Our understanding of biological life is undergoing a revolution. We are slowly moving from a mechanistic model of biology based on competition between species for survival (neo Darwinism) towards an understanding that life is a complex collaboration between organisms, a co-evolution of multispecies ecosystems. Maybe life selects relationships, not individual species. This powerful idea of 'symbiotic life' championed by Lynn Margulis demands a new imaginary, and our ideas about life Outer Space are no exception: to truly dream of an*other* Earth, the current utilitarian projections and techno-fantasies must be decolonized.

On Earth, the most ancient and diverse example of a symbiotic ecosystem is the Coral Reef. More species variety coexists in coral reefs than in the rainforest. In Spacecoralia, Thomas Pausz Studio draws parallels between mutual collaborations in symbiotic life underwater and possible life outer-space. Based on biological studies in collaboration with the I.U.E.M[1] Pausz models the birth and evolution of a Coral-like ecosystems on Mars, which feeds on the remnants of a human astro-botanical experiment. The forms, colours and agencies of the new hybrid species of Spacecoralia are animated using mixed-media techniques, and borrow from the aesthetics of early underwater photography as well as new digital aesthetics. In a meaningful reversal of perspective, making models of a scenario for symbiotic life of Mars becomes a mirror to understand the complexity of one of the most endangered life forms and ecosystem on Earth: wild Corals reefs.

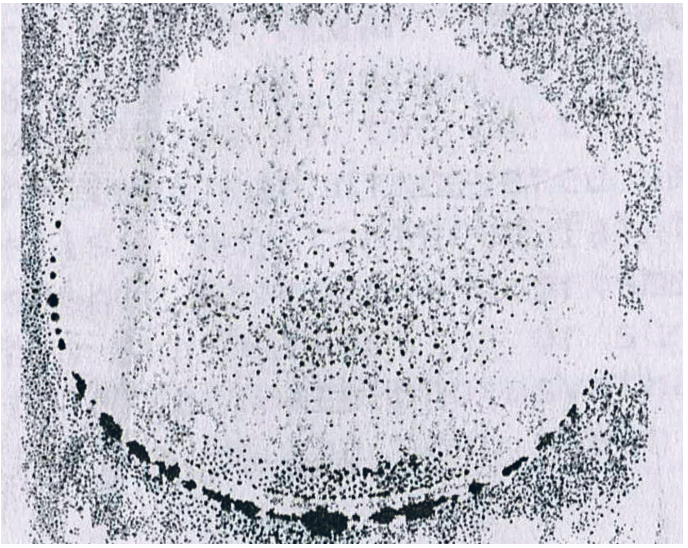
1 The largest interdisciplinary European Maritime Research Institute based in Brest, France.

Spacecoralia, a Glossary in progress

The terms and quotes below are extracts from the research logbook of Spacecoralia. They are not a program or an explanation for the project, rather a parallel enquiry into how we attempt to observe and describe unknown worlds. They are concepts or texts from scientific literature, fiction and critical studies, which mirror the questions encountered in our sensory experiments in the studio.

Amorphous

When looking at the world of Spacecoralia, we need a new lens. Instead of looking for things with fixed essences based on exploitable or seducing forms and exotic functions. We have to adjust to a picture that is much more fluid and amorphous, where any 'thingness' is strictly temporary.



Devolution

Devolution, de-evolution, or backward evolution is the notion that species can change into more "primitive" forms over time. In modern biology the term is redundant: evolutionary science deals with selection or adaptation that results in populations of organisms genetically different from their ancestral forms. The discipline makes no general distinction between changes leading to populations of forms less complex or more complex than their ancestors, and in such terms the concept of a 'primitive' species cannot be defined consistently. Consequently, within the discipline such a word is rarely useful.[2]

Intra-dependence

> "The lesson of biology derived from Coral Reefs is that organisms are most likely to do best when mutualist in their environments, forming ongoing and flexible symbiotic relationships."[3]

Membranes

Species in Spacecoralia seem to be made exclusively of membranous tissues. The unknown nature of these membranes allows for porosity, fluidity, transfer, transformation, osmosis,

2 "[PDF] Devolution (Biology): Semantic Scholar," [PDF] Devolution (biology) | Semantic Scholar, January 1, 1970, https://www.semanticscholar.org/paper/Devolution-(biology)/87b99bda6203990056b2860857d385595a17b9b1)

3 Science X staff, "When Corals Met Algae: Symbiotic Relationship Crucial to Reef Survival Dates to the Triassic," Phys.org (Phys.org, November 2, 2016), https://phys.org/news/2016-11-corals-met-algae-symbiotic-relationship.html)

convergence. We suppose they allow for a flow of energy and nutrient to run through the entire ecosystem. A world where nothing is private.

Symbiopoetics

The petrified membrane fragments show resemblance with the frustule of Diatoms. Diatoms are a part of all marine ecosystems on Earth. They contribute to the symbiotic and hybrid mixture of bacteria, algae and minerals, which gave birth to Coral reefs, where the first symbiotic life emerged.

By storing Diatoms together with various pioneer plant species in the anti-ageing containers, Sea for Space researchers created the conditions for a new type of symbiotic relations between species. Pioneer plants such as Salicornia supplied diatoms with energy through photosynthesis; in return diatoms crafted silica shells, which helped the plants cope with the low sun exposure on Mars. Other life forms benefited from this mutualism, and started to form the amalgam we came to know as Spacecoralia, which thrived when humans abandoned the planet.

Symbiosis corresponds to the rise of coral reefs in the Earth Oceans.

Symbiopoetic is the core process that made Spacecoralia possible on Mars.

Thomas Pausz
www.pausz.org