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Contemporary Arts Practice and Outer Space: A Multi-Disciplinary Approach (3)

Author: Dr. Angelo C.J. Vermeulen
Delft University of Technology (TU Delft), The Netherlands, a.c.j.vermeulen@tudelft.nl

Ms. Ramona Van Gansbeke
vzw Gluon, Belgium, ramona@gluon.be
Mr. Nick Pannecoucque
Belgium, nick.pannecoucque@pti.be
Mr. Rufin Degrande
Belgium, rufin.degrande@pti.be
Mr. Bart Leenknecht
Belgium, bart.leenknegt@howest.be
Mr. Christophe De Jaeger
Belgium, cdjaeger@msn.com
Prof. Frances Brazier
Delft University of Technology (TU Delft), The Netherlands, f.m.brazier@tudelft.nl

THE SPACE FARMING PROJECT: SPACE COLONIZATION, TECHNO-AGRICULTURE AND THE FUTURE OF EXTRATERRESTRIAL BIOPOLITICS

Abstract

In order to sustain human life for extended periods of time in deep space one cannot solely rely on support from Earth. It'll be essential to become self-sustaining through a combination of in situ resource utilization, waste recycling, and space farming. The latter can provide astronauts and colonists with locally grown food and biogenic oxygen, and will be an indispensable component of any future outpost in deep space. The type of agriculture that will develop itself in outer space will be extremely technologically mediated because of limited resources and the hostile conditions in which crops have to be cultivated. From a biopolitics perspective, this will cause a significant shift in power relations. Because of the extreme dependence on technology, the lack of open reservoirs (e.g., no atmosphere), and an atomized commodification of life-supporting resources (every molecule is valuable), space colonists will live in a world in which they are potentially vulnerable to inequalities, power concentrations, and even coercion. Historically, colonization and agriculture have always worked with each other. But in the unparalleled conditions of space, this dialectic relationship is bound to take on new contours, with its own unique set of ideologies and ensuing ethical conflicts. The *Space Farming Project* is a community art project that specifically explores these issues. It was initiated by the international SEAD collective, developed in collaboration with Gluon, Howest and PTI Kortrijk, and supported by the Flemish Ministry of Culture. Together with a diverse community of volunteering technologists, agricultural researchers, teachers, and students, different space biology prototypes have been developed: a microgravity simulator, a centrifuge for plant cultivation in space, and bioreactors for growing plant callus and microalgae. These prototypes represent an open source response to the question how we can create more direct ownership over the biopolitics that are inevitably being developed in outer space. They open up the possibility of reconceptualizing space colonization and reimagining life-supporting ecologies. The different prototypes form the core elements of a larger art installation that includes visual and discursive references to the history and future of colonization, and especially its entwinement with agriculture. This paper outlines

the conceptual foundations of the *Space Farming Project*, and describes its development process and the results of the different prototypes. This is illustrated using working sketches, photos and participant testimonies. The future of the project, with potential experiments on board the ISS, is also discussed.