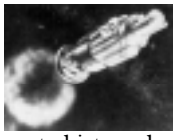
Generation Gap

This document is a series of notes for a reasonably hard SF campaign, probably run using *CORPS* (by BTRC).

Introduction



In an alternate history, humans launched a generation ship to Tau Ceti in 1980. In 2010, the captain decided the mission was endangered because the younger generation wasn't carrying on the ideals of the founding fathers. He had them all put into hibernation. Now it's 2400, and the ship has arrived at Tau Ceti.

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The History

In Brief: Imagine that the future predicted in 1940s and 1950s SF novels came to pass.

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In 1948, American radio stations had been converted to use as radio telescopes, and one of them picked up a signal from Tau Ceti. This became a US military secret, and drove the development of a space program, headed by Admiral Robert Heinlein. Notables such as Willy Ley and Dr. Werner Von Braun were enlisted, and in 1954, Chuck Yeager became the first human launched into space.

The Russians complained that the Americans were flying over their territory, and thus it was established that nations own their orbital rights-of-passage up to 1,000 km. The Americans quickly established a series of treaties and established the American Orbital Flight Path.

The Russians made their own treaties and by 1958, they had put Yuri Gagarin in orbit.

By 1965, the US had a permanent space station and had claimed the Moon, Mercury, and Phobos and Deimos; the Russians had claimed Venus (at least from orbit) and Mars.

By 1975, the LABAR (lunar array broadcast and receive) telescopes had been set up, and the US sent a message back to Tau Ceti.

The technology had been developed far enough: Freeman Dyson and others had figured out how to make a ship travel to the stars.

By 1978, the *Freedom* had been built at a cost of billions; it took another two years for the ship to be loaded and launched (on July 4, 1980). On Thanksgiving of the same year, they stopped acceleration (having reached almost 3% of light speed) and started a series of vernier thrusts to put the ship under spin.

In 1982, the Soviet Union collapsed, but by then it was too late: the *Freedom* could not be recalled.

On board the *Freedom*, the crew and passengers set about making a life for themselves; on January 23, 1986, the first child was born on the *Freedom*, Becky Martin. Others were born soon after.

By 2010, it became clear that the children of the original passengers didn't care about the original mission: the *Freedom* was the only world they'd ever known, and the stories and pictures of Earth were no more real to them than the Europe of Hansel and Gretel.

The Captain worried about this for years, hoping that the children would grow up and recognize their responsibilities, but when Becky Martin and the rest of the Firstborn turned 30, it became obvious they were not as a group going to accept the mission. (Of course, some listened to their parents and some were with the oldsters.)

The *Freedom* had been receiving communications from the Earth for all of this time, keeping up to date on the political situation there and on the scientific updates. Practical hibernation had been achieved since they left (it had been considered essential for colonization of the outer planets), so the Captain had systems gutted and supplies unearthed to put every man, woman, and child on the *Freedom* into hibernation. The crew and other trusted personnel were rotated, twenty years asleep and one year conscious, to maintain the farms and monitor the ship's systems.

Sometime around 2050, the messages from Earth stopped.

Now, 400 years later, they've arrived in the Tau Ceti system.

The Player Characters

In Brief: You're either one of the younger generation or the founding generation; if the latter, you're in your fifties or sixties. If you're one of the younger generation, then you get to decide if you think the Captain was right or if you're ticked at him for forcing you into hibernation for four hundred years.

If someone wants to play the Captain or Becky Martin or one of the significant movers and shakers, that's fine. However, the Captain doesn't go down on the planet until everything is fine.

Groups on Board

There are three groups among the humans: The old-timers, who are all in their fifties or sixties, and who are all strongly motivated to complete the mission; the youngsters who agree with them (or who simply go along with them for lack of any motivation of their own), and the youngsters who feel that the ship is their home and they don't care about the exploration (but they're ticked off at the Captain). The oldest of this latter group is 30 years old; the oldest of the trusties is in his or her fifties. (The trusties took turns out of cold sleep, too.)

If your sweetie was a trustie and you were not, you might be horrified to discover he or she is now in his fifties. Or you might be someone who was undecided but who has discovered that not all of the others made it through the cold sleep, and your sweetie is now a vegetable. (We plant vegetables in this system…)

I haven't decided if (for example) there were nihilists in the younger generation who want to get control of the bombs to blow up the ship, or if someone got religion and decided that this mission contravened God's law. To some extent, this will be based on the PCs I get, since they'll determine the hooks I use in stories.

The Culture

I haven't thought out the shipboard culture(s) to any great deal yet; that's a collaborative effort with the players.

We can start from the gung-ho American Right Stuff mindset that the parents began with. They were mostly military people setting out on a voyage of discovery, putting forth America's Manifest Destiny in space.

However, it's been years and years in space since then, modified by their first big failure: the failure to pass on their goals to the kids. Some of the crew may have lost that fanatic edge; others may have redoubled their efforts. People do change ovr a lifetime.

The ship's culture started off as austere and controlled; there is (or was) no waste for the crew members. They had planned for a 0.01% resource loss per year and actually did much better than that, due to the conversion to a sleeper ship.

The kids will almost certainly suffer agoraphobia when they finally get onto a planet.

Character Requirements

I really like the Stimuli from *Unknown Armies*, so I'm going to use them. With each charcter, I'd like a description of something that provokes them to anger, something that provokes them to panic, and something that provokes them to help.

The game system is *CORPS* because I like it and because it's grittier than Hero, and I see this as a gritty kind of place. (It may cost extra for children not to have agoraphobia…I'll have to think about it.) Characters are built on 100 AP and 50 SP, with Aging rolls for the people over 30. (Hint: You may want to pay a little bit extra for each characteristic, so that you have some points to shave when you fail Aging rolls. A good HLT or the Physical Advantage "Robust Health" will also help on those aging rolls.)

The Hardware

In Brief: No technology that wasn't possible in 1980. Pacemakers are rare; VCRs are considered high-tech (and they're Beta format). The ship has two dozen hand-held calculators; the computers use UNIX and have a whopping 64K of memory. You probably use a slide rule for your calculations.

Space Vehicles

The space hardware is somewhat more advanced than what we currently have, since they have years more experience.

The *Freedom* and its interplanetary craft shuttles use fission pulse engines: they throw atomic bombs out the back of the ship and explode them.

Surface-to-orbit shuttles typically use liquid oxygen and monatomic hydrogen. (These are more dangerous than a preferred kerosene-oxygen mix, but they can be manufactured in space, wherever there's water. (The manufacturing requires huge solar power satellites — but the *Freedom* has capacity to build those.)

The *Freedom* has six shuttles: four small, two large.

It has two interplanetary craft, the *Eagle* and the *Don't Tread On Me*.

They know that on Earth, the development of hibernation allowed for small, less-expensive, manned missions. (Previously, all missions had to have ships large enough for a centrifugal gravity wheel; with suspended animation,

the effects of weightlessness are slowed and the crew modules extend out to create two arms where gravity can be simulated as the ship is rotated.

Weapons

Weapons are typical 1970s vintage rifles and pistols. On the *Freedom*, clubs, chains, knives and swords are the preferred tools of internal violence, since they can't puncture the ship's skin and let the atmosphere out.

General

In this alternate history, space travel was emphasized and computer development was slightly de-emphasized. Other than that, equipment is 1980 standard. Spinoffs from the space stuff may mean that some kinds of medical equipment, communications, and remote telemetry are closer to the 1999 level, but we'll deal with that on a case-by-case basis.

Manufacturing

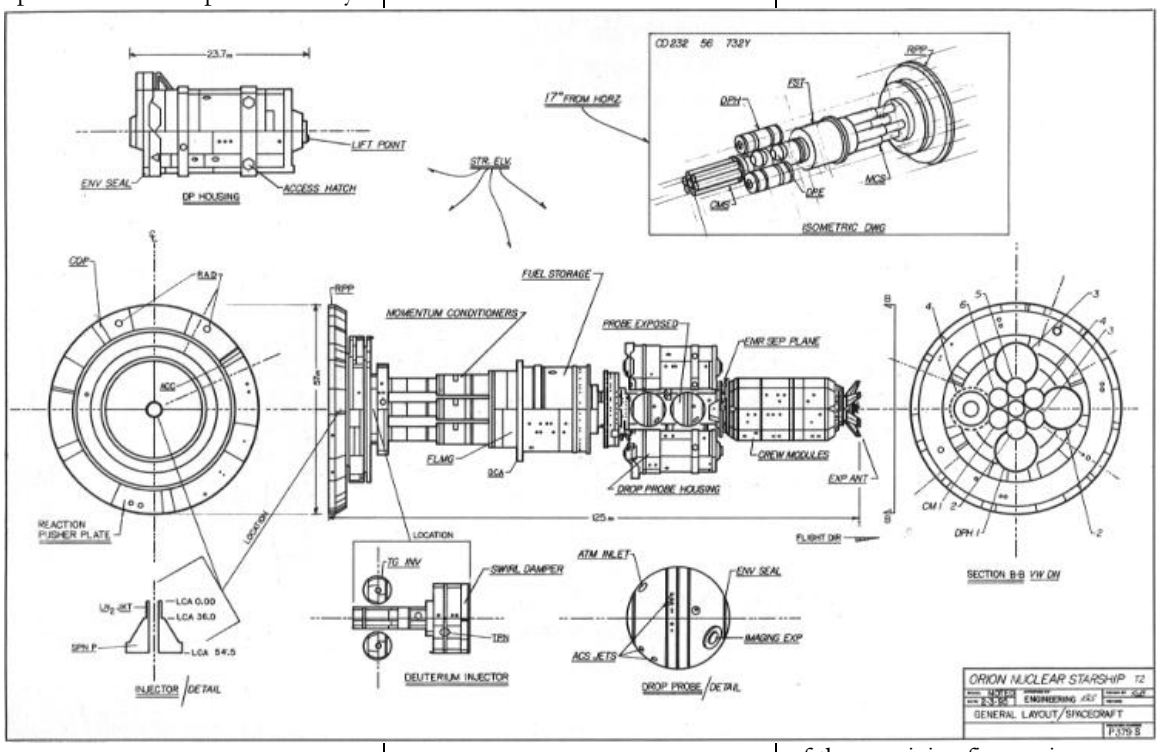
Since the ship was meant to be self-sustaining, it has a lot of low-tech equipment on board: they can make the tools to make the tools.

The biggest limitation on their manufacturing is resources. Building (for example) a computer-chip manufacturing plant requires resources that the *Freedom* doesn't have. They may know about (for example) quantum semiconductors that were being used on Earth in 2035, but they can't reproduce them until they've built a social and manufacturing infrastructure.

The *Freedom*

The generation ship *Freedom* is huge. It's powered by nuclear pulses: essentially fission bombs exploded behind. Having entered the Tau Ceti system, it has enough fuel to return home plus a margin for error (another nine months of 1 G acceleration).

The *Freedom* is a kilometer long, with a huge water tank and a mass of rock and steel as the forward shield. (Note that this is different from the drawing.) The pusher plate at the back serves as the rear shield when the ship is decelerating. See Figure 1 for a rough idea.



Blueprints for an Orion-style vessel, similar to the *Freedom*.

The Message

The original message was a product of two primes. Decoded, it produced a picture that shows that the Tau Ceti system has ten or eleven planets, six of which are gas giants Saturn size or smaller. Four of the remaining five are inner system planets, including an extremely large planet-moon pair, which is where the natives come from. The last small planet is an icy rockball in a highly elliptical orbit, possibly a captured moon, second last from the star.

The aliens may have three legs or they may have two and a tail. They do have a sensory organ like a head up high, and they seem to have two sexes.

The reply message sent in 1975 gave essentially the same information regarding humans.

Tau Ceti

In Brief: There are two lifebearing planets in the Tau Ceti system, and they're in (nearly) the same orbit.

The Star

Some astrophysical data for Tau Ceti. The "p" in the stellar type indicates that its spectra are peculiar (not enough metals).

Table 1. Tau Ceti Data

Stellar Type	G8Vp
Distance from Sol	11.4 ly
Mass (Sol=1)	0.88
Radius (Sol=1)	0.90
Luminosity (Sol=1)	0.44875
Bolometric Magnitude	5.3
Surface Temp (K)	5500 (Sol=5770)
Density	1.53 gm/cm^3

The Planets

The Tau Ceti system has eleven planets; the *Freedom* has named them for American presidents.

The first surprise was that the aliens don't have a moon-planet pair, they have a pair of co-orbiting worlds in almost the same orbit (the planets are now named Washington and Lincoln). The rest of the planets are listed in Table 2.

Table 2. Planets

Planet	Type	AU
Adams	rockball	0.3
Jefferson	rockball	0.5
Washington	habit.	0.75
Lincoln	habit.	0.75
Kennedy	gas giant	1.9
Roosevelt	gas giant	3.5
Quincy	gas giant	6.6
Grant	gas giant	12.9
Madison	gas giant	26
Truman	rogue iceball	50
Monroe	gas giant	103

All of the gas giants except Madison have rings.

There is no asteroid belt; this may be because there is no giant as large as Jupiter to disrupt the accretion.