

Seeker: Co-Creating Diversified Futures

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"If you say, when would we reach that million-person threshold, from the point at which the first ship goes to Mars, it's probably between 20 to 50 total Mars rendezvous. So it's [...] between maybe 40 to 100 years to achieve a fully self-sustaining civilization on Mars."¹ On September 27, 2016 Silicon Valley entrepreneur Elon Musk presented his formidable vision for Mars colonization during the IAC conference in Guadalajara, Mexico. Against the backdrop of a spinning terraforming Mars globe, he explained in detail how over the next few decades people could be ferried to Mars to bootstrap the construction of the first off-planet city. During his presentation, he positioned this plan as a logical extension of mankind's history of exploration and colonization. Musk's SpaceX is one of the relatively new space companies that are developing technology for commercial human spaceflight. Others include Jeff Bezos' Blue Origins and Richard Branson's Virgin Galactic. In response to the Musk's Mars colonization plans, scientist and social activist Danielle Lee had written the year before: "The assumption that colonizing Mars is inherently good and that American narratives are universal, or at least the most paramount, is narrow and exclusive."² And back in 2007, Linda Billings, NASA space communicator and space policy analyst, wrote "Examining the history of spaceflight advocacy reveals an ideology of spaceflight that draws deeply on a durable American cultural narrative - a national mythology - of frontier pioneering, continual progress, manifest destiny, free enterprise, [and] rugged individualism."³ This points to some crucial issues: the current development of mankind's future in outer space is indeed not a culturally inclusive effort, and justifies itself using a historical white colonialist narrative (Columbus' *discovery* of the Americas is often employed). In this vision, alien worlds are to be subjugated and transformed into a mirror image of the conqueror. Terraforming is a perfect example of this: Mars gets physically and biologically transformed into a copy of planet Earth, violently erasing its *otherness*.

World War II gave birth to space technology, while the subsequent Cold War created the incentive to rapidly evolve it. These military roots are also still present in the world of current-day space exploration: a strong top-down hierarchical culture, and the use of a reductionist systems engineering approach. It must be said that both in the military and in aerospace the challenges have been recognized. The strategy of working with more autonomous distributed squads has been explored by allied forces in the Middle East for many years,

¹ Musk, Elon. "Making Humans a Multiplanetary Species." International Astronautical Congress 2016, Guadalajara, Mexico. YouTube.com. <https://youtu.be/H7Uyfqj TE8> (accessed February 3, 2017).

² Lee, Danielle N. "Colonize Mars? Not until we learn some lessons here on Earth." Fusion.net. <http://fusion.net/story/111409/why-the-mission-to-mars-imperative-message-bothers-me> (accessed February 3, 2017).

³ Billings, Linda. 2007. "Ideology, Advocacy, and Spaceflight - Evolution of a Cultural Narrative." In: *Societal Impact of Spaceflight*, edited by Steven J. Dick and Roger D. Launius, 383-499. Washington, DC: NASA.

while concepts of satellite swarms are currently being researched in aerospace. Nevertheless, there are no ready solutions available yet, and these examples are far from general practice. The overarching question then arises: is there another way to conceive of our future in outer space? More inclusive and beyond a strictly hierarchical military approach?

Diverse imagination

In the mid-70s, Chilean film director Alejandro Jodorowsky set out to turn the celebrated science fiction novel 'Dune' from Frank Herbert into a feature film. He assembled a dream team of comic book artists, illustrators, designers and musicians for pre-production, with such famous names such as Jean Giraud and H.R. Giger. Bringing together this very diverse group of strong talents unleashed a huge collective creativity. The script, extensive storyboards, and concept art were sent to all major film studios to find support for the film's production, but the film was never made. The documentary 'Jodorowsky's Dune' makes a convincing case that the collective effort of Dune's pre-production team resulted in a deeply influential imaginary of science fiction. Several icons of science fiction cinema created in the subsequent years drew heavily on the ground work that was done by Jodorowsky and his team, with such examples as Star Wars and Alien. This might also explain why so many depictions in science fiction rely heavily on the same tropes and clichés, with for example the same type of spacecraft reappearing over and over again. Considering that our shared visual idea of science fiction is strongly biased towards Hollywood representation, this brings us to the problem of a constrained imaginary. Is there a way in which we can transcend this dominant representation, and seek out new visual paradigms?

Seeker: co-creation and bottom up design

The SEAD collective, co-founded by Angelo Vermeulen, attempts to address these different questions. Can we turn the discussion of mankind's future into a truly global conversation? And while doing this, can we go beyond the archetypes embedded in everyone's mind? Both co-creation and bottom-up design were first championed by SEAD in the Biomodd project, initiated in 2007. They have been at the heart of the collective's creative philosophy ever since. Co-creation is defined as cross-boundary collaboration where people are invited to transcend their self-defined professional expertise, and work on different aspects of the project. This heightens collective intelligence, and generally helps the group to overcome entrenched views and stereotypes, and as such enhances creativity. The bottom-up approach is used to allow the prototype to emerge out of the interactions within the group, instead of being dictated by an overarching detailed plan. This allows for an organic and much richer exploration of ideas, and a more inclusive result.

Seeker is a community art project of the SEAD collective in which speculative starship prototypes are built with mixed groups of people, using co-creation and bottom-up design. It's an art project that questions the future of human habitation and survival by experimenting with intertwined technical, ecological and social systems. Participants are invited to build self-sustainable systems simulating interstellar exploration. The resulting starship prototypes consist of large-scale indoor and outdoor installations, built mostly out of recycled and re-used materials. Seeker is an itinerant project that is always searching for new groups of collaborators. By integrating local culture and addressing local issues, the project takes a unique shape in each location where it is being developed. Using the metaphor of the

starship allows participants to completely rethink how they envision their place both in the Universe and on Earth. The objective is to create architectural installations that can actually be inhabited by a crew to carry out simulation missions. As such it can keep on functioning as a temporal space for dialogue, performance and experimentation after it has been created. Seeker art projects have been built in Belgium, the Netherlands and Slovenia, with new versions currently in pre-production in Kosovo, Chile and Swaziland.

Different Seeker, different imagination

So far, five different Seeker versions have been built. Seeker [DV¹] was created for the Witteveen+Bos Art+Technology award in Deventer (Netherlands) in 2012 with a group of engineers and artists. The result was a large modular structure with an overall length of 17 meters. The interior consisted of a combination of engineering demos and video installations. The structure was then moved to Z33 in Hasselt, Belgium in 2013, and renamed Seeker [HS²]. A new local team of participants was created, while members from the previous version joined in. The architecture was reconstructed, but the interior was overhauled with the perspective of running isolation missions. A kitchen area, beds and sanitary provisions were added. When this project version was subsequently moved to the Museum of Modern Art in Ljubljana (Slovenia) in 2013, the new local collaborating team decided to retain only the base, and create an entirely new - biomorphic - architecture (Seeker [LJ⁴]). In the meantime, Eindhoven University of Technology had requested to create a new Seeker version together with their architecture students (Seeker [EH³]) for the Dutch Design Week in Eindhoven (Netherlands) in 2013. Here, an entirely new start was taken. Two used caravans were physically hacked, and then joined together to create the starship's architecture. After the exhibit, the project was shipped to Enschede (Netherlands) for the GOGBOT Festival in 2014 (Seeker [ES⁵]). The overall architecture was extended by adding a third caravan, and the entire structure was lifted on top of 4 meter high scaffolding at the center of the arts festival. In all the project versions (except the first), an isolation mission was carried out. Teams of four to six team members would lock themselves up for periods ranging between 2 to 4 days to enact and experience the prototyped future they had envisioned. This added a performative quality to the work. Currently, new Seeker versions are in pre-production in such diverse places as Chile, Swaziland and Kosovo.

Seeker [DV¹] was strongly indebted to more conventional ideas about starships, with its geometric and modular shape, and leg-like landing gear. A large part of the team consisted of engineers of the Witteveen+Bos company, which partially explains the choice of architectural aesthetics. During Seeker [HS²], the first author co-led the project with designer Matylda Krzykowski. She brought a critical design perspective to the project which became apparent in the overhaul of the interior of the starship. More attention was spent on how people could live meaningfully together in isolation. In Seeker [LJ⁴] the space was too narrow for parts of the same structure to be rebuilt, and the team decided to entirely rethink the architecture. Local hackers and makers were involved, such as members of the Ljudmila collective. Their interest in 3D modeling and 3D printing led to a biomorphic design approach of the starship's architecture. Seeker [EH³] at the Dutch Design Week looked more like a building, and less like a spaceship, which might be explained by the fact that the structure was created by architecture students. The succeeding Seeker [ES⁵] version added lots of recycled materials, and looked more like squatted architecture, in sharp contrast with characteristically slick science fiction design. This aesthetics corresponded with the practice

of the local collaborating artists who occupy improvised work spaces in abandoned industrial buildings in Enschede.

Nesting diversity to unleash imagination for survival

Decades ago it became clear that the modernist ideal of finding universal solutions was a flawed concept. Due to its reductionist nature and of its distrust of acknowledging local contexts, such an approach inevitably leads to exclusion. The question then becomes, how to be truly inclusive in imagining and shaping the future? The answer lies in 'nested diversity'. This entails the integration of three levels of diversity. The first level is creating space for the simultaneous generation of different futures, i.e. actively promoting an ecosystem of futures. The second level is building each of these futures with highly diverse teams. And the third level is making sure that each person taps into their own internal diversity of experiences. How does such a concept of nested diversity then work? Once people transcend the domain of their own self-identified expertise and tap into their broader life experience, co-creation naturally leads to an expression of participants' cultural backgrounds. Precisely by applying co-creation, the imagination of the future thus becomes a reflection of specific cultural perspectives. If we then work with highly diverse teams, each resulting proposed future will come out of the manifold interactions of a distinct cluster of cultural backgrounds. Consequently, all these proposed futures will endlessly differ, each one offering a valid proposition rooted in its own specific cultural amalgamate.

Being inclusive by working with diversity is not just a value-based decision. There's different additional reasons to embrace such an approach. It increases group intelligence. As James Surowiecki explains in 'The Wisdom of Crowds', groups of diverse composition can be very accurate problem solvers and decision makers.⁴ It also enhances connectedness between the different proposed futures. Because of the diversified nature of each group, there's actually much more chance for overlap between the different groups. Visions are partially shared, and do not start operating in isolated spaces. And, as explained before, such an approach results in an endless variation of valid futures, because of the potentially infinite combination of different perspectives.

However, there's always the risk of convergence, when one vision starts to overtake the others. There's many possible reasons for this. Sometimes it's purely economically driven, often it's because of the ideological pressure of those in power. In such a situation of convergence, participation of e.g. minorities is only possible by assimilation into the dominant system, excluding their particular viewpoints and approaches. This is also the process through which the imagination gets colonized by the dominant system. Hence, and this is very crucial, diversity is not a natural given, and needs to be *actively* guarded. Not for the sake of choice (cf. the capitalist narrative), but for the sake of inclusion and representation.

By employing the concept of nested diversity, Seeker makes the future diversified. What is being presented as the ultimate paradigm for the future is always just one of the many options, proposed by the dominant (and privileged) voices. But there's always multiple viable choices for the future. The creation and acknowledgement of a diversified future leads to an

⁴ Surowiecki, James. *The Wisdom of Crowds*. New York: Anchor Books, 2004.

inclusive future. However, this is an ongoing process that requires vigilance, and needs to be safeguarded.