

Ten years ago, we received data from Star-Chips<sup>1</sup>: they found a habitable, but uninhabited, world. Today, the Generation Ship is capable of traveling there...the question is whether it should. Its purpose is unequivocally positive: to secure the long-term potential of humanity as the Earth succumbs to climate change, but its consequences need to be outlined comprehensively. I am in a unique position as inventor; the Generation Ship is a new technology in the scientific domain, but not in the domain of “serious works of fiction and the media”,<sup>2</sup> which have considered them for centuries.<sup>3</sup> Therefore, the instances of precedent I can analyze are slightly unorthodox; my team built a library of transformative technologies and interstellar travel in science fiction to estimate the success of the mission and predict risks. Below, based on my research, I summarize my approach to mitigate the existential risks Generation Ships may introduce.

It is ethically difficult to justify a generation ship. Descendants will be profoundly isolated; we are setting them in an unprecedented condition, not for the physical world but for human experience. They will be isolated from essential cultural values learned from living on Earth... without loyalty to our planet, like unaligned AI, they may develop different priorities. Unlike AI, they will also have the emotional capacity to resent us, to intentionally poison our efforts on the new homeworld. In this second and worst scenario, I’m essentially describing an unrecoverable *desired dystopia*: one where a lack of an internal locus of control leaves its inhabitants

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<sup>1</sup> “Starshot,” Breakthrough Initiatives, n.d., <https://breakthroughinitiatives.org/initiative/3>.

<sup>2</sup> Toby Ord, *The Precipice: Existential Risk and the Future of Humanity* (New York: Hachette Books, 2021), 207.

<sup>3</sup> Chris Taylor, “Why We’ll Never Actually Travel to the Stars,” Mashable, October 26, 2020, <https://mashable.com/feature/generation-ships>.

unprepared and unwilling to pick up the mantle of humanity. This could be particularly poignant for the women, the Amelia Brands<sup>4</sup> of the mission—Ord mentions, offhand, a “theoretically possible” existential risk where “we all...decide not to reproduce”—this *could* destroy the miniature reality we create.<sup>5</sup>

The impressionability of the Descendants could have the opposite effect; my job is to approach this utopia instead. Ord claims that “[o]ur intuitive sense of fear is neither evolutionarily nor culturally adapted to deal with risks that threaten so much more than an individual life”;<sup>6</sup> interdependent communities aboard a starship could be taught to value more than themselves; a mentality impressed constantly by outer space and visceral fear surrounding their group. This togetherness of purpose—the blurring of self and group—is taught to children in the Generation Ship of *Cloud Cuckoo Land*<sup>7</sup> with a nursery rhyme;<sup>8</sup> intergenerational togetherness could be fostered with the simple exercise of imagining future individuals.<sup>9</sup> At the least, their innate morality should guarantee they remain, as we are, an unparalleled “upward force” in the galaxy.

The parents and time-delayed communications *should* do their jobs educating and inspiring the children. However, my biologist associates proposed an alternative, one that I note here for completeness. It is a more uncertain method: cryonic preservation of the original inhabitants. Although this avoids the unrecoverable dystopia, it could push beyond the Ship in a way that

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<sup>4</sup> Amelia Brand is the heroine of 2014 film *Interstellar*; one proposed solution for humanity’s continuation is for her to single-handedly give birth to all future people. I find this unconvincing.

<sup>5</sup> Ord, 50.

<sup>6</sup> Ord, 188.

<sup>7</sup> Anthony Doerr, *Cloud Cuckoo Land* (New York City: Scribner, 2021).

<sup>8</sup> One iteration of the nursery rhyme is: “You can be one, Or you can be one hundred and two, It takes everyone together, Everyone together, to get to Beta Oph2.”

<sup>9</sup> Vincent Ialenti, “The Art of Pondering Earth’s Distant Future,” *Scientific American*, August 13, 2021, <https://www.scientificamerican.com/article/the-art-of-pondering-earths-distant-future/>.

endangers humanity, ruining the project’s “sustainable trajectory”. Think of the existential risk of introducing the public to cryonic preservation—inaccurately understanding it as immortality, humanity would splinter. It is best for our long-term potential to confine any fall-out to the small population of the Ship. (Because, as Ord reminds us, existential risk *cannot* be equated with the destruction of a culture or nation.<sup>10</sup> Analyses of the population ethics do not favor the Descendants. And if the psychological transition risks take the Descendants, it will be before they diverge enough from us to reconsider the existential ethics.)

## II

“Have you ever been so sure you were right about something, only to find out you were so wrong about that thing that you literally thought you probably deserved to die because of just how wrong you were?”<sup>11</sup>

Our approach to mitigating the existential risk the Ship poses is to limit its immediate social impact by limiting publicity. We will inform the UN of the mission—it would be alarming to them otherwise—in a non-competitive way, avoiding inciting nationalism as in the Space Race. A great-power war, even a cold war, would be a great risk factor, a calamitous “breakdown in international...cooperation.”<sup>12</sup> Every nation will be invited to submit volunteers to the program, after forward-looking resolutions are passed to govern it.<sup>13</sup> We will be careful and intentional with the public release; democratization is a non-issue, but unintended emotions and interpretations could run high. If people see this as an immediate plan to abandon the Earth—or

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<sup>10</sup> Ord, 46.

<sup>11</sup> Orpheus Studio Productions, “Episode 1 – Winnie The Pooh Was A Murderer”, October 2021, in *Red Valley*, podcast, AAC audio, 23:25, <https://www.redvalleypod.com/>

<sup>12</sup> Ord, 171.

<sup>13</sup> For example: no country is permitted to let the Ship dock on Earth after it reaches the new planet (to prevent back contamination). (Ord, 156.)

worse, to *be* abandoned by delegates from the world’s governments—they will be fearful. On the other hand, if people start calling the Descendants our future or our hope, and they fail, civilization could falter. Such allegories are dangerous. Let us be clear that the Generation Ship does not represent anything but a *proposed* fulfillment of humanity’s longterm potential. Like good fiction, it is nuanced; one vision of many for a rich future.

### III

“Men’s lives are too short to cope with the time-jumps between worlds, if there’s no network and centrality, no control, no continuity to work through; therefore, they become members of the Ekumen...”<sup>14</sup>

In *The Left Hand of Darkness*, the Ekumen acts as an interstellar organization of existential security, connecting member worlds to a plurality of possible futures, stopping them from “following too far on the way [they’ve] been going”.<sup>15</sup> Leading part of humanity to its first outpost, the Generation Ship could fill a similar role, stopping climate change from advancing too far and protecting our future by storing it in two places.

### IV

“As far as I’m concerned, space exploration and colonization are among the few things left over from the last century that can help us more than they hurt us.”<sup>16</sup>

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<sup>14</sup> Ursula K. Le Guin, *The Left Hand of Darkness* (New York, NY: Ace Books, 1969), 37.

<sup>15</sup> Le Guin, 17.

<sup>16</sup> Octavia Butler, *Parable of the Sower* (Four Walls Eight Windows, 1993), 23.

[https://www.oasisacademysouthbank.org/uploaded/South\\_Bank/Curriculum/Student\\_Learning/Online\\_Library/KS5/Parable\\_of\\_the\\_Sower\\_by\\_Octavia\\_E.\\_Butler.pdf](https://www.oasisacademysouthbank.org/uploaded/South_Bank/Curriculum/Student_Learning/Online_Library/KS5/Parable_of_the_Sower_by_Octavia_E._Butler.pdf)

Further, expansion—testing our civilizational virtues (patience, responsibility), harnessing to the fullest extent the human skill of adaptability, learning about the galaxy—could be the “grand challenge for humanity” that simultaneously satisfies *our* longterm potential and “makes [the cosmos] worthy of our awe.”<sup>17</sup> According to Lauren Olamina, narrator of *Parable of the Sower*, “The destiny of [humanity] is to take root among the stars”; the destiny, the fulfillment, because space colonization is “the ultimate human change short of death”.<sup>18</sup> Our individual destiny is, of course, death—love and loss, the gritty themes stories prefer to work with—but our collective destiny can be safer, more boring, cushioned by options preserved through logic.

## V

Noah complied; he did just as God had commanded him.<sup>19</sup>

In recent centuries, existential risk has increased because of the combination of natural and anthropogenic risks<sup>20</sup>—now, the flood waters would literally be humanity’s fault, if we can’t prevent them or set up a contingency plan. It is best to pursue both. The Generation Ship offers another option to humanity, ensuring that we can’t destroy ourselves through the environment. It’s a worthy failsafe, but as any transformative technology, it introduces existential risk of its own—perhaps risks yet unforeseen. This is why pursuit of the project will not be a unilateral decision, but a coordinated one; this is why we are attempting it with time to spare. By teaching the Generations responsibility, modulating the world’s reaction, and managing further risks both creatively and seriously, we can preserve humanity’s potential.

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<sup>17</sup> Ord 219; 224.

<sup>18</sup> Butler, 220.

<sup>19</sup> “Genesis, Chapter 6,” USCCB, n.d., <https://bible.usccb.org/bible/genesis/6>.

<sup>20</sup> Ord, 260.

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