

Cross-galaxy, the arks gathered hydrogen using an electromagnetic ramscoop, converting it into protons with an ionizing laser. Proton collision in the arks' fusion reactors provided power for their thrusters. The Tempest's thrusters run on conventional helium-3, though Initiative breakthroughs in fuel efficiency means their helium-3 requirements are drastically lowered.

Tempest: Technology

The Tempest required a number of experimental technologies to accommodate the unique requirements of a Pathfinder team. Its planetary surface imaging, for example, uses photosensitive and radar/lidar-emitting microsattellites that coordinate with the Tempest's router back to SAM Node. I then conduct simulated scientific and probability studies on the data before presenting the Pathfinder with a summarized analysis, typically in 0.5 seconds.

The Tempest's computer network presented interesting challenges. As most Milky Way computer systems have anti-AI safeguards built in, the Tempest's network had to be designed from scratch to accommodate my interaction with the ship's systems. Firmware bridges, inspired by studies into geth networking technology, allow me to temporarily interact with and augment sensors, communications, and the ship's navigation array.

Given the desire to reduce mass without sacrificing safety, the electrical charge from the Tempest's capacitors is used to keep the ship stable, via prototype piezoelectric vibration reduction (PVR) technology. When the ship's superstructure is bent by vibrations—such as during atmospheric re-entry or complex flight maneuvers—piezoelectric elements receive an electrical charge that bends bulkheads in the opposing direction, reducing vibrations and smoothing the ship's flight path.

Tempest: Research Capabilities

Pathfinders are often the first to encounter new potential threats or valuable technology. The Tempest is therefore equipped for sophisticated research and development in the field, to support a fast turnaround of any necessary upgrades or analysis. Its Research Center syncs with the Tech Lab systems, giving insight into the capabilities of new materials and their potential applications.

My connection to Ark Hyperion and the Nexus allows me to transfer data and latest discoveries from the scientists stationed there. Quantum computing enables multiple complex simulations to be run simultaneously, and new components or configurations can be tested virtually before they are built.

Tempest: Stealth System

In 2183, the Systems Alliance and the Turian Hierarchy co-developed the IES (internal emission sink) stealth system for small military frigates. It's unknown how the Initiative acquired this system for its survey ships, as IES stealth technology is classified. Despite valid security certificates, no record of negotiations exists in the Nexus legal archives.

An IES stealth system is designed to capture the heat and radiation emitted by all starships in refrigerated storage sinks, effectively removing the ship from sensors. Initiative starship systems are streamlined to emit less electromagnetic and particle radiation, and to lower heat production. This reduces the amount of emissions to be stored. Additionally, breakthroughs in cryogenic research allow the storage sinks to be more effectively refrigerated, allowing longer stealth time before the sinks must be vented for safety.

The Tempest can remain stationary in stealth for several hours, or travel at FTL in "silent running" for shorter periods.

Ark Natanus

Ark Natanus was constructed in orbit around Aventen, a once-lucrative mining planet in the turian home system Trebia. The ark was named after legendary spacefarer Palex Natanus, who is believed to be the first turian to travel through a mass relay. The Natanus is built to similar specifications as the asari and human arks, but with minor changes to accommodate her dextro-amino-acid-based passengers. Natanus is captained by the renowned Dea Praeton of the Sixth Fleet.

Like most economical ventures, turian investors were turned onto the Andromeda Initiative by their clients, the volus. The Turian Hierarchy was intentionally kept in the dark to keep the Initiative a private, civilian project.

Ark Natanus traveled to the Initiative rendezvous point in 2184, and left the Milky Way as part of the initial departure wave in 2185.

Upon arrival in Heleus, Ark Natanus hit the Scourge, causing severe structural damage. A skeleton crew was awoken in an attempt to control the situation, but all were either forced to abandon ship or were killed in action. The casualty list includes the turian Pathfinder, Macen Barro, who died while trying to transfer SAM to former Spectre and security officer, Avitus Rix. Because the transfer process was interrupted, the turian SAM's directives were corrupted and the AI focused all of Ark Natanus' resources on finding and reaching H-047c, the intended turian home world in Andromeda.

The ark's travels through the Scourge have left it too damaged to be returned to the Nexus. However, rescue attempts are underway to retrieve the 15,000 sleeping turians aboard.

Kett starships

The kett utilize a variety of military aircraft, from agile dropships to enormous dreadnoughts. Closer inspection of kett starships, including several destroyed by the Scourge, has shown that they appear to be heavily biomimetic; while not organic, the kett take strong design inspiration from living organisms. Air filtration, electrical systems and heat management mimic behavior seen in living creatures.

The few kett engine cores available for study show that while the kett use element zero cores, their design is radically different. While in comparatively short-range environments such as the Heleus Cluster they function similarly to Milky Way drives, kett drive cores are capable of gravitationally contracting space in front of the ship and shortening it behind, creating an Alcubierre waveform that allows the ship to traverse longer distances quickly. This design feature compensates somewhat for the lack of long-range mass relay transport in Andromeda, though these drives are highly inefficient by comparison.

However, it is clear we have only seen a small cross-section of kett starships, likely military vessels on long deployment. More scientifically advanced starships may exist elsewhere.

Tempest: Laboratories

The Tempest is equipped for long-range survey and scientific studies, which are carried out at the ship's two main labs.

The bio lab is equipped to hydroponically grow both Milky Way and Andromeda plant life, for research or consumption. The plants also clean the ship's air and generate a modest amount of oxygen. Sealed observation chambers are set up to study small fauna, sequence genetic material, or simulate bacterial growth in carefully controlled conditions. All biomatter entering or leaving the lab is subjected to additional quarantine measures.

The tech lab is used for engineering and technical studies, spectral analysis using laser apparatus, and for analyzing the capabilities of discovered technology. New minerals or metals can be subjected to additional resistance testing before being used in the Tempest's Research Center. Because of the potential volatility of new materials, the tech lab is equipped with heavy radiation shielding and can be sealed off in an emergency.

Ark Hyperion

Ark Hyperion serves as the main vessel for carrying human settlers bound for Andromeda. Named after a Greek mythological figure associated with knowledge of celestial bodies, the Hyperion represents a breakthrough in intergalactic travel. Substantial money and resources were devoted to its construction, all privately funded by Jien Garson and the Andromeda Initiative.

Built to withstand the rigors of a nearly 2.5 million light-year voyage, the Hyperion is outfitted with ODSY drive core technology, which allows the ship to make a six hundred year voyage safely at FTL speeds. It features enough stasis pods to accommodate approximately 20,000 settlers and crew.

Ark Hyperion left the Milky Way in 2185 as part of the initial wave of departures, under the command of Captain Nozomi Dunn.

Ark Hyperion crashed on Meridian in the battle against the Archon. The ark was decommissioned; the vessel's internal structures are now being adapted for future industrial and residential deployment, re-designated as "Port Meridian."