Exodus - Angel Colony

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The purpose of exodus was to carry mankind out to the stars. Spread humanity out over as many planets as possible before whatever was out there took a notion to corner us at home. It was an insurance policy for the human race—paid for in human embryos and the fruits of ten years’ worth of system wide industry, among other mean necessities. It was in many ways the worst example of a colony effort that earth could mount. As fast as technology was exploding, it would be decades before anyone could propose a basic terraforming program. We simply did not have the means to take earth with us in all her genetic diversity, and recreate our home from scratch. The best we could do was take a specially tailored catalogue of embryonic plant and animal stock to support and complement our cargoes of unborn people, and do our damnedest to find the most terra-compatible worlds we could. That was all there was to it, we were only concerned with slipping our eggs into some other baskets.

if fortune smiled on earth, then maybe in another hundred years a real, practical colonization effort could be mounted. The emergency colonies could be revisited and the deficits in their environments could be addressed. Exodus placed its faith in that trait of humanity which had allowed us to adapt to virtually every ecological niche in our world. We baldly hoped that there would be at least one small corner on these unknown, undiscovered worlds where man could hang on. We had no reason to assume that the invasion or obliteration of earth was likely to happen, but we knew it was possible. By unanimous vote, the united nations and the solar authority agreed to spare no expense and waste no time investing in the survival of humanity through operation exodus. The emergency colonization plan called for at least one hundred ships, each commissioned to carry a cargo of one million human, and twenty million domestic stock animals—from cattle, horses, camels, goats, sheep and chickens to cats and dogs and bunny rabbits—as embryos in cryogenic suspension, several million tones of catalogued seed stock, in addition to various stores and sundry needs pertaining to the needs of a crew of about five hundred mixed civilian and military volunteers per ship.

in spite of the sense of unrelenting pressure felt by all involved in the ground work for this massive operation, exodus could not depart soon enough. At the time I was brought into the game, there were years yet to go before we would be ready to embark on our mission, and that was still moving too dangerously fast given the state of our working technology and a constant flow of new technological developments. Like with the prototype, *Gabriel,* designs kept going back to the drawing board over and over again. The training programs and forced enrollment in the new astronautical naval academies, originally thrown in our way to hobble us, ended up being the things that picked up actives like myself and kept us focused and committed to our goal. Political agendas continued to plague selected efforts and notable individuals, but the solar authority began assigning priorities to the endeavor and the agendas of back biting, prejudiced, panic mongers did not come out high on that list.

Connor, Morgan and I departed immediately after the prototype trials for trinity military academy reservation—formerly Vancouver island, purchased by the solar authority in twenty-one twelve. The mission specs for exodus called for class three actives to occupy staff positions, which meant we had to attain a lieutenant’s rank and grade. We were in the military, and we served several tours of duty in the course of earning those qualifications. On arriving at trinity, we were assembled in our groups; living, working, studying, relaxing and playing together. Groups that did not work well and play well together over time were broken up and reassigned. Our group seemed to have the right chemistry. Connor and I had our past acquaintance and common experiences on the same reservation. Morgan was new to both of us. Friendly, vivacious and serene, she was a born peace maker and an adventurous soul. Morgan was my best friend and surrogate mother almost from the day we met. Connor and I... Well, there had always been a mutual attraction, but we both had highland tempers. Six years—more or less—passed quickly and suddenly we found ourselves caught up in the rush of mission prep.

Departure in may, circa 2117 ad, the last of the seed ships reached final commission. The first two waves of operation exodus had already departed, each proceeding the other by a month. We were in our final days of mission prep when the word went round that the last ship had passed her fitness trials, and that the remaining three month schedule of departures seemed to be on track. O’Neal retained command of *Gabriel,* on account of nursing her through about seven design generations. Between her field architecture and active matrix composition, she wore through her overhauls admirably, but she was the quirkiest ship in her class. Somewhere in her evolution she had acquired a personality and she had flatly refused to have anything to do with the ships in the first and second waves.

call it animism if you will, but anything with as much processing capability as *Gabriel* really ought to be sentient. The fact remains that she had broken down more reliably than she had functioned during pre-launch for both the first and second wave departures. We all but pulled her apart and scattered the pieces without finding one legitimate cause for the malfunctions. Aside from some truly frightening misadventures with life support, the trouble often came down to the field arrays and the interface drive core, which means that Connor, Morgan and I spent a lot of time in the drive core annex dredging her artificial mind—that’s the only way I can describe an architecture of field engineering; a mind is the only thing I have experienced to compare it to. Considering what the vital systems of an interface drive were modeled after, I suppose we should have seriously considered the possibility that, while the darned thing might not develop an opinion, it could very well have an attitude!

with only days to go on our present schedule, I spent most of my time stepped up. Wait, perhaps I should explain that. Psionic ability has a state dependent nature. Attention has different energy levels, layered like electron shells, which correspond to given states of awareness. Shifting from an inner shell to an outer shell occurs as a perspective shift. This shift in attention involves attaining an excited state of awareness, and requires a greater investment of energy to maintain. It feels like waking up. In that state of higher alertness and broader perception the mind interacts more cleanly with interface and more efficiently upon it. The trick is to engage the mind at that level, or the impetus dissipates and one drops back to sleep. It is the matter of being engaged which accounts for the fact that at most times I operate on a class one threshold.

in the course of mission prep and pre-launch countdown, I engaged my mind at a second magnitude, or class two threshold, allowing me a sharper grasp of the texture of *Gabriel’s* field architecture. Unlike the majority of the crew—for whom *Gabriel’s* special geometry produced forces that were invisible and virtually undetectable—I was keenly aware of the intricate structure and flow of the invisible body of the ship around me.

we had taken on our precious cargo, and the last members of our crew, the specialists assigned to monitor and maintain that cargo. In the event that we found a suitable nest to deliver our eggs to, those technicians would start incubating the embryos. In full production, about a thousand babies would be turned out a year, and about four times that number of stock animals. Food for the crew and the first generation of colonists would be provided from the extensive hydroponics sections of the ship, in which even selected meats were grown. The hydroponics sections served multiple purposes, actually. They provided fresh fruits, vegetables and meat, assisted in balancing oxygen, carbon and water cycles, participated in organic waste treatment, and contributed the psychological welfare of the crew.

on the morning of our departure, may 5th, I was sitting in an orchard in one of these hydroponics sections while my mind continued monitoring the field compositions of the ship. Angelica Thompson came across me and asked what I was doing. “morning, sir. Just keeping a read on *Gabe’s* mood,” I smiled.

“I’d be careful, she’ll hear you,” she grinned. Thompson sat down in the shade of the tree with me. She looked tired. Commander Thompson was here for the same reason I was. This atrium was only a short walk from the bridge. In the final hours of our countdown, with the stress mounting, coming here was a total mental and spiritual departure from that tension, free from any sense of displacement from one’s responsibilities.

“how did you manage to get out of there?” I asked.

“captain caught me slipping off track,” she groaned. She passed her hands across her face, rubbing her eyes with fingers held flat over them. “told me if I was still on the bridge the next time he looked up I could enjoy the launch sedated in my cabin. I almost wish he’d do it anyway. Even without *Gabe’s* sense of humor, this has been a bitch of a week.” As the executive officer, Thompson had fallen under the bulk of the work of keeping the ship on schedule.

“rank hath it’s privileges,” I pointed out with cruel irony. As expected, Thompson turned to glare at me. I just smiled and patted her thigh companionably. “hopefully this will be the last start we have to make. It really looks like *Gabe’s* going to behave,” I offered for her assurance. Then I grinned and added, “well, if the captain is threatening to rotate you over achievers out in favor of us bright eyed and bushy tailed second stringers, it looks like I have a chance of riding out the launch in the disaster seat.” Even with the detailed and sweeping responsibilities assigned to us—that’s Connor, Morgan and myself—the navy had been baffled as to what position we ought to hold relative to the chain of command. Tentatively referring to our department as assets, the asset on duty was stationed at an observation console on the bridge. Since we embodied our department the title “assets” was perforce applied to us, not our posted station. We had taken to calling that observation post the disaster seat. “poor Connor hasn’t missed a beat the past week trying to ensure that he is on the watch at zero hour, and the man is wrung out. The captain won’t have to sedate him, just wave a hand in his direction and he’ll be out for the count.” Connor’s promotion to lieutenant commander and appointment as head of our department, had put the spice of rivalry into our relationship, while at the same time banning all the more intimate flavors.

“nasty. You evil little girl. Do you ever show the guy any mercy?” Thompson teased.

“Nope, the man’s too fond of competing,” I responded in a matter-of-fact tone. A momentary silence passed. Seeing that I had the XO on hand, and considering that over the past few years we had become friends, I decided to tap her for some information which Connor had neglected to leak in my direction. “what’s the admiral’s ruling on departure? What did they decide in the conference?”

“we’re going to proceed,” she responded, as if by rote, “by sail, out past the ort cloud before our first coordinated dive. Our task group is going to remain concentrated until we reach our assigned sector. We’ll take that leg of the journey in a series of shallow dives. A deeper dive could eliminate the need for multiple dives, but at a much greater risk, so that plan was shelved. When we reach the scatter point, we’ll break up into our five squadrons and proceed with advance reconnaissance. Our squadron units will continue to support each other until targets have been selected for direct probing. At each step the process gets longer and more isolated.”

“today’s agenda is limited to system departure then?” I asked, pleased to hear that the wiser heads had carried the planning session. “as I understand it, even a shallow dive will take a side-real week, barring an emergency abort,” I amended with crossed fingers.

“you should know better than I,” she pointed out. Aside from my known history with the interface systems project, as an active my capacity for mathematics and the conceptualization of higher dimensions made it far easier for me to understand interface theory and deduce its effects than a latent like angelica Thompson. She went on, “I can’t figure it. All I know is that in a dive, we gain time, and under sail we lose time subjectively speaking, and in reference to an outside observer.”

which was true, but I didn’t have time to explain why, as the captain suddenly showed up and chased angelica out of the atrium with orders to catch a few hours of sleep. With O’Neal’s indulgence, I accompanied him back to the bridge, where Connor was doing his best to appear alert and on top of everything. I scowled at him, because I could see that he was cheating.

it is not that hard for an active to augment her own body. Even at a class one threshold, it is the most intimate domain of attention an active knows. She can act on her own biology at a molecular level, counteracting the effects of fatigue, aging, disease and injury. Simple biokinetics. A trained active only needs an instant to regenerate her body from scratch—subjective time in translation is much longer, and the cost in emotional fatigue is devastating. Psychic fatigue is far more dangerous to an active in the face of an emergency than physical fatigue. Oh, of course, there is a point where physical fatigue induces psychic fatigue, but a few hours of sleep is much safer to risk than what Connor was doing.

not that I needed to tell him. He knew what I was thinking the minute I looked at him, and that was guilt telling him, not mind reading. I turned my attention to the rest of the officers on the watch. The men and women assembled on the bridge were all deep into the drone of departure preparations. There was a steady stream of point and counterpoint as they worked their way through their checklists. At the captain’s order, I relieved Connor from his watch. It was early, but he had been holding down double and triple watches, sending Morgan and myself throughout the ship hunting out field quirks and system faults on our scheduled watches. He had stood his own shift at Midwatch, then taken my morning watch while I crawled around in the engineering spaces, then he had lingered on Morgan’s forenoon watch sending her out into the field relays, and he expected to hold out through the launch window, afternoon watch, his next turn up in rotation.

hell, I was good from morning watch through first dog watch. No reason why Connor couldn’t pull sixteen hours in the disaster seat. In full rotation, however, he had managed to pull those two extra shifts in the middle of his sleep rotation. Of course, I was now standing watch on my recreation shift so that he could get a chance to nap before resuming the watch for his regular rotation. There is simply no justice. Pre-launch went on indifferent to my ire with quiet efficiency. A little less than three hours after I had seen her chased out of the atrium in the forward hydroponics section, angelica Thompson turned up on the bridge, looking refreshed.

“looking better, XO,” the captain greeted looking up from navigation. He gestured in the direction of the department heads and instructed, “catch up with the program and advise me when you are back on top of things.”

“aye, captain. Parker, cross, if you would please,” she beckoned to the heads of engineering and tactical to follow her over to where the operations officer was huddled up with the officer of the deck. It being the tail of the watch, both Morgan and Connor turned up. At a glance from the captain, I turned over the watch to Connor, after accepting Morgan’s report on her survey of the field relays. As Morgan and I turned to quit the bridge, the captain signaled us over to him.

“Morgan, Arden, hang around. Lennox is holding down the disaster seat for launch, but I want both or you on the bridge as we set sail. We’ll settle down and go back to your watch schedules once we’re over the hump, but I plan to keep assets busy baby-sitting this bad girl across the threshold,” he detailed.

“aye, aye, captain,” we piped in unison, and then found a bulkhead to press against. Given the relative sizes of the ship and its crew, *Gabriel* and her sisters had lavish spaces appointed to all necessary compartments. There was room about the bridge for double watch, as long as the half without seating kept alert to traffic situations. Senior officers and ratings carried over into the afternoon watch, while the rest took their relief and cleared out. Most to find an observation port from which to enjoy the launch. By the time everything was settled again, commander Thompson had her final report for the captain.

“final check, green across the board. All systems nominal and ready to go, sir.”

“thank you XO,” he settled in at the con. Turning to address the communications officer, he set the ball in motion, “com, all hands, secure ship. Notify command/mission control, status nominal, all check for go; awaiting clearance to undock and assemble at point exodus. Request status all ships task group three. Helm, ready for undock and maneuvering course to formation on my order.”

“here we go,” I murmured to Morgan. Throughout the bridge, people were stowing away all miscellaneous materials and settling down for launch. Throughout the ship men and women were securing for undock as well, reporting in by section to the officer of the deck. By the time angelica could announce that the ship was secure for departure, the station had replied.

“captain. Com. Reply from c/MC. Clear for undock, proceed to parking station point exodus to await formation. Endit.”

O’Neal nodded to lieutenant Kimberly Newman at communications and turned to address ensign Logan Emerson, “helm, the order is given.” Emerson confirmed the order and shortly we were underway on maneuvering thrusters. *Gabriel* went into a stately roll on three axes once clear of the station and lined up on course. On the main holographic display, other ships could be seen peeling away from Luna v to join the group holding station at point exodus.

as we approached, the captain asked Newman to hail admiral Niven’s flagship. A few minutes later, Newman announced, “captain. Com. Message from admiral Niven. All ships, task group three, assemble in formation. Open command channels and await further instructions. Endit.” O’Neal opened a channel through his com section, and spoke quietly over the link with the admiral. He signaled for the tactical plot, and the image sprang up overhead.

“helm, form up. Nav, ready to receive course profile from the flag.”

“aye, captain,” Emerson and lieutenant Clark acknowledged in stereo.

in a lull, O’Neal leaned over in our direction and said, “I hope you all found time to make your goodbyes. It’s going to be quite a while before we’ll be back this way, if we ever get back this way at all.”

“Alan, don’t you think you might have said something before we quit dock?” I chided.

“not at all,” he rebuffed. “I never encourage last minute doubts. Much easier to wait until there’s no point crying about it. Get yourselves comfortable. We have a few hours under sail before we rig for our first dive.” Which was good advice. The admiral had called for a slow transition to Tach two—two times the speed of light—for system departure. A number of physicists had lost their shorts betting against the development of faster than light flight. In spite of the fact that the evidence pointed to a wave-speed-in-media problem, an aversion to the idea of an etheric medium persisted in clouding the issue. Other blind spots contributed to the conflict of FTL development. All of the sacred opinions had been challenged by the Sinclair-drake unified field models, and later the unified theory.

did I say it was a simple solution? That’s right, it’s not. I would love to explain, but that involves an explanation of discrete media, dimensional expression, and field geometry. Simple version then: picture a water-bug in a pond, the old classic description of wave speed. As the speed of the water-skipper approaches the wave speed of the water, the disturbance caused by the water-skippers efforts build up in a standing wave in his path canceling out the little creature’s forward momentum. Same case can apply to a man in a row boat, except in that case it is feasible to overcome the standing wave. The solution in that example, is much the same as the solution to the sound barrier problem which faced human beings in the twentieth century. Cut the wave. In a contiguous medium, an object in motion sets up a disturbance; ergo it is an emitter. Initially it sets up a wavefront one dimension less complex than itself, however in acceleration, it pursues its bow wave, inducing a higher frequency through compression. As a standing wave, this bow wave warps into the dimension of the emitter creating a virtually solid obstacle to the moving body. Also, the more compressed this standing wave becomes the more energy it absorbs from the emitter in motion. In other words it pays more for the privilege of going closer to the wave-speed-constant for that medium.

are you asleep yet? No? You must be a closet physicist then—immune to a good lullaby. I don’t know why I try to explain these things, I am a psionicist not a physicist; my mind is ideal for manipulating the universe, but merely adequate at talking about it. What I was getting at is that the solution to most wave barrier problems is a geometrical solution. A moving body can be designed to be less of an emitter and more of a knife.

at about the point that the standing wave cresting our ships was registering on sensors as a blue corona, we activated our wedges. A field wedge, which cut the wave front by tapping it for energy. This energy augmented our shielding and boosted acceleration efficiency kicking us across the light barrier to Tach one. At that point the drive fields reconfigure to light sail. While there is perceivable light beyond the light barrier, it is out of phase as far as our sensory systems are concerned. One sees what I call ghost light, but what it most resembles is the static one sees with one’s eyes closed—except brightly vivid and psychedelic. Special systems have been developed to phase plot ambient light and assemble a representational picture of the universe to a ship underway.

either way, it is a sight to see, and as usual, I lost track of time.

“captain, coming up on the ort cloud,” I looked around and noticed angelica at the con. I did not see the captain, but a second later I heard his voice over the private link between the con and his ready room. “thank you angelica. I’m on my way.”

as O’Neal appeared on the bridge, he inquired, “com. Any word from Niven yet?

“negative, sir.” O’Neal nodded and went to his place on the con, but did not relieve angelica, letting her boss the dive as the signal came over from the *Azreal.* We took the flag ship’s calculations for the dive and set up the interface communications net.

“navigator,” angelica had the reins firmly in her grasp, “set coordinates for dive. Engineering, secure sails, ready for translation.” She listened to the confirmation of her orders and she watched the clock. “all hands prepare for dive. Translation in five minutes,” she announced as she started the countdown clock.

“ship secure for dive, sir,” reported the officer of the deck.

“assets, confirm ready for dive?” She quirked an eyebrow at Connor.

“sir, field is intact and translation interface is nominal,” he answered without hesitating.

“lieutenant?” She looked to me for confirmation.

“I concur, sir,” I stated. In the excitement of system departure, I had keyed up to a class three threshold. In that state I was aware of every field and particle on the ship. I was ready to pop that ship into the interface on my own.

“com, send confirmation to the admiral. Helm, begin translation on the admiral’s mark.”

we all waited, in professional calm, until the order came over the communications net. O’Neal confirmed the order to helm and engineering. As the order was executed, I watched the invisible shift of translation. Space, time and mind, as media, contain information—data structures—we experience as matter, energy and thought. In translation, the information representing ships, crews, and our controlled environment is read off into prepared, isolated media, and then the original patterns are wiped. The process is instantaneous, so far as objects in translation are concerned, but an active is frighteningly aware of it.

as I was heaving a deep sigh, with the last disassociation from the surface universe, angelica was receiving reports from the crew. O’Neal was calmly observing us actives, because he was aware of how different the experience was for us. Connor did not look too good, having tapped his reserves too much over the week past. His attention turned from us as angelica straightened up from a brief conference with the helmsman.

“captain, we are clear of the surface,” angelica reported. With an eye on helm controls, she elaborated. “riding at interface depth on ten degrees chord. Continuity stopped at seventeen-hundred-oh-seven hours twenty-nine seconds. Subjective time fifty-three seconds mark.” The dive process was a complex mathematical dance. Technically, a ship did not leave its point of departure in real space until a split second after it arrived at its point of destination.

subjectively, however, when the drive is activated, and the ship is displaced from its position in reality and tucked into a pocket reality, as defined by the field architecture of the ship in question, that artificial bubble of relativity subjects the crew and complement to an illusion of time in transit—despite the fact that a ship is technically immobile during a translation dive. The process of disassociation with spatial-temporal coordinates at a previous here-and-now and the reassociation with a probability set of possible here-and-nows elsewhere in the continuum thought of as normal space takes a continuity-irrelevant processing time for the drive core, the artifact intelligence that controls the translation. Life aboard ship goes on while the ship contemplates its point of insertion.

psionic actives refer to this temporal effect as “panic time”, a sudden acceleration experienced during the instant one slips out of the bounds of continuity. If you ever manage to find yourself exposed naked to the interface, I’m sure you will understand the expression implicitly. The time you experience is the same processing time required for a ship to calculate reinsertion. The common term of teleportation is adequate to describe the effect, but translation is a more accurate way to describe the process. Of course, explaining what an interface drive does to its passengers tends to make passengers leery of space travel, and uncertain of their reality.

but that’s not the only disturbing aspect of translation.

theoretically, it is possible to dive from any point in the universe to any other point in the universe without regard to time or distance. However, the greater the relativistic distance between bridged points the more extreme the displacement experienced by the ship, crew and complement. That did not mean much to the psi-latent theorist, but to a psi-active like me it had an obvious significance. The deeper the dive, the greater drain on your resources at the point where you try to regain the surface. At which point you are taxed with a proportionately increased demand on your attention for precision in the effort to come up on the mark.

of course, this was a shallow dive—or at least that was the intent—if *Gabriel* behaved. The thought must have been on O’Neal’s mind because he addressed it without and propting by any of us in assets.

“check bearing and confirm insertion coordinates at the surface on this chord,” he ordered the man at navigation. “project subjective time in interface and report to the XO. Angelica, you still have the con. I will be in my ready-room with winter and Sinclair.” Angelica nodded and moved to take the captain’s chair as O’Neal slipped away with Morgan and I in tow.