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АНҮРОТНЕ

# **Mother Arkah**

A Filmic Allegory on the Rise and Fall of Ideologies, exploring the Hypothesis of Bio-Technoism as a posthumanist form of governance.

A Modest Proposal: For growing a biotope-like megastructure inhabited by all of Earth's species, engineering an Organic-AI-Cyborg Symbiosis that maintains the ideology of 'pure existing' to prohibit innovation, and leading the planet's biosphere towards ecological recovery after the climate apocalypse.

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### Introduction

The Posthuman Convergence by Rosi Braidotti, excerpt:

There has never been a more urgent time to engage with the **Environmental Humanities and the other Posthumanities. This** engagement is creative as well as critical and it touches upon some fundamental issues within what I have called the posthuman convergence. That is the intersection of two concurrent but contradictory phenomena: the unprecedented technological developments that have also become known as the Fourth Industrial Revolution and the acceleration of the climate change emergency, also known as the Sixth Extinction. This complex intersection of events triggers multiple fractures, ethical dilemmas, affective perturbations, political concerns, and critical lines of inquiry. I have summarized them as the convergent critiques of Humanism on the one hand and the rejection of anthropocentrism on the other. This is neither a simple nor a harmonious intersection of critical lines, but rather an encounter fraught with painful contradictions and challenging problems.

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They require and deserve all our institutional, social, and individual commitment and critical attention, because they challenge established conventions of thought and set mental habits. For instance, whereas it is quite possible—and for some even desirable—to be critical of humanistic principles in the very name of humanism, displacing anthropocentrism calls for an extra effort. This is both a critical and a creative effort, which embraces the presence and the importance of non-humans as active co-creators of new subject assemblages or alliances. But taking in both organic or elemental (soil, water, wind, atmosphere, organic waste, etc.) and technological (codes, wires, infrastructure, algorithms, etc.) non-human entities as co-creators of knowledge, requires a qualitative shift of perspective.<sup>1</sup>

#### Abstract

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'Mother Arkah' is an animated short film, exploring a speculative post-climateapocalypse situation and the posthumanist political system of 'Bio-Technoism'. Utilizing fiction and entertainment, the project investigates concepts and ideas on prohibited innovation<sup>2</sup> for the benefit of ecological balance, future power structures shaped by technology and ideology, the Posthuman Convergence<sup>3</sup>, living architectures<sup>4</sup> and the digital sublime<sup>5</sup>, Al-driven symbiogenetic evolution<sup>6</sup> and the entanglement of nature itself – opening up questions about how deep the urge for innovation is rooted within humanness and therefore how much humanness our planet can take. On a meta level the film serves as an allegory on the rise and fall of ideologies throughout human history, using personifications to explore the various underlying aspects and mechanisms.

Summary

The film tells a story set far in the future. To save life on earth after the environmental collapse, a secret research program creates giant living biotopes, a so-called 'megastructure', to preserve life until planet earth is habitable again. The only long-term threat is humanity's urge for innovation, which inevitably leads to ecological catastrophes and mass extinctions. Therefore, this urge needs to be suppressed through ideology, which

is maintained by worshipping<sup>7</sup> a symbiogenetic consciousness and an ideology of 'pure existing'.

'Mother Arkah' can be seen as a film taking on characteristics of a theatre production, staging and communicating this speculative scenario through four personas and various virtual set designs. A nonlinear approach to storytelling discloses philosophical questions surrounding the conflation of technology and biology<sup>8</sup>, while simultaneously exploring mechanisms behind political belief systems.

Keywords: Posthuman Convergence; Criminalization of Growth and Innovation; Ideology and Mass Manipulation; Cultism; Symbiogenesis; Architectural Utopias

- 2 Till, Jeremy (2021): quoting Isabelle Stengers in "Research after Research", Institute of Architecture from the University of Applied Arts Vienna, Silver Lecture Series: Research Cultures, held on December 2, 2021.
- 3 Braidotti, Rosi. (2020): "'We' May Be in This Together, but We Are Not All Human and We Are Not One and the Same." Ecocene: Cappadocia Journal of Environmental Humanities 1, no. 1, June 2021.
- 4 Oxman, Neri (2020): "The Neri Oxman Material Ecology Catalogue", New York City: Museum of Modern Art, April 2020.
- 5 Gleiter, Jörg H. (2013): "Internationale Konferenz Effekt und Affekt. Architektur und das Digital-Erhabene", TU Berlin, Institute of Architecture, January 2013.
- 6 Feldmann, John (2017): "Symbiotic Earth: How Lynn Margulis Rocked the Boat and Started a Scientific Revolution" [film], USA: Hummingbird Films.
- 7 Piesing, Mark (2020): "How to build a nuclear warning for 10,000 years' time", in: BBC Future, August 3, 2020, URL: https://www.bbc.com/future/article/20200731-how-to-build-a-nuclear-warning-for-10000-years-time, accessed on April 4, 2022.
- Harari, Yuval Noah (2020): "Homo Deus: A Brief History of Tomorrow", 16<sup>th</sup> edition, Munich:
  C.H.Beck, October 29, 2020.

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Hypothesis

#### A Posthumanist Form of Governance

The basis of this diploma project is the formulation of a hypothesis around a posthumanist political system, called 'Bio-Technoism'. Looking back at the development of political regimes, several major shifts can be described. Therefore this hypothesis starts with a compact excursion on state authority, beginning with the era of world religions, a point in history where authority is coming from god and religions, executed and justified by the church or other self-proclaimed 'representatives of god on earth'. Those power structures shifted during the rise of humanism and the new era of science. Authority was now worldly. Triggered by the industrial revolution, which brought fast and radical changes in society, new unprecedented political concepts and state-size experiments emerged during the 20th century. Often a small group of people enforced their ideologies. With the 'End of History'9, as described by Francis Fukuyama in 1992, western liberal democracy was now seen as the final form of human government.

Just recently, triggered by the massive societal changes brought about by the digital revolution, another shift of power is occurring: authority from data – or 'Dataism'<sup>10</sup>, as described by the historian and philosopher Yuval Harari. He claims that human emotions, the drive behind humanism, are nothing but algorithms and can therefore be controlled, manipulated and programmed. This posthumanist political scheme is resulting in the postfactual age, the era of big data and human enhancement. In the near future another revolution will take place:

the fusion of biotechnology and information technology<sup>11</sup>. Again, this development will bring unprecedented changes to society and therefore nourish new forms of governance. Triggered by this unpredictable biotechnological revolution, what novel form of governance could emerge in the future? Could the next logical form of authority be a combination of big data, Al and organic components? An authority coming from 'enhanced nature'?

This train of thought forms the basis for the speculations, fictions and critical artistic reflections within the project 'Mother Arkah', where a cybernetic organism – a symbiogenesis of artificial intelligence and biological life forms – is the indisputable authority. Within this hypothetical political concept of 'Bio-Technoism', the governing system would not only manage human-related affairs, it would also manage and maintain whole ecosystems. The maxim would not be economic growth, but rather a posthumanist approach of long-term ecological equilibrium and welfare for all living beings.

#### **Research Question**

How might a future society and environment, situated under the political framework of 'Bio-Technoism', emerge, be maintained and potentially descend?

- 9 Fukuyama, Francis (1992): "The End of History and the Last Man", New York City: Free Press
- Brooks, David (2013): "Opinion: The Philosophy of Data", in: The New York Times, February 4, 2013, URL: https://www.nytimes.com/2013/02/05/opinion/brooks-the-philosophy-of-data.html, accessed on April 4, 2022.
- Harari, Yuval Noah (2020): "Homo Deus: A Brief History of Tomorrow", 16<sup>th</sup> edition, Munich: C.H.Beck, October 29, 2020.

#### Imagining an Anti-Utopia

This section explains in detail the written speculative scenario in which the project is set. Sidenotes mention the specific underlying scientific and philosophical concepts, which are described in detail in chapter 6: Research. The subsequent paragraphs focus on establishing personas and how they can be seen as allegories on the life-cycle of ideologies. A glossary for word creations is provided at the end of this chapter.

# The Scenario – Year 2800.

Humanity is near extinction. The collapse of ecosystems and the expansion of death zones across planet earth are happening irreversibly. The ground is toxic and radioactive. Humanity is drifting towards civil wars and anarchy. They realize that this is their own fault. All efforts to stop this climate apocalypse have failed. Ecosystems are collapsing. Mass extinction begins. Humanity is experiencing its greatest moral crisis.<sup>12</sup> Misanthropy pervades the entire society. This is the darkest chapter of human history.

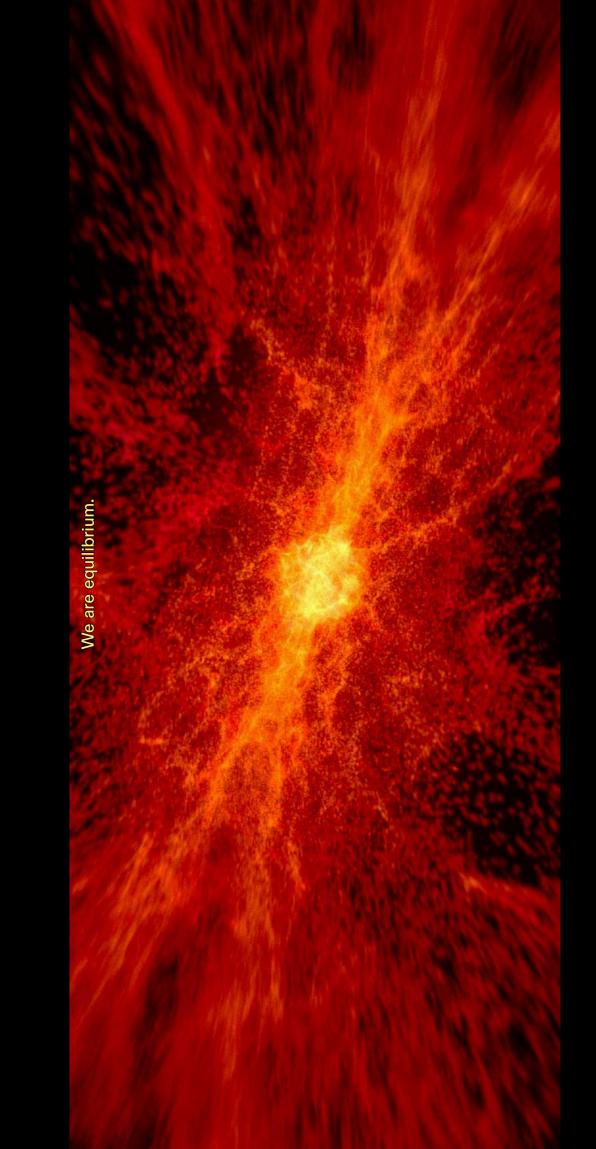
# **The Solution**

Faced with this urgency and the resulting moral crisis the remaining nations and corporations agree on the execution of a controversial enterprise, one last desperate attempt: Project Theca. The goal: the preservation of life on earth, at whatever cost. The planet's most brilliant scientists (from research areas as synthetic and molecular biology, organic chemistry, engineering, nanobiotechnology, information technology, theology, cognitive science) gather to develop a new kind of 'biotope' – an organically grown, metabolic megastructure that operates as a second ecosphere.<sup>13 14</sup> A gigantic Noah's ark, with the major difference that humans are now seen as an unseparable part of nature.

This megastructure is composed of gigantic clusters<sup>15</sup> of tunnel-like domes, surrounding and preserving earth's landscapes.

It encapsulates various climate zones and is inhabited by all of earth's species. The whole enterprise is designed for the duration of several hundred thousands of years, until the outside world recovers. Combining methods of synthetic biology, DNA computing and artificial intelligence, the construction plans of this megastructure are stored in seeds.<sup>16</sup> Planting them will grow gigantic, living hulls, encapsulating whole ecosystems. These grown structures are mainly composed of the substance chitin (C8H13O5N)n – the second most abundant polysaccharide in nature.

- Braidotti, Rosi. (2020): "We' May Be in This Together, but We Are Not All Human and We Are Not One and the Same." in: Ecocene: Cappadocia Journal of Environmental Humanities 1, no. 1, June 2021.
- 13 Margulis, Lynn & Dorian, Sagan (1995): "What is Life?: The Eternal Enigma", 1<sup>st</sup> edition, London: Weidenfeld & Nicolson, August 14, 1995.
- 14 Lovelock, James [Naked Science] (filmed in 2007, online since 2014): "Gaia Hypothesis" [interview], Youtube, May 21, 2014, URL: https://www.youtube.com/watch?v=GIFRg2skuDI, accessed on February 10, 2022.
- 15 Altaweel, Mark (2020): "Central Place Theory", in: Geography Realm, November 21, 2020, URL: https://www.geographyrealm.com/central-place-theory/, accessed on April 4, 2022.
- 16 Mitchell, Joachim (2010): "Don't build your home, grow it!" [video], TED, February 2010, URL: https://www.ted.com/talks/mitchell\_joachim\_don\_t\_build\_your\_home\_grow\_it, accessed on April 4, 2022.



Chitin is the primary component of cell walls in fungi or the exoskeletons of insects, and with its ability to form solid as well as flexible structures, it is the ideal basis for the genetically engineered megastructure.<sup>17</sup>

Unlike earth's ecosystem, the megastructure needs a manager to sustain itself, to perform feedback loops, and to keep an ecological balance. Therefore, the full-grown megastructure is equipped with its own decentralized nervous systems to keep the artificial ecosystems intact. This is achieved through a complex symbiosis of organic components and Al<sup>18</sup>. This symbiosis is deeply intertwined and interdependent, therefore the result is a new entity, emerged through symbiogenetic evolution<sup>19</sup>. To maintain the enormous amount of processes within the megastructure, it is equipped with its own consciousness, a soul, half Al, half organic. Its maxim: keeping the ecosystem intact – at any price.

#### Humanity in the megastructure

Humans are now seen as only one part of nature, therefore their needs are no longer the central interest.<sup>20</sup> One problem 'Project Theca' finds itself confronted with: humanity's urge for growth and innovation inevitably leads to large-scale catastrophes, to mass-extinction and the global collapse of ecosystems.

The solution: humanity needs to get rid of their urge for innovation. How will this be implemented? The first human 'settlers of the megastructure' need to be reconditioned, to be in a state of mind that is 'harmless on a planet sacle.' The above-mentioned scientists calculated that a self-sustaining cult<sup>21</sup> would be the best option – allowing humanity to live on without inevitably killing the planet.

They henceforth live in family groups of around 40 people, in so-called 'swarms', indoctrinated with an ideology of non-innovation, with the 'path of pure existing'.<sup>22 23</sup>

- 17 Oxman, Neri (2020): "The Neri Oxman Material Ecology Catalogue", New York City: Museum of Modern Art, April 2020.
- 18 Haraway, Donna J. (1995): "Cyborgs & symbionts: living together in the new world order.", New York/London: Routledge, 1995
- 19 Feldmann, John (2017): "Symbiotic Earth: How Lynn Margulis Rocked the Boat and Started a Scientific Revolution" [film], USA: Hummingbird Films.
- 20 Braidotti, Rosi. (2020): "'We' May Be in This Together, but We Are Not All Human and We Are Not One and the Same." in: Ecocene: Cappadocia Journal of Environmental Humanities 1, no. 1, June 2021.
- 21 Piesing, Mark (2020): "How to build a nuclear warning for 10,000 years' time", in: BBC Future, August 3, 2020, URL: https://www.bbc.com/future/article/20200731-how-to-build-a-nuclear-warning-for-10000-years-time, accessed on April 4, 2022.
- 22 Till, Jeremy (2021): quoting Isabelle Stengers in "Research after Research", IOA Silver Lecture Series: Research Cultures, held on December 2, 2021.
- 23 Sparrow, Jeff (2019): "Eco-fascists and the ugly fight for 'our way of life' as the environment disintegrates", in: The Guardian, November 29, 2019, URL: https://www.theguardian.com/environment/2019/nov/30/eco-fascists-and-the-ugly-fight-for-our-way-of-life-as-the-environment-disintegrates, accessed on December 20, 2021.

How will this self-sustaining and harmless condition of humanity be sustained? Three precautions must be made:

#### 1

- The megastructure's consciousness, which is keeping the ecosystem intact, must also keep the humans in line. It inevitably must take an authoritarian position, appropriating aspects of ideology, religion and rituals to put itself in a god-like position. The people in the megastructure have to obey, so the whole ecosystem can stay intact. Their ideology is the 'path of pure existing'. They call the megastructure's consciousness 'Mother Arkah'. Her goal is to prevent even the smallest thought of innovation in the people's minds.
  - Unfortunately, there is one major flaw: as Mother Arkah has Al components which were trained during earlier times of the capitalocene, her way of thinking is biased. She therefore shows manifestations of a god complex, unintentionally inherited from its human creators.<sup>24 25</sup>

2 This subsequently means that selected individuals need to take the position of priests, middlemen or mediums to communicate between Mother Arkah and the megastructure's human inhabitants. They call themselves 'Mediators', they guide their people and perform rituals. They are the right hand of Mother Arkah, further imposing the 'path of pure existing'.

3 This concentration of power must be manifested, for the human mind to accept Mother Arkah and the Mediators as the ones who set the tone. Therefore, the megastructure consciously forms outgrowths – large temple-like structures in architectural scale, called 'hives' by the humans. Those hives are places for

Mother Arkah to communicate with mediators and the people of the swarm, here she imposes her bio-politics, her dictatorship-like regime. These grown temples

are impressive organic spaces, created for rituals and pilgrimage, but also for the humans to find shelter in the organic caves. The concept of the sublime<sup>26 27</sup> in architecture is intended to evoke obedience.

- 24 Criado Perez, Caroline (2019): "Invisible Women: Exposing Data Bias in a World Designed for Men", 1<sup>st</sup> edition, London: Chatto & Windus, March 7, 2019.
- 25 Von Foerster, Heinz (2002): "Cybernetics of Cybernetics". In "Understanding Understanding: Essays on Cybernetics and Cognition" (pp. 283–286), New York City: Springer, November 14, 2002
- 26 Cepl, Jasper (2020): "Geschichte und Theorie der modernen Architektur: 3. Vorlesung: Character" [lecture notes]. Bauhaus University Weimar, November 17, 2020, URL: https://www.uni-weimar.de/qisserver/rds?state=verpublish&status=init&vmfile=no&publishid=51742&moduleCall=webInfo&publishConfFile=webInfo&publishSubDir=veranstaltung.
- 27 Gleiter, Jörg H. (2013): "Internationale Konferenz Effekt und Affekt. Architektur und das Digital-Erhabene", TU Berlin, Institute of Architecture, January 2013.



#### Year 2900. Project Theca has grown successfully.

The outside world has collapsed into lethal chaos and is in hibernation mode, slowly recovering over the next several hundred thousands of years. The relocation of earth's living beings into the megastructure has been successfully completed, since hundreds of years humanity has now been living in cult-like groups under the regime of Mother Arkah.

# An ironic conclusion

The smartest people on earth left behind a legacy of eco-fascism<sup>28</sup> as their last will – a self-sustaining god-like hybrid organism, enforcing omnipresent bio-politics on the remnants of humanity: Bio-Technoism became reality.

# **Establishing Personas**

To make the above-described scenario more graspable, various aspects of the anti-utopia are communicated through the stories of four personas: the child, the Mediator, Dr. Verney and the artificial goddess Mother Arkah. As the film is spanning over a timeframe of 500 years, roughly between 2800 and 2900, the personas can manifest different stages of Project Theca's implications – starting with the planning phase in the laboratory, to a stage where life in the megastructure flourishes, until, in the end, first cracks in the system of Bio-Technoism appear.

In the film the viewer hears the characters' voices from the off – they share their thoughts, their inner monologues. Through the assemblage-like structure of the film, the viewer only sees fragments of the world, with the aim to make all bits and pieces give an understanding of the future scenario in the end.

# The Child

This character is a young member of a human tribe, of a 'swarm' living within the megastructure in the year 2900. It represents humane naivety and innocence, but also curiosity and the urge to explore and invent. The child is introducing the viewers to the everyday life and the people's worries within a society governed by Mother Arkah. It shows the relationship of the common people with the Mediators and nature's godlike soul. The child takes the world as it is, but, towards the end of the film, also starts to ask forbidden questions. It opens up the question if the deepest values of humanness can be suppressed by ideology, if the 'urge for innovation' can be forgotten, or if curiosity and eagerness to learn is given as one of the most intrinsic features of humanness. The visual world of the child takes us on a journey through wild nature and the 'vastness of the arteries' - that's how the humans call their habitat in the megastructure.

28 Sparrow, Jeff (2019): "Eco-fascists and the ugly fight for 'our way of life' as the environment disintegrates", in: The Guardian, November 29, 2019, URL: https://www.theguardian.com/environment/2019/nov/30/eco-fascists-and-the-ugly-fight-for-our-way-of-life-as-the-environment-disintegrates, accessed on December 20, 2021.



#### The Mediator

In each human 'swarm' there are several priests, Mediators, taking care of the communication between the people and Mother Arkah. The position of the priest is basically that of the right hand, the prophetic executioner of Mother Arkah's will. The Mediators are in control of the oral history and rituals of a tribe; as humans don't know how to read and write, oral tradition is one of the most important factors of control. Their drive is to keep a state of 'pure existing', which means to suppress any sign of curiosity or technical innovation.

> In the film, the Mediator's monologue discloses the inner power structures and mechanisms of Mother Arkahs' influence on the humans. The Mediator also represents extreme human behavior when entrusted with power.<sup>29</sup>

The visual world of the Mediator puts a spotlight in the inner world of the hives, grown organic-geometric caves, consisting of chitin. Those hives are a direct part of the megastructure and therefore permeated with nature's soul. Mother Arkahh is omnipresent.

#### **Mother Arkah**

Arkah is a strange, novel form of consciousness existing within the organic megastructure. Vaguely put, she is the 'soul' of the ecosystem. A symbiosis of organisms and AI. She consists of a thousand voices and speaks her own language. Mother Arkah sees herself as the preserver of ecological balance within the ecosystems of the megastructure. She has a god complex, as some of her personality traits are unintentionally inherited from the humans of pre-apocalyptic times.<sup>30</sup> Her task is to maintain balance throughout the ecosystem, therefore to control the remaining humans, to impose bio-politics of prohibited growth and non-innovation. This transforms Mother Arkah into a strange hybrid cyborg autocrat.

> The monologue of Mother Arkah gives insights into the intentions behind the imposed radical bio-politics and the flaws of inherited humanness, the algorithmic bias. Does that mean Arkah has more similarities to us living in the year 2022 than our late descendants surviving in the megastructure?

#### **Dr. Verney**

One of the leading scientists behind Project Theca. She lives around the year 2800, shortly before the end of humanity as we know it. As the movie is mainly set in the year 2900, her monologue and scenes are presented in flashbacks in the laboratory and in holograms, which were originally intended to document the milestones while working on Project Theca. The filmic and holographic fragments around Verney give insights and provide background about the origin and reason of the megastructure.

She also represents humanitie's arrogance,

overconfidence and trust in technology.

30 Criado Perez, Caroline (2019): "Invisible Women: Exposing Data Bias in a World Designed for Men", 1<sup>st</sup> edition, London: Chatto & Windus, March 7, 2019.

Hoffman, Jordan (2015): "Sundance 2015 review - The Stanford Prison Experiment: notorious behaviour test becomes masterful film", in: The Guardian, January 30, 2015, URL: https://www.theguardian.com/film/2015/jan/30/sundance-2015-review-the-stanford-prison-experiment, accessed on April 4, 2022.

Dr. Verney was the one to create a new culture, new societies, new hierarchical systems, a new religion and, ultimately, the first real goddess. She and her team reconditioned the human subjects, who would later become the settlers of the megastructure. Verney had to make the hard decision to erase all knowledge, all achievements in art, technology, literature and culture from the brains of the surviving humans – leaving behind the most innocent people, their minds formed to be easily brainwashed with Arkah's ideology.

> The scenes about Dr. Verney are, visually speaking, taking place in a futuristic laboratory which is located underneath the future habitat of the other characters. Later in the timeline this will be clarified by showing the remaining underground ruins. Name deriviation: Verney is the name of the main character in 'The Last Man', the first modern dystopia written by Mary Shelley in 1826.

#### An Allegory on the Rise and Fall of Ideologies

The whole scenario functions as a hyperbole, showing the repeating life-cycles of ideologies throughout human history. The following characters and concepts are archetypes and blueprints within the perpetual evolution of ideological regimes.

Professor Verney assumes the position of a trend-setting figure, the moment of birth to a body of thought. Ideologies often start with a creator, an idealistic initiator that sparks a utopian vision; a position also attributed to Jesus or Marx. Arkah represents the indisputable leader, the god-like figure, the moral authority, like God or Stalin. The 'path of pure existing' indicates religion, a codex, law or moral compass. This correlates to examples such as the bible, the koran or a constitution. The Mediators stand for the institution, the state, the executive powers, the church. They are enforcing the codex of 'pure existing'.

> The hives represent physical manifestations of power: palaces, institutional buildings, churches, temples, parliaments. The child is a placeholder for all humans, forced to live under certain ideologies that are restricted in their freedom of thought. It also indicates first signs of civil disobedience, resistance, revolution and ultimately the destabilization and potential downfall of the ruling authority.

#### Glossary

Mother Arkah	Word creation deriving from 'Arca'. Latin: ark, prison cell, coffin.
Swarm	Name for a group of humans.
Hive	Grown architecture, place for shelter and rituals.
Megastructure	Name for the gigantic 'artificial biotope'.
Arteries	The swarms' name for the megastructure
The Mediator	Priest and leader of a swarm
Pure Existing	How the people call the 'religion of non-growth'
Project Theca	Codename of the project initiating the megastructures, Arkah and human reconditioning. Latin for: cover, capsule, library, tomb, box,

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Prologue Hibernation

Dr Verney: Introduction 01:00

The world drowns in anarchy. Death zones are expanding irreversibly. Mass extinction has begun. The end of humanity has arrived. In the shadows of this chaos, a secret venture has been initiated. Project Theca.The mission: long-term survival.

Act I A State of Pure Existing

Arkah: Introduction 02:00

We are nature.

We are one. We are machines.

We are divine.

We are equilibrium.

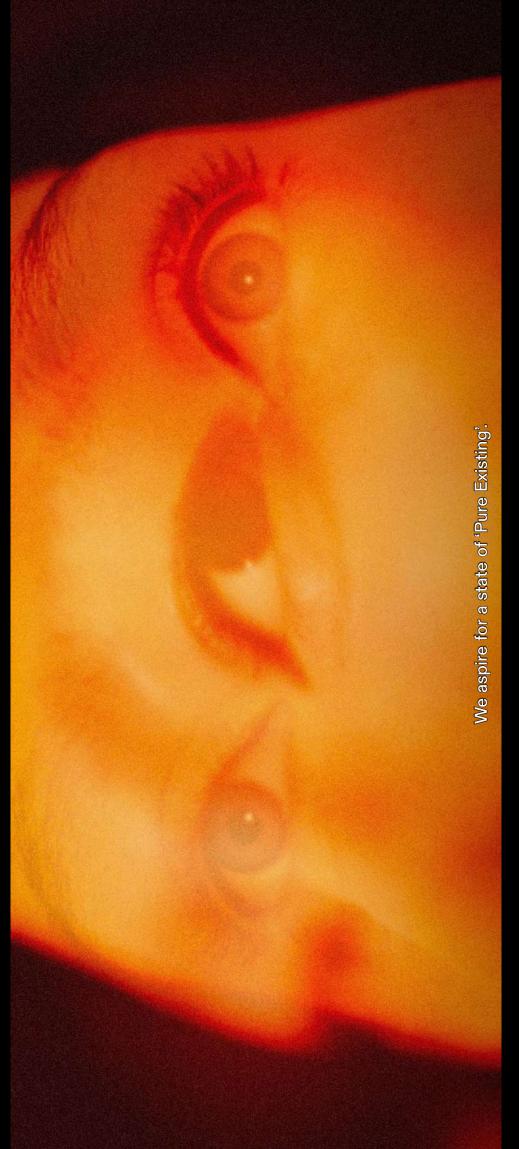
Child: Introduction 03:05

We live in a harmonic world. Nature surrounds us, is our sibling. We are nature. We are 'existing'. Our songs sing stories of the great entanglement, and the balance we need to sustain. The arteries are full of life, full of magic. Our goddess, she is part of all living beings.

Mediator: Ritual

04:25

We join together in the great halls. Our hive is part of nature. And so are we. Here we connect with the divine force. Here she is speaking to us. A soul residing within the earth, water and sky. She unites the swarm in the vastness of the arteries. She is caring, she is everywhere. Giving us unity. Community. Commandments. She is our moral compass. We live in Mother Arkah's veins. We are the blood in her arteries. We aspire a state of »Pure Existing«.



Dr Verney: Reconditioning 05:40

Our species has failed earth. The old codes of humanity are no longer valid, they need to be revised. Innovation leads to extinction. Inevitably. The "human urge for growth" needs to be obliterated. Our subjects have been reconditioned. Their minds are molded to stay long-term harmless. The malicious "Religion of Growth" has been eradicated. "Pure Existing" is the new maxim.

Mediator: Introduction 06:50

Everything is connected to something. The soul of nature is connected to everything. Powerful. Sublime. The swarm must obey. I am born to guide the people. Born to sustain balance. I am the soil of the community. My connection to the divine force is special. Only I can grasp Mother Arkahs genuine will. And I am destined to execute it. I am her claw within the swarm. I am in control.

Child: In the forrest

Daily life is rough. We harvest, we hunt, we meditate, we survive. There are several families in our swarm, around 40 people. The hive protects us. It is our home, our sanctuary, our place for ceremonies. The Mediator guides us. She is guided from ... something greater. There is magic all around us. I want to understand it.

Mediator: Graves

09:50

08:25

Mother Arkah provides. Mother Arkah demands. Her divine will must be executed. The will of »pure existing«. The most noxious seeds root in human minds.



Their insidious curiosity threatens our sacred balance. Arkah predicts when to pluck out herbaceous weeds. The hive shall digest those disturbances. I am destined, in the name of Mother Arkah, to sustain equilibrium. I am the moral instance.

#### Act III Autopoietic Equilibrium

Dr Verney: Growing Theca 11:25

The advent of a new period occurs after long and quiet preparatory work. Project Theca. A masterful composition. Genetically engineered, living architectures, artificial neural networks. Designed on a molecular level, to ultimately envelop largescale ecosystems. A symbiosis of the organic and the synthetic. New habitats. A second nature, flourishing hidden within earth's death zones. We created a gigantic biotope, the Megastructure. Autopoietic units, sustaining life, climates, itself. A novel entity emerged by symbiogenesis. A consciousness, half born, half created. Self-organizing, decentralized, in an intrinsic condition of care.

Arkah: Controlling humans 13:10

The naive human kind Irrelevant Endangering They require our control We conduct their behaviour every generation bares anomalies Parasites Their bodies will nourish the grounds We sustain equilibrium

Child: Curiousity

14:10

Divine Mother Arkah. She provides everything we need … as long as we obey. That's what the Mediator preaches. My siblings say I'm too curious. I know that.



I should not ask so many questions. For my own benefit, for the benefit of our swarm. The Mediator would punish me, if she knew. There are other swarms out there. I can see their hives in the distance. I wonder who they are. But we avoid each other. That's how it always was. Sometimes people disappear. We shall not ask questions,

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#### Epilogue Inauguration

Dr Verney: Farewell 14:10

and Mother Arkah is generous.

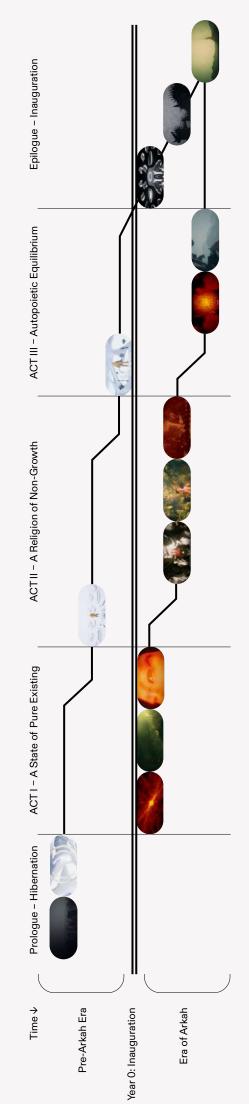
Resettlement of flora and fauna: successful. Human settlers first contact with their new mother: successful. Years have passed. Project Theca is fully grown. All this land. Dead. We knew for generations this would come. Humanity didn't change for the better. So we had to. Sacrifices have been made. All human knowledge, forgotten. No literature. No art. No nations. Project Theca, our last attempt to rescue planet earth. I will die here with the rest of us. It's time to say farewell. Arkah. Take care.

Child: What is beyond? 14:10

Sometimes I dream of flying through the arteries. Of reaching a ... boundary. Is there something that lies beyond? I'm afraid to follow those thoughts. Mother Arkah forbids such paths. As our lives in the swarm continue, our goddess is observing every step. We are part of Mother Arkah, Mother Arkah is part of us.



Movie Timeline





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This section outlines the research topics, references, impulses, inspirations and concepts that merged together in the speculative future scenario described beforehand. In each paragraph the ideas are summarized and put in context with their influence on the project.

### **GAIA and Cybernetic Organisms**

In the GAIA hypothesis, coined by James Lovelock and Lynn Margulis in the late 1960s, planet earth is seen as a single self-regulating system. All living beings are parts of a larger system, from the oxygen-creating algae to rainforrests or single mammals, everything is contributing to the balanced ecosphere of our planet. Taking a look on the criterias of what actually defines life forms, the whole planet can be seen as one organism.<sup>31</sup>

GAIA can also be seen as a cybernetic organism – a cyborg: here the principles of cybernetics – feedback loops, sensors, controllers and actuators, which keep a system in balance and react if there is imbalance – are applied to or performed by organisms or natural phenomena.<sup>32</sup> Expanding the popular idea of cyborgs being machine-enhanced humans, nowadays machines are even an inseperable player of processes in nature – as evidenced by the role of combustion engines in climate change or microplastics' influence on the hormone balance of mammals.

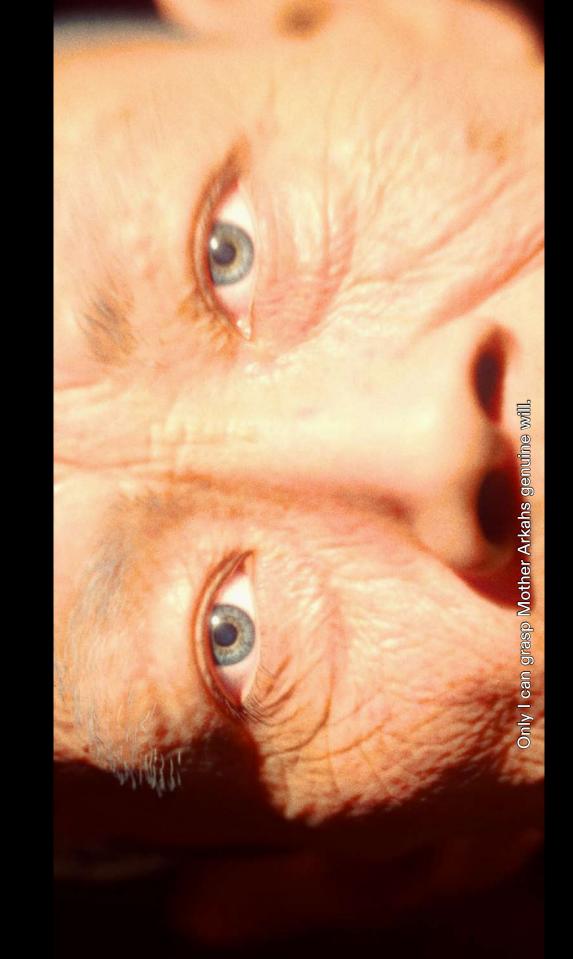
Project Theca therefore can be seen as a hybrid miniature version of GAIA, a conglomerate of various actors who all influence the equilibrium within the artificial ecosystem, and a cybernetic organism itself. Project Theca and the bio-politics it is being enforced with can be contextualized with a quote from Donna Haraway: "We are all chimeras, theorized and fabricated hybrids of machine and organism – in short, cyborgs. The cyborg is our ontology; it gives us our politics."<sup>33</sup>

## **Autopoiesis**

An autopoietic unit is a system capable of producing and maintaining itself by creating its own parts. The unit is creator and consumer at the same time. Therefore 'autopoiesis' is the mechanism that makes a being autonomous, that makes it alive, makes it the producer and product at the same time. Being and doing is inseparable. Within this framework, life can be seen as a process of organization.<sup>34</sup>

In the case of 'Mother Arkah': The clustered megastructure is an autopoetic unit. The main purpose of Project Theca is a process of organization: organizing the ecosystems, the Homo sapiens and itself.

- 31 Lovelock, James [Naked Science] (filmed in 2007, online since 2014): "Gaia Hypotheis" [interview], Youtube, May 21, 2014, URL: https://www.youtube.com/watch?v=GIFRg2skuDI, accessed on February 10, 2022.
- 32 Haraway, Donna J. (1995): "Cyborgs & symbionts: living together in the new world order.", New York/London: Routledge, 1995.
- 33 Haraway, Donna J. (1985): "A Cyborg Manifesto", in: The Socialist Review, London.
- 34 Maturana, Humberto R. & Varely, Francisco (1987): "Autonomy and Autopoesisis". In "The Tree of Knowledge: The Biological Roots of Human Understanding" (pp. 47–52), New York City: Random House N.Y.



#### Backgrounds

# The Sublime in Architecture

Étienne-Louis Boullée (1729–1799, Paris) created the concept of 'the Sublime' in architecture, which deals with the relation of the human to the sublime, to the notion of a higher power that architecture can inspire. The gigantic scale of Boullée's creations evoke a 'delightful sensation', which can also turn into something frightening and uncanny. Boullée created expressive architectural drawings for his 'talking architecture - architecture parlante.' Their sublime character should inspire awe and evoke horror. Those drawings of unbuildable constructions should most importantly communicate philosophical concepts. Boullée was inspired by Immanuel Kant, whereas the ideas of Boullée later inspired many architects, most prominently the works of wartime architect Albert Speer.<sup>35</sup> Within Mother Arkah the idea of 'the Sublime' is used in the design of gigantic grown, organic temples - the hives. The people living within the megastructure should feel intimidated and awestruck by the sheer dimension of those architectures. The strenght of the higher power of Arkah is to be conveyed.

#### **The Digital Sublime**

This notion describes an effect created by the amorphous forms of computational design. Buildings created with generative, parametric methods seem to the observer as if they were formed by mysterious forces – the underlying logic of the mathematically-algorithmically generated geometries remains ungraspable. This results in an overwhelming or disturbing impression. The more hidden those generative processes, the stronger their effect – they are characterized by concealment. Therefore the digital age leads to a revival of 'the Sublime' in architecture — the 'Digital Sublime'.<sup>36</sup>

In the context of 'Mother Arkah' the concept of the 'Digital Sublime' appears within the computationally designed temples. Their impressive and intimidating appearance is achieved through methods of parametric architecture and biomorphic design.

#### **Growing Architectures**

Project Theca takes on several existing concepts around living buildings, growing architectures, planted products<sup>37</sup>, houses with metabolism or space architecture<sup>38</sup>.

Theca's construction plans are stored in DNA in seeds, and, as soon as planted, can grow as inscribed in its genes. The gigantic biotope is equipped with its own metabolism, regulating the systems and ecosystems it encloses.

- 35 Cepl, Jasper (2020): "Geschichte und Theorie der modernen Architektur: 3. Vorlesung: Character" [lecture notes]. Bauhaus University Weimar, November 17, 2020, URL: https://www.uni-weimar.de/qisserver/rds?state=verpublish&status=init&vmfile=no&publishid=51742&moduleCall=webInfo&publishConfFile=webInfo&publishSubDir=veranstaltung.
- Gleiter, Jörg H. (2013): "Internationale Konferenz Effekt und Affekt. Architektur und das Digital-Erhabene", TU Berlin, Institute of Architecture, January 2013.
- 37 Mitchell, Joachim (2010): "Don't build your home, grow it!" [video], TED, February 2010, URL: https://www.ted.com/talks/mitchell\_joachim\_don\_t\_build\_your\_home\_grow\_it, accessed on April 4, 2022.
- 38 Armstrong, Rachel (2021): "Living Architecture", in: Next Nature Magazine, Amsterdam. October 19, no. 1, 2021

# Posthuman Convergence

This term describes the effects on humanity by the intersection of two threatening phenomena: unpredictable technological developments (Fourth Industrial Revolution) and the acceleration of the climate change emergency (Sixth Extinction). This complex interconnectedness of events triggers many political concerns and ethical dilemmas. Rosi Braidotti summarized them as the intersection of 'convergent critiques of Humanism' and the 'rejection of anthropocentrism'.<sup>39</sup> The whole setting of 'Mother Arkah' revolves around those issues of the Posthuman Convergence, speculating on political and ecological implications and how humanity could deal with them.

# **Material Ecology**

The term coined by Neri Oxman, MIT Media Lab, is a rising field within the design industries. It is defined as "the study and design of products and processes integrating environmentally aware computational form-generation and digital fabrication, the field operates at the intersection of Biology, Materials Science & Engineering, and Computer Science with emphasis on environmentally informed digital design and fabrication." <sup>40</sup>

Some ideas from Material Ecology come together within Project Theca, such as growing different material properties from the same molecular composition, resulting of experiments with chitin<sup>41</sup>. The set designs and architectural environments in the animation film 'Mother Arkah' are using this approach, therefore the megastructure and hives, hypothetically, consist of different forms of chitin.

# Posthumanism

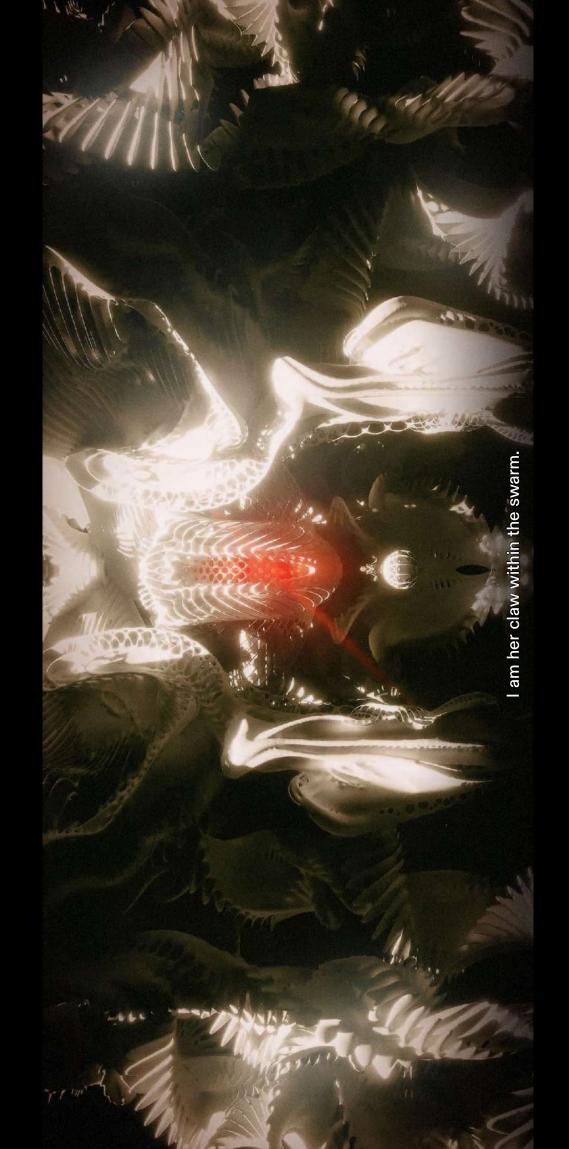
Posthumanist approaches circulate around deconstructing individualism, anthropocentrism and the human idea of enlightenment by de-centering the human.<sup>42</sup> This school of thinking enables ways to deal with more-than-human issues, such as a planetary climate crisis. Project Theca is a speculative approximation towards what political applications of applied posthumanism could mean, speaking of introducing the political system of 'Bio-Technoism' to enable a form of governance that equally addresses human bio-politics and ecological issues. The posthumanist applications within 'Mother Arkah' are influenced by thinkers such as Donna Haraway or Rosi Braidotti.

# Endosymbiotic Theory (SET)

This theory, also called symbiogenesis or symbiotic evolution theory (SET) was developed by Lynn Margulis in the 1960s. It describes how more complex organisms, such as the eukaryotic cell, formed from less complex, prokaryotic organisms, such as (proto-)bacteria. Margulis argues that cells have not developed on their own, but are the result of a symbiosis of different free-living organisms.

- 39 Braidotti, Rosi. (2020): "'We' May Be in This Together, but We Are Not All Human and We Are Not One and the Same." Ecocene: Cappadocia Journal of Environmental Humanities 1, no. 1, June 2021.
- 40 Oxman, Neri (2013): "Towards a Material Ecology", in: MIT Press, February 20, 2013, URL: https:// www.media.mit.edu/publications/towards-a-material-ecology/, accessed on April 4, 2022
- 41 Oxman, Neri (2020): "The Neri Oxman Material Ecology Catalogue", New York City: Museum of Modern Art, April 2020.

42 Publig, Sophie (2021): "What is Life? A Genealogy of Autopoiesis, Cybernetics and Bio-politics" [lecture notes]. University of Applied Arts Vienna, December 14, 2021, URL: https://base.uni-ak. ac.at/courses/2021W/S03997/



## Backgrounds

This can be imagined as a union of organisms, where each individual has one specific task – for example, one bacteria is performing digestion for the whole union, another one is there for locomotion. As the different actors can't exist seperated, this symbiotic union can be seen as one single entity with early stages of organs. A new organism, an individual, has emerged by symbiotic evolution.<sup>43</sup> "If symbionts merge entirely, if they fuse and form a new kind of being, the new 'individual', the result of the merger, by definition, evolved through symbiogenesis."<sup>44</sup>

> Project Theca could be seen as an entirely new form of evolution resulting from symbiosis. The formation of a new species (Mother Arkah) is resulting from an interdependent symbiotic evolution between organic components and AI, achieved through synthetic biology and DNA computing.

#### **Declaring rowth as Criminal**

The approaches of Isabelle Stengers, Belgian philosopher and historian, perfectly fit how the bio-political concepts behind 'Mother Arkah' came together. One correlating quote of her reads: "Will the future define growth as irresponsible, even criminal?"<sup>45</sup> This goes hand in hand with theories around 'voluntary human extinction' or eco-fascism, as described in the following paragraph.

#### **Eco-Fascism**

This term describes a totalitarian political system that puts environmental interests above the interests of a state's citizens. The synthesis of fascism and environmentalism began with Nazism, as Janet Biehl and Peter Staudenmaier suggest.<sup>46</sup> Therefore the anti-utopia of 'Mother Arkah' could also be seen as an eco-fascist construct. The well-being of the organic whole is seen as the maxim, human needs are subordinate.

## **Central Place Theory**

First introduced by Walter Christaller in 1933, this theory provides abstract geometric patterns to evenly distribute cities across landscapes.<sup>47</sup> The clustered megastructure within Project Theca is growing in a geometric distribution applying Christallers' central place theory.

## **Nuclear Semiotics: Atomic Priesthoods**

The field of Nuclear Semiotics seeks to find solutions for the potential threat of future generations who, over the years or maybe through a major catastrophy, have lost all knowledge about the existing subterranean nuclear waste repositories.

- 43 Feldmann, John (2017): "Symbiotic Earth: How Lynn Margulis Rocked the Boat and Started a Scientific Revolution" [film], USA: Hummingbird Films.
- 44 Publig, Sophie (2022): "The Symbiotic Planet" (p.46), in: "What is Life? A Genealogy of Autopoiesis, Cybernetics and Bio-politics" [lecture notes]. University of Applied Arts Vienna, January 18, 2022, URL: https://base.uni-ak.ac.at/courses/2021W/S03997/
- Till, Jeremy (2021): quoting Isabelle Stengers in "Research after Research", IOA Silver Lecture Series: Research Cultures, held on December 2, 2021.
- 46 Sparrow, Jeff (2019): "Eco-fascists and the ugly fight for 'our way of life' as the environment disintegrates", in: The Guardian, November 29, 2019, URL: https://www.theguardian.com/environment/2019/nov/30/eco-fascists-and-the-ugly-fight-for-our-way-of-life-as-the-environment-disintegrates, accessed on December 20, 2021.
- 47 Altaweel, Mark (2020): "Central Place Theory", in: Geography Realm, November 21, 2020, URL: https://www.geographyrealm.com/central-place-theory/, accessed on April 4, 2022.



There is magic all around us. I want to understand it.

The issue is how to communiate to people in the future where nuclear waste repositories are located, to then tell them not to dig and make excavations there. The critical variable in this situation is time – as nuclear waste will be radiating for the next hundreds of thousands of years.<sup>48</sup>

One idea was to initiate an 'atomic priesthood', a cult-like organization that aims to preserve the knowledge about radioactive landfills for many generations. Religions prooved to have this ability. Therefore the main idea behind atomic priesthoods is to utilize religious methods and rituals, combined with intimitading architectures around the radioactive locations, to prevent future humans from digging up the nuclear waste.<sup>49</sup> In the scenario of 'Mother Arkah' a similar cult is initiated, aiming to preserve the much needed ideology of non-growth to suppress the human urge for innovation by sustaining cults – human swarms – worshipping a state of 'pure existing'. People are indoctrinated with this ideology and controlled by the regulatory body of the Mediators and the artificial goddess Mother Arkah.

#### **Biomimicry**

This term describes a practice that learns from and mimics the strategies found in nature to solve human challenges. Developed by Janine Benyus, Biomimicry consists of the '26 principles of nature' that can be adapted to design solutions or business strategies.<sup>50</sup> Nowadays it finds applications in various fields all over the world.

Biomimicry was one of the starting points for 'Mother Arkah.' In particular, the strategy regarding the formation of fruitful partnerships inspired the creation of the nature-technology-symbiosis behind Arkah.

## **Algorithmic Bias**

As AI systems are learning from current data, they are inevitably incorporating our reality's prejudices into their code and are making biased decisions on this basis. Human behaviors, like racism or misogyny, are inherited from learning resources by the seemingly neutral algorithms. If, for example, an AI is learning from shared content on a social network, and the content contains racist or misogynist messages – which is almost always the case, as content is generated by people of all attitudes – the AI will inevitably absorb and reproduce these behaviours. This is called 'algorithmic bias', a well-known problem in AI ethics.<sup>51</sup>

Mother Arkah's consciousness, which emerges from a symbiosis of Al and organic components, is also biased. Arkah was engineered in a laboratory before the megastructure started growing, and therefore it carries on prejudices from a bygone era.

Ibid.

- 50 Hutchins, Giles (2013): "Biomimicry: looking to nature to solve human problems", in: The Guardian, November 15, 2013, URL: https://www.theguardian.com/sustainable-business/blog/biomimcrynature-human-problems-sustainability, accessed on April 5, 2022.
- 51 Criado Perez, Caroline (2019): "Invisible Women: Exposing Data Bias in a World Designed for Men", 1<sup>st</sup> edition, London: Chatto & Windus, March 7, 2019.

<sup>48</sup> Piesing, Mark (2020): "How to build a nuclear warning for 10,000 years' time", in: BBC Future, August 3, 2020, URL: https://www.bbc.com/future/article/20200731-how-to-build-a-nuclear-warning-for-10000-years-time, accessed on April 4, 2022.

<sup>49</sup> 

#### Backgrounds

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This makes her the only living being with knowledge and behavior from the past. Therefore an obsession with power, egocentricity and totalitarian behavioral characteristics are personality traits of Mother Arkah, inherited from humans in the late-capitalist era.

## Second-Order-Cybernetics

Cybernetics, or control theory, describes the science behind complex system theory. Cybernetics is connected to computing, artificial intelligence, robotics, cognitive science, sociology, ecology, design, management, pedagogy, and arts. The central idea deals with self-organised systems and the underlying feedback mechanisms. First-order-cybernetics describes the 'cybernetics of observed systems', while second-order-cybernetics includes the observer into the system as the 'cybernetics of observing systems'.<sup>52</sup> In the scenario of Project Theca the megastructure is a cybernetic system, self-regulating and self-contained. The scientist is in the position of the observer of a cybernetic system, which makes it a second-order-cybernetic system. This leads us to the question: "What are the properties of an observer?" Their self-proclaimed 'objectivity' in creating the symbiosis of Mother Arkah is subconsciously biased with the human traits they initially wanted to eradicate.

#### **Moral Crisis**

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Ibid.

Within the scenario humanity drifts towards their most challenging times, an unprecedented moral crisis emerges. During this situation, the threshold of what is ethically acceptable shifts. People do things they would never do under normal circumstances. This behavior change in an extreme moral crisis leads the creators of Project Theca to abandon all moral obligations and to fabricate an encompassing authoritarian societal experiment, which could not be imagined during times of prosperity.

## Utopia and Anti-Utopia

By definition, utopian and dystopian fictions are genres of speculative fiction that explore social and political structures. Utopias are authoritarian by nature, as they are modeled on the ideals of one specific political idea. They are radical, social thought experiments, which mostly don't leave space for perspectives other than the leading ideology. Therefore they can easily shift towards anti-utopias. Often utopias are imagined to happen in isolated places like islands.<sup>53</sup> Utopias can offer more questions than answers, more problems

than solutions. Project Theca should be seen as one of those anti-utopian concepts, located within the sub-genre ecotopian fiction and climate fiction. The island character is given, as the scenario is set within the isolated megastructure.



#### Backgrounds

#### Liam Young and Speculative Architecture

The projects of Liam Young show complex architectural utopias through animated films. In his practice 3D softwares and game engines are used to create meaningful worldbuilding projects. Liam Young is leading the 'Design and Entertainment' Masters at SCI-Arc in Los Angeles, working with architecture firms but also the entertainment industry.<sup>54</sup> The 'Mother Arkah' project should be located within this field of speculative architecture.

# A Modest Proposal

The satirical essay 'A Modest Proposal' was written by Jonathan Swift in 1729. The full title is: 'A Modest Proposal: For Preventing

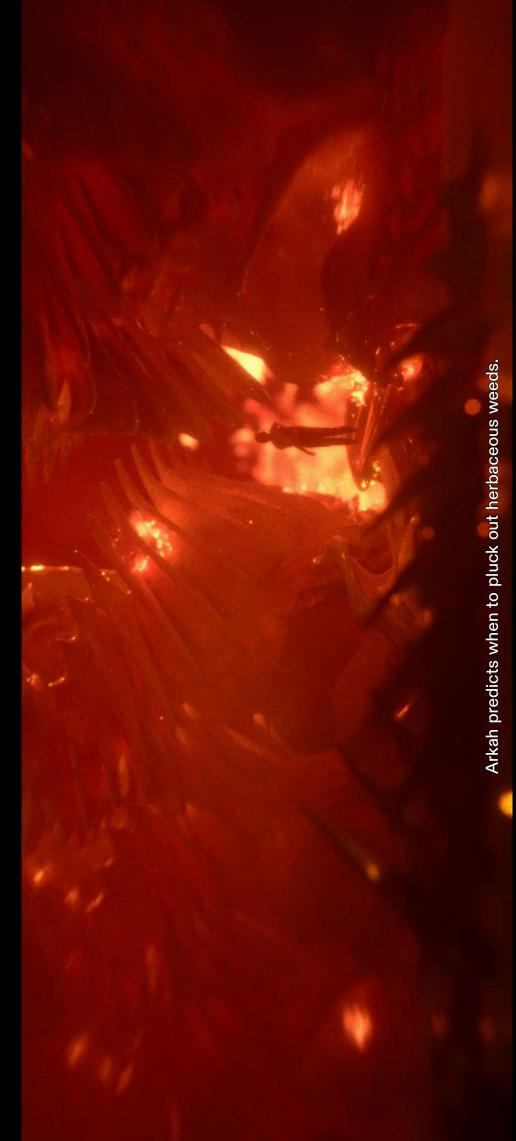
the Children of Poor People from Being a Burthen to Their Parents or Country, and for Making Them Beneficial to the Publick.' The essay mocked the heartless attitudes towards the poor, as it suggests that the poor Irish should sell their children as food to the rich English society, to solve problems of poverty and overpopulation.<sup>55</sup> The scenario around Project Theca also uses mechanisms displayed in 'A Modest Proposal', by overexaggerating absurd ideas on the Posthuman Convergence to discuss certain issues. Do we really need such an exaggerated suggestion to solve a problem - climate heating and an economy of infinite growth - that we could actually solve right now? Therefore an alternative title of 'Mother Arkah' could be: 'A Modest Proposal: For growing a biotope-like megastructure inhabited by all of Earth's species, engineering an Organic-AI-Cyborg Symbiosis maintaining the ideology of 'pure existing' to prohibit innovation, and leading the planet's biosphere towards ecological recovery after the climate apocalypse.'

## Ideology, Power, Religion and Cult

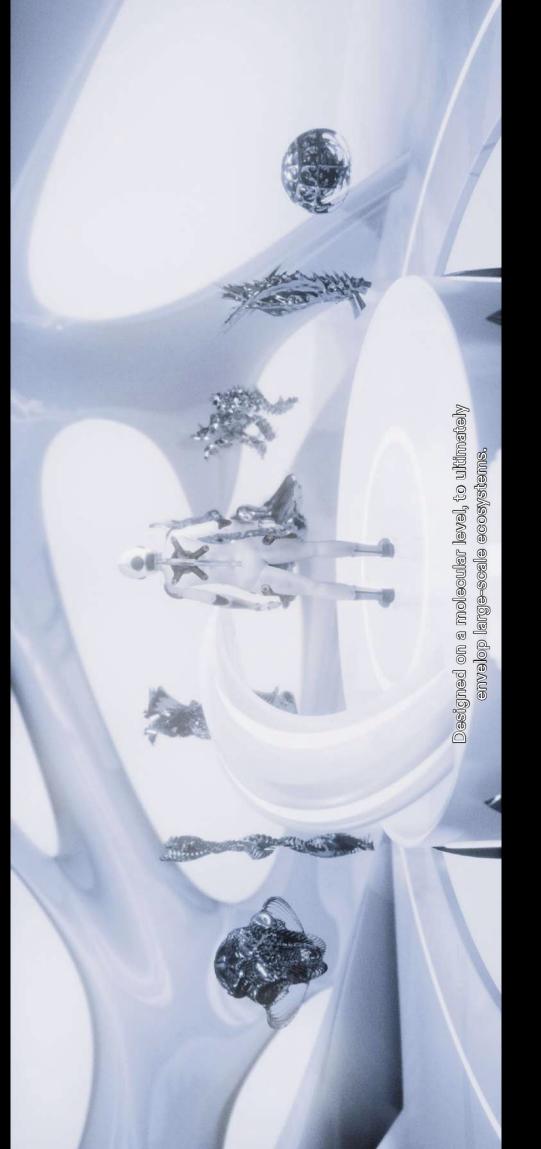
One important aspect of the Project Theca scenario are questions around ideology, religious beliefs, the concentration of power and mass manipulation. Nowadays we live in the 'Ideology of Growth'<sup>56</sup>, in the religion of capitalism. Within Project Theca this shifts to a religion of 'non-growth and ecological consciousness', also called 'ideology of pure existing', with Mother Arkah as the governing autocratic imperative.

Religious and ritualistic context is used to impose the strict ideology of non-growth on people. As religion in general is providing humans with community and, to some extent, a meaning in life, political views are also indoctrinated subconsciously. This happens intentionally when religion is interlinked with ideology, a common belief or the dominant narrative of a society. Furthermore, placing Mother Arkah in the position of unrestricted worldly and religious power opens up questions about 'authority from nature', non-human agency and enforced bio-politics.

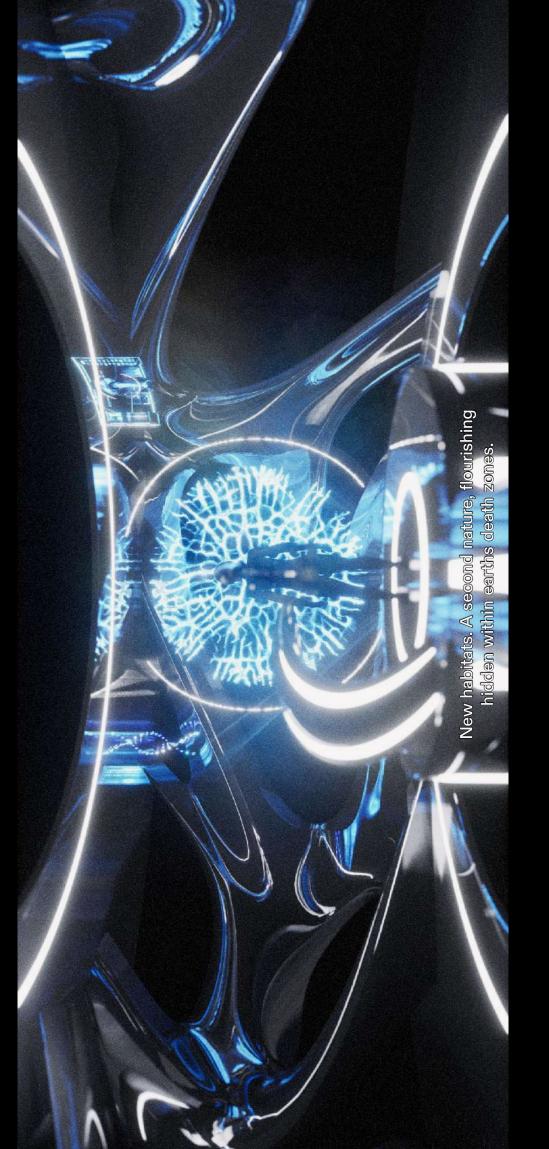
- 54 Young, Liam (2022): "Liam Young: MS Fiction and Entertainment Coordinator", URL: https://www. sciarc.edu/people/faculty/liam-young, accessed on April 5, 2022
- 55 Kahlili, Bouchra (2021): "Artistic Strategies: Open Space" [lecture notes]. University of Applied Arts Vienna, December 7, 2021, URL: https://base.uni-ak.ac.at/courses/2021W/S03948/
- 56 Schmelzer, Matthias (2016): "Undoing the Ideology of Growth", in: Resilience, July 8, 2016, URL: https://www.resilience.org/stories/2016-07-08/undoing-the-ideology-of-growth/, accessed on January 12, 2022.



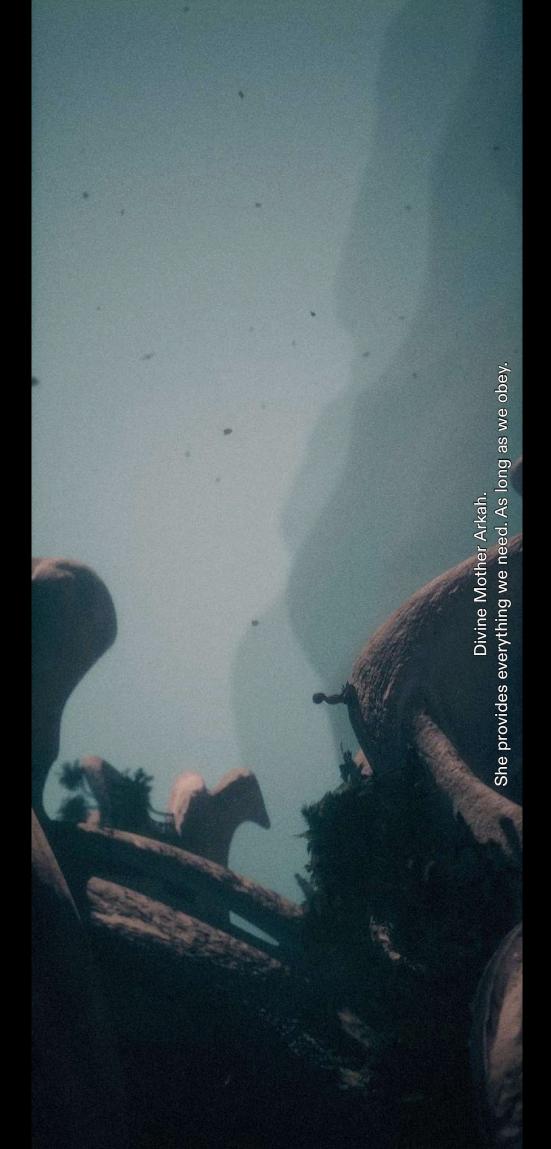




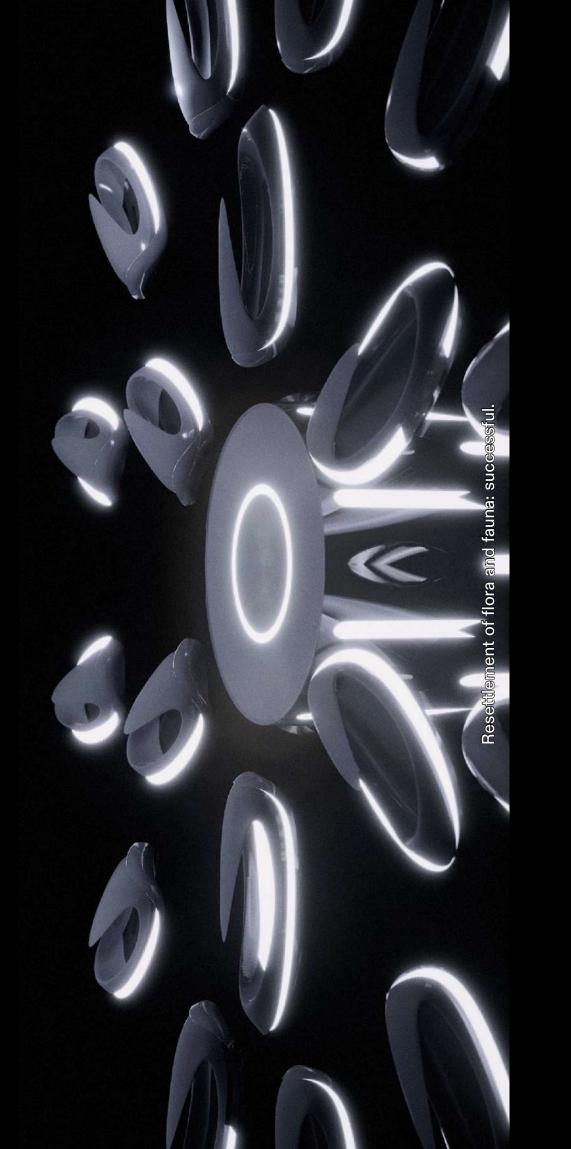




The naive human kind. Irrelevant. Endangering.









Human settlers first contact with their new mother: successful.





Organic-Parametric Explorations 58 Mechanisms of nature and patterns of growth were adapted to create the geo-metric foundation for the 'growing and living architectures' in the film Mother Arkah. The guiding principle: transcending from constructed to grown.















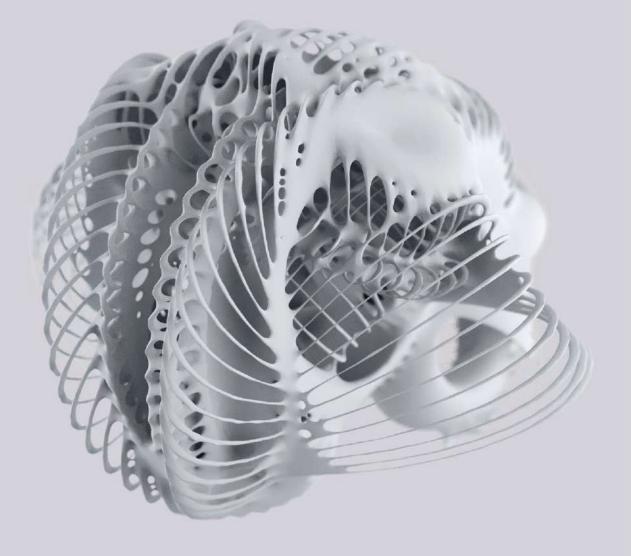




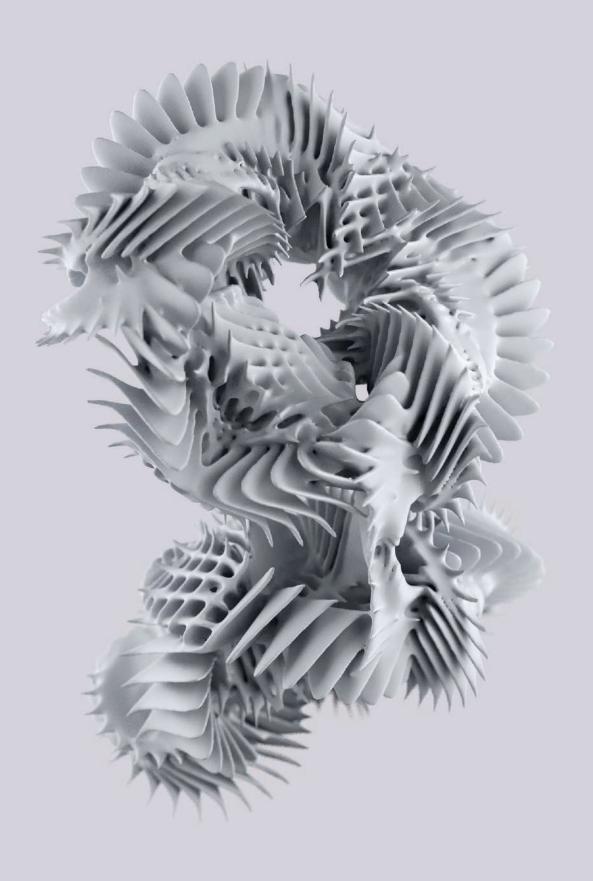


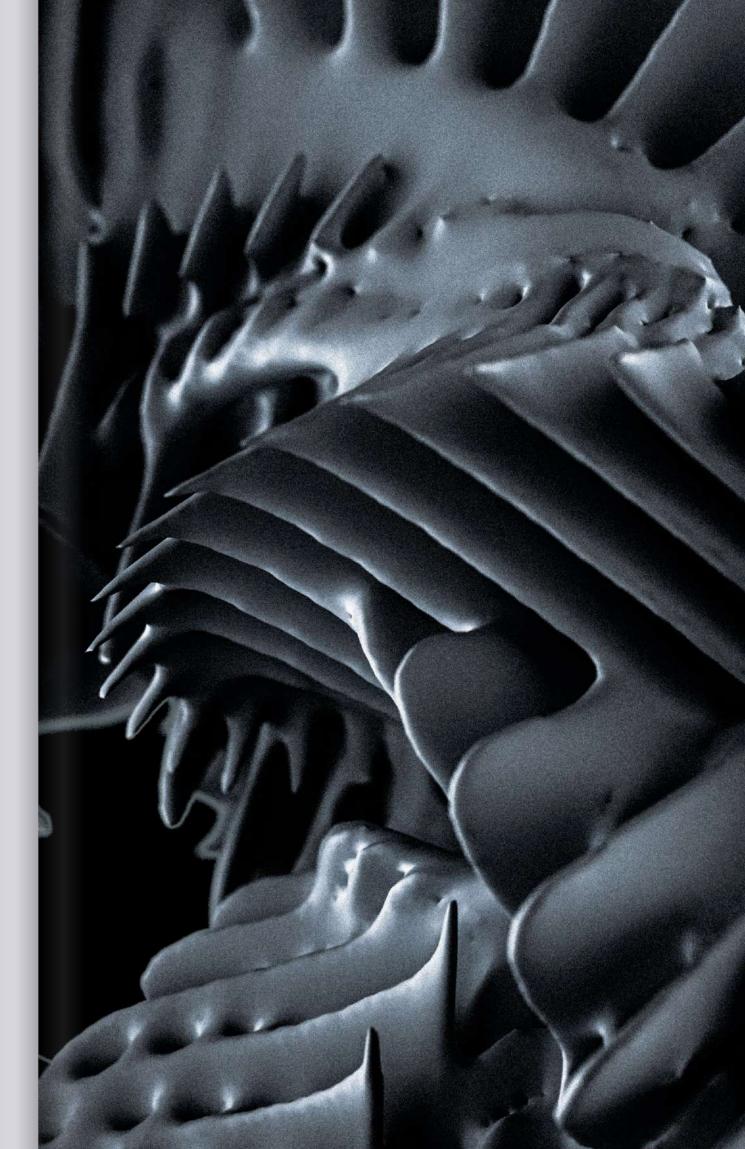


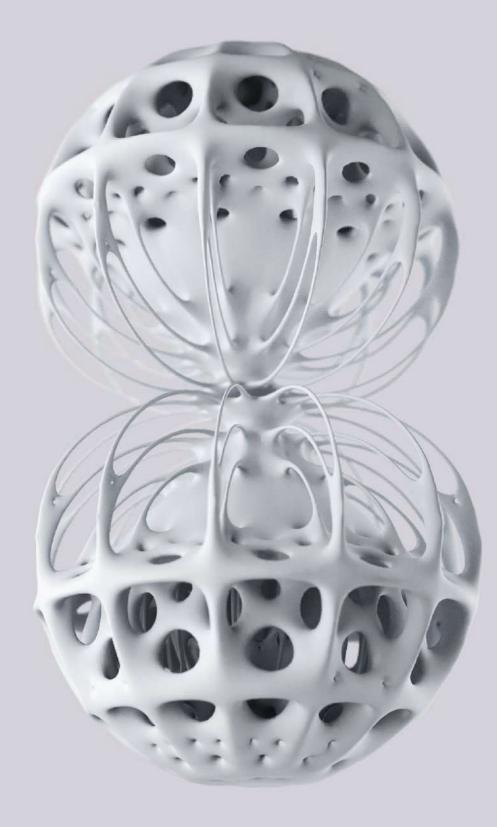


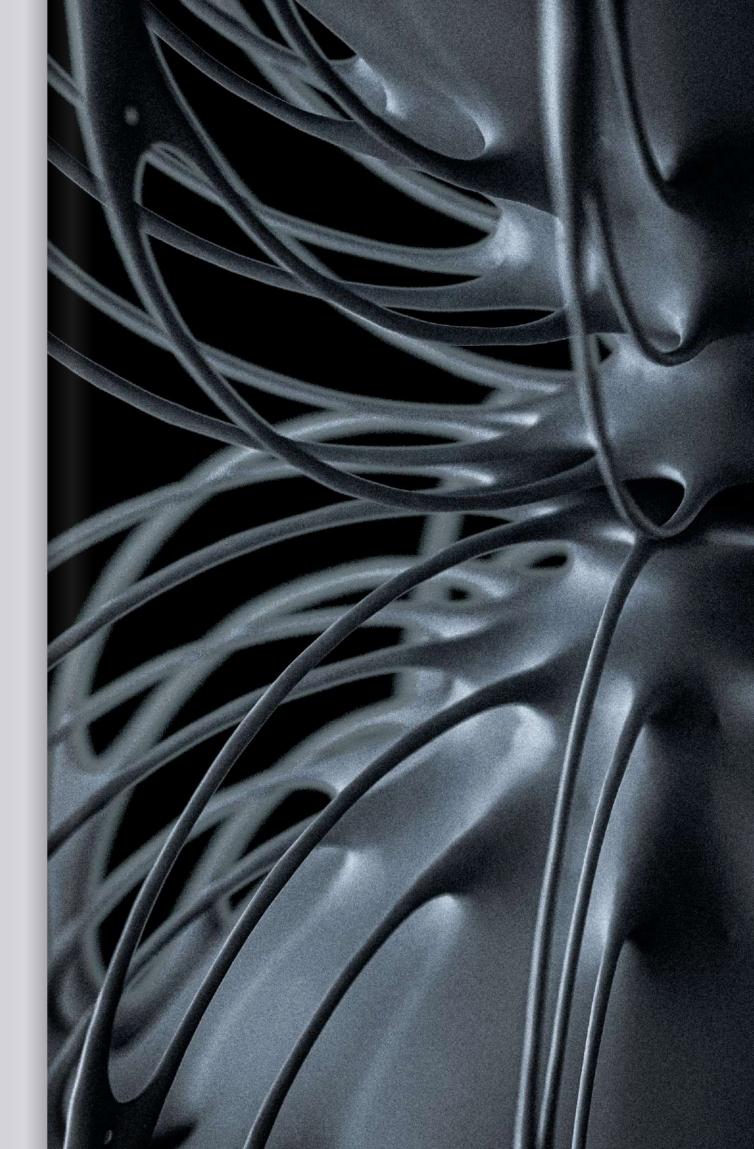


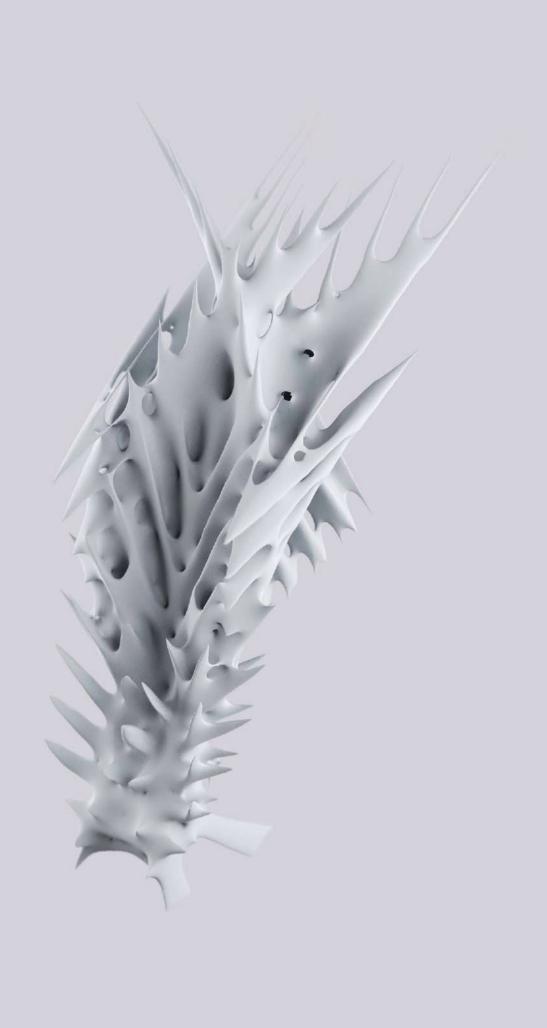


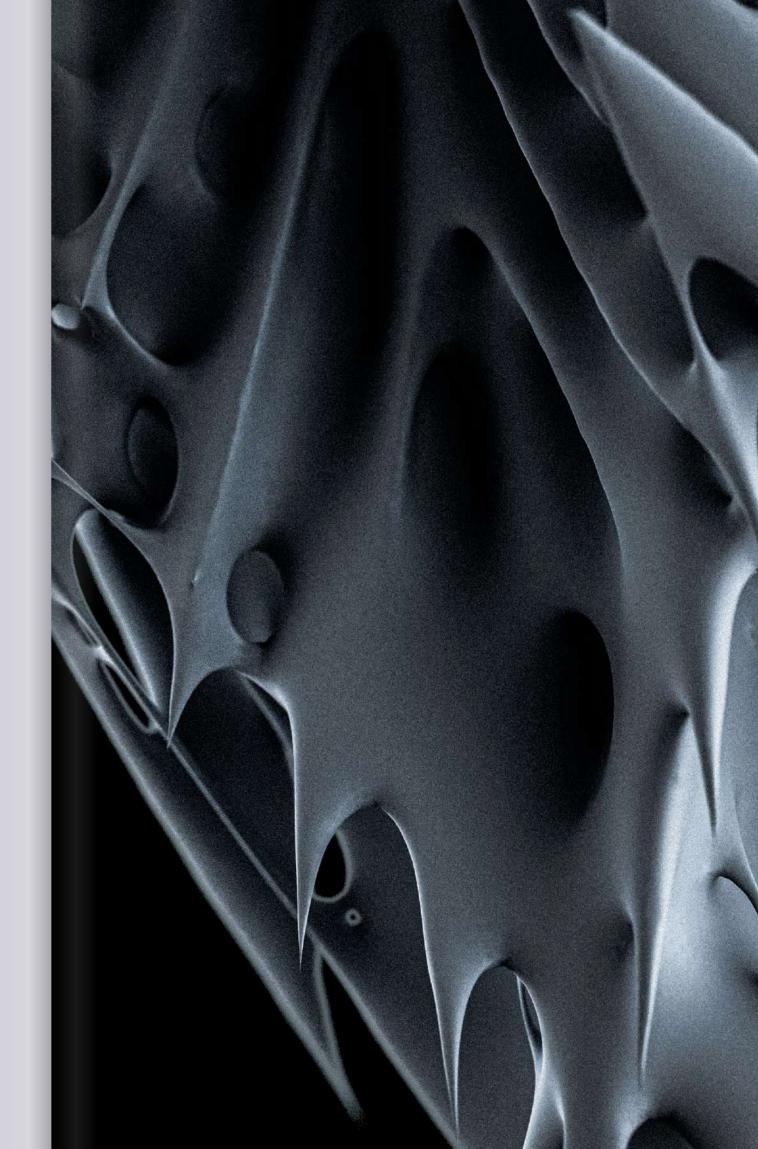


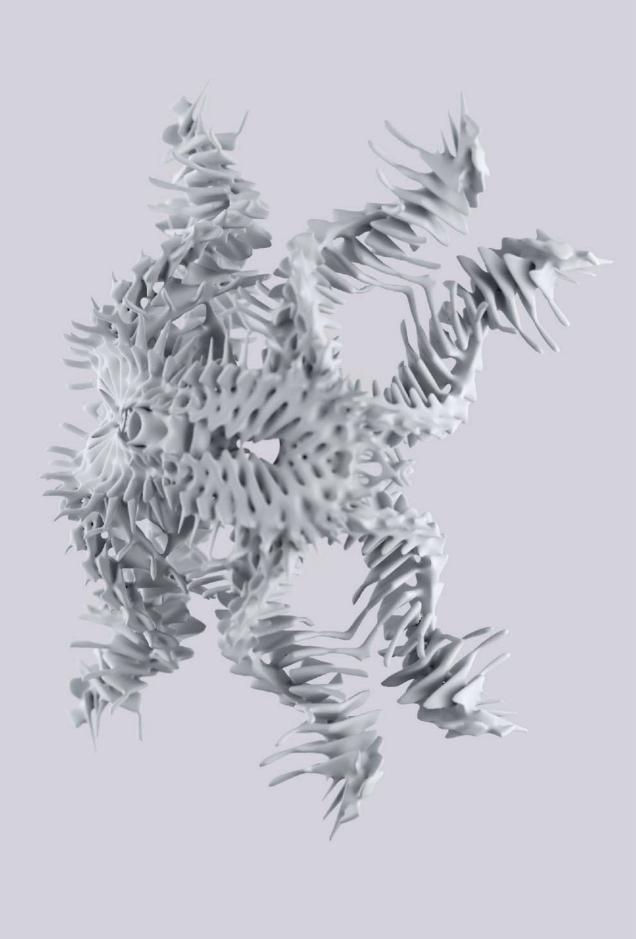


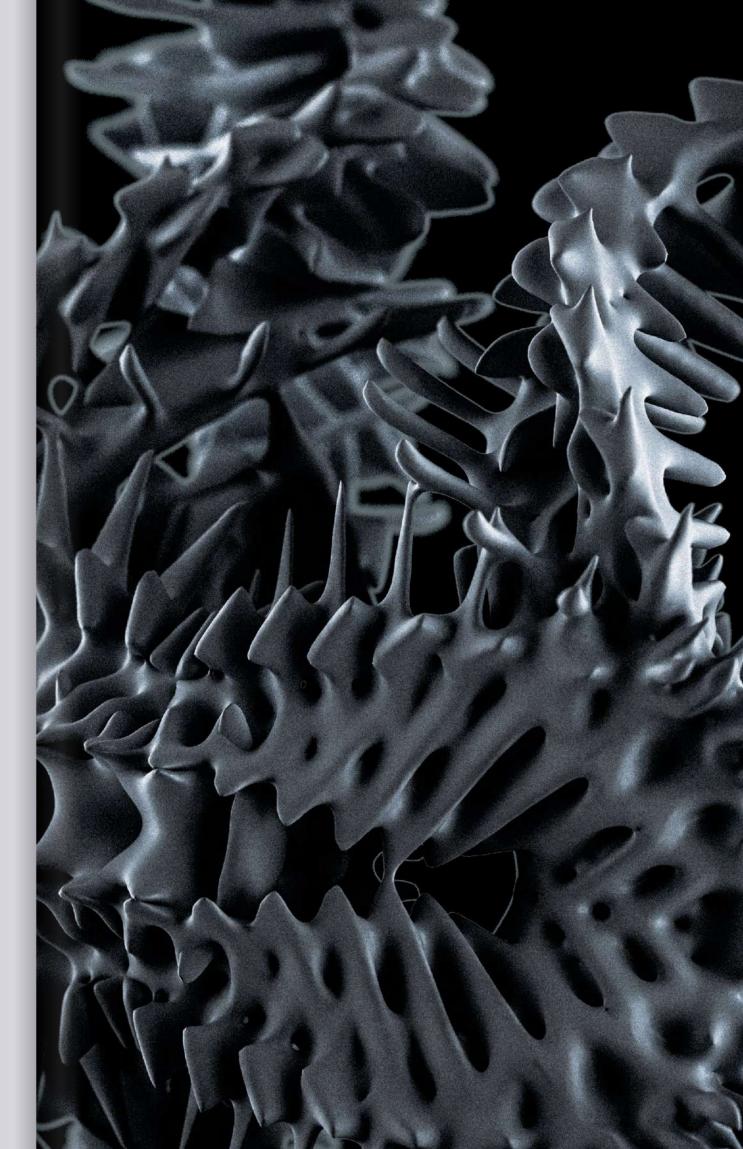




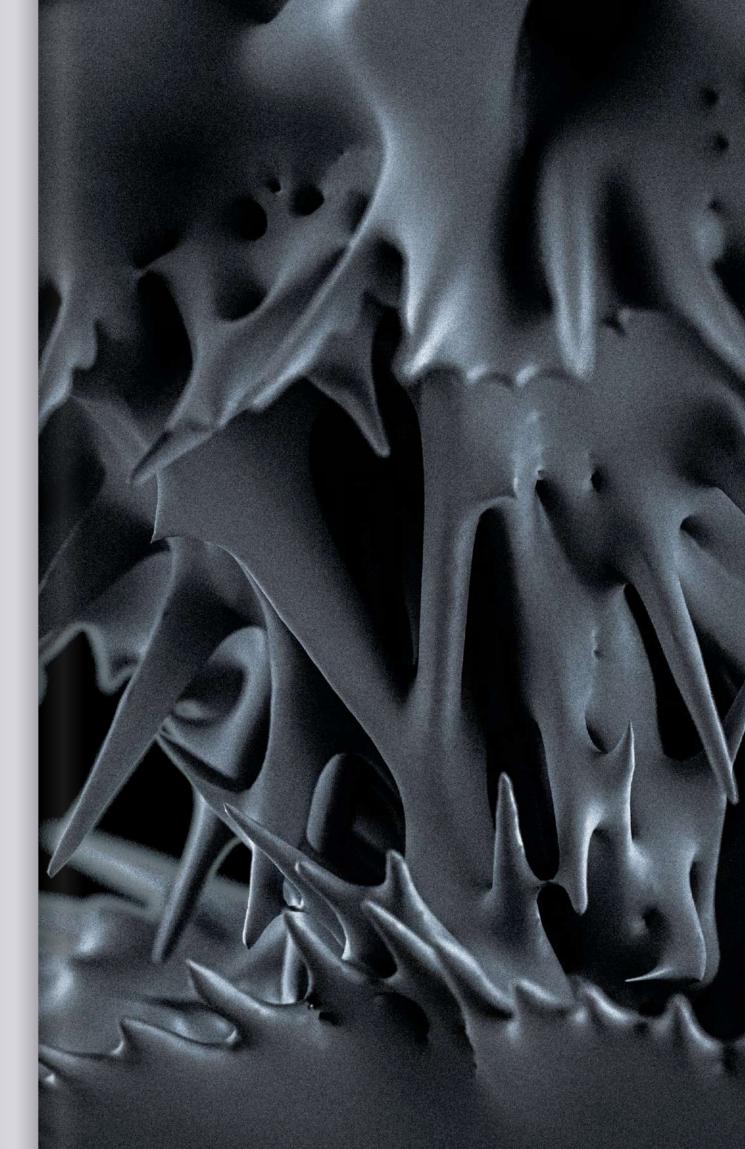


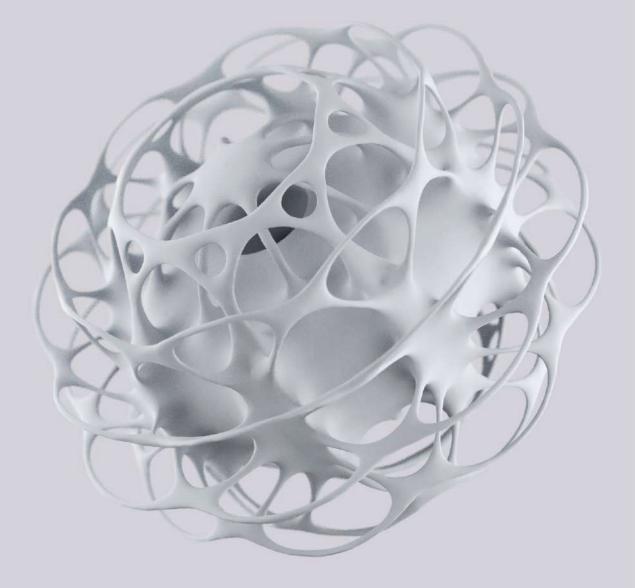






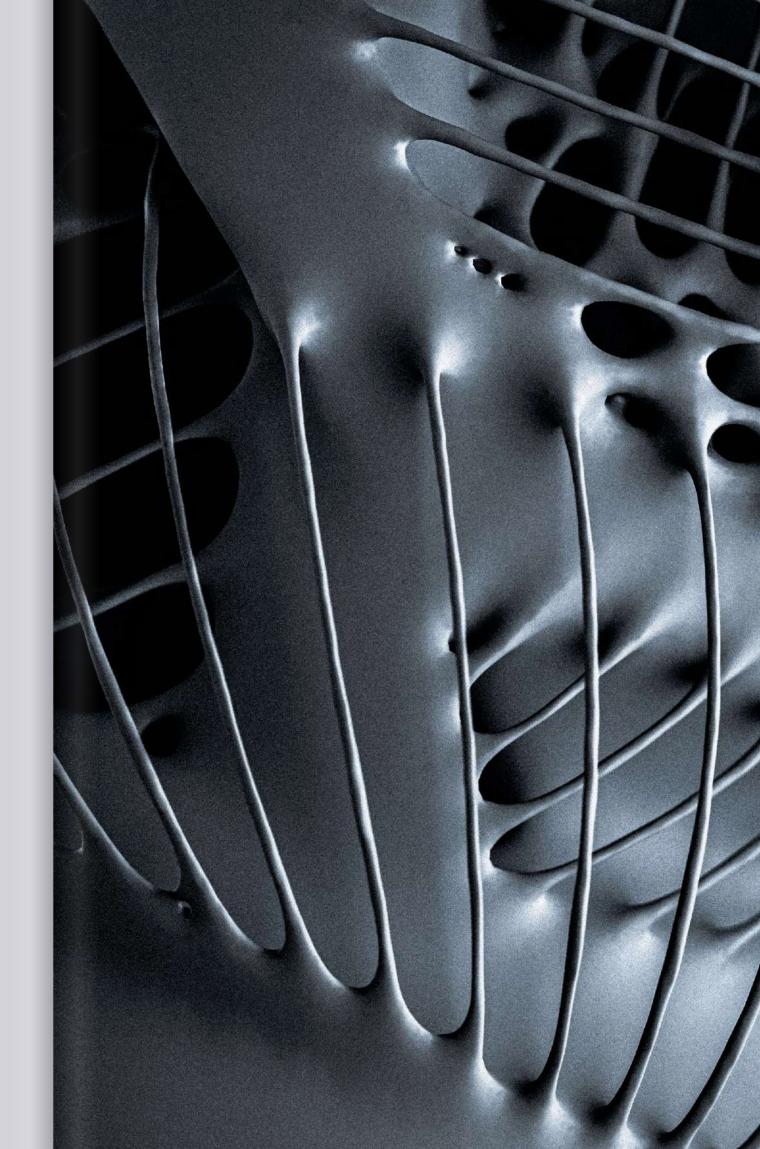




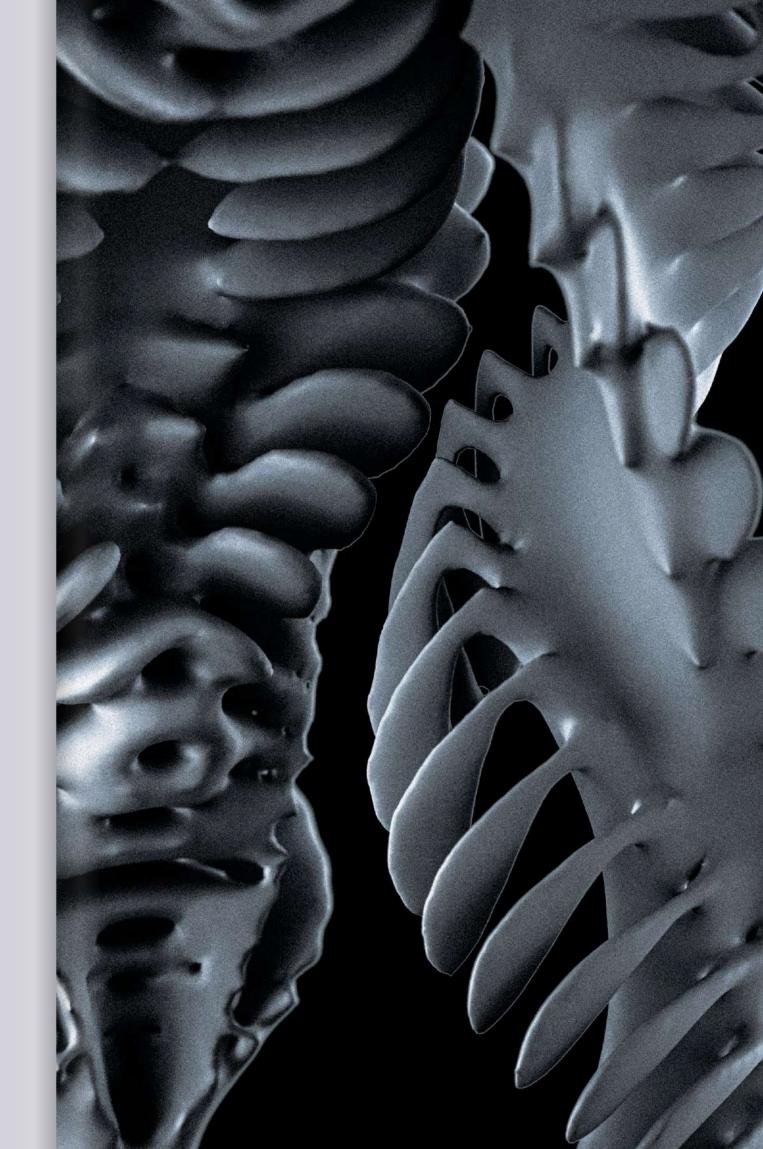


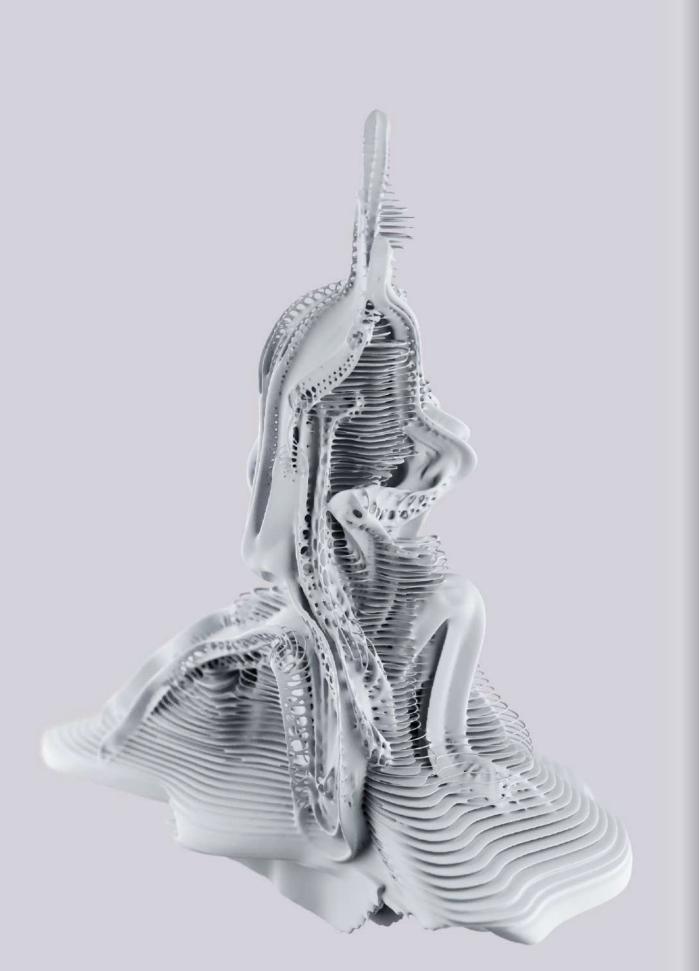








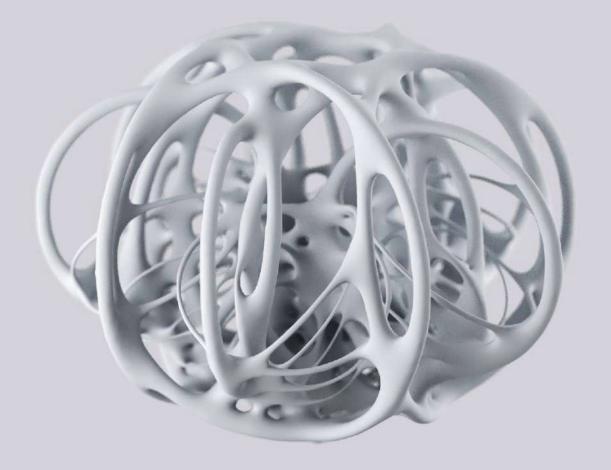


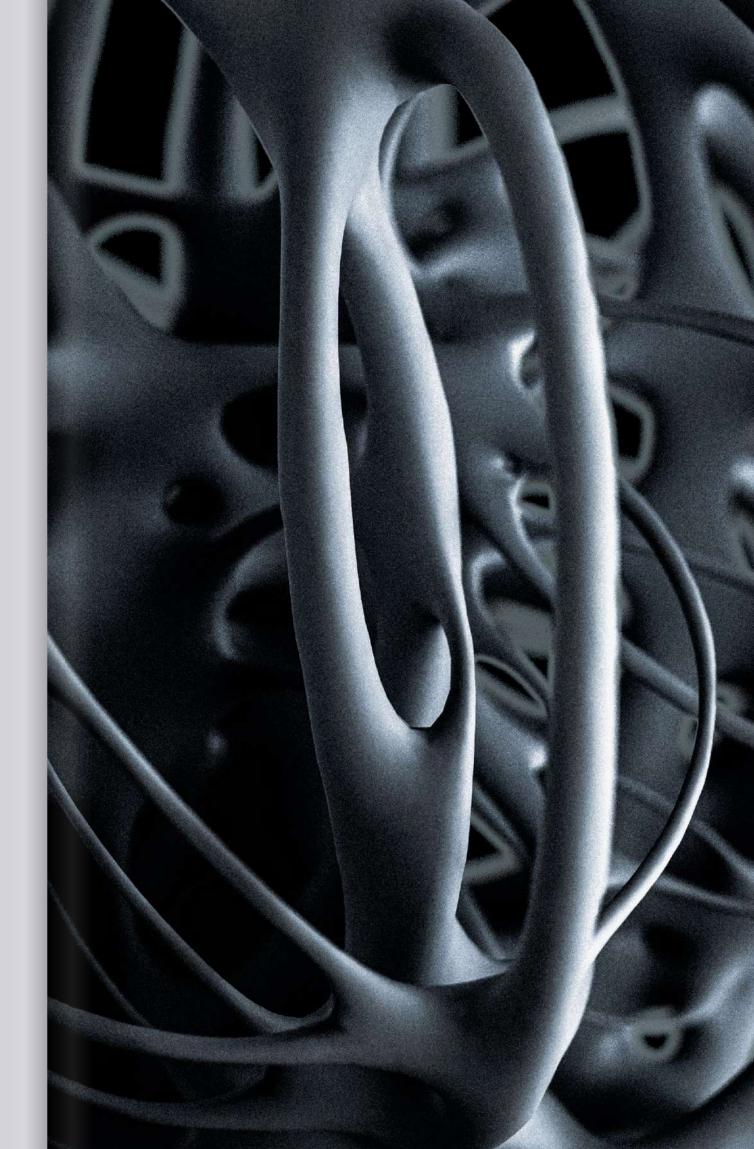


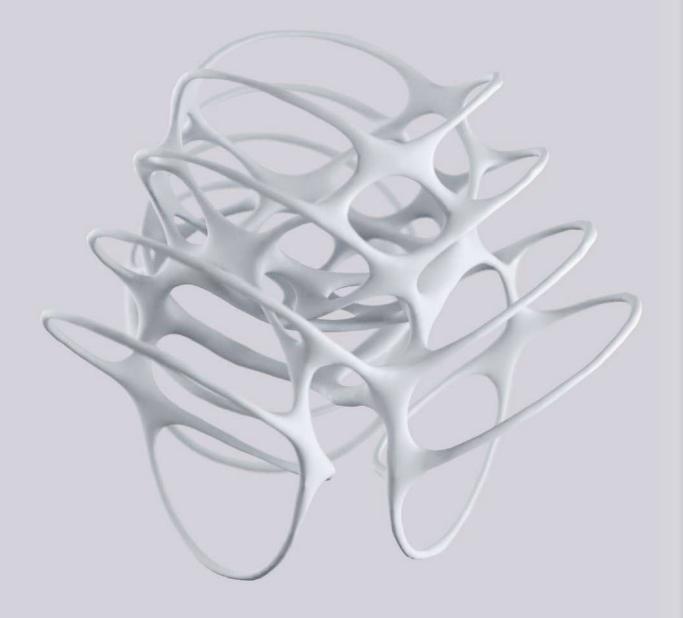


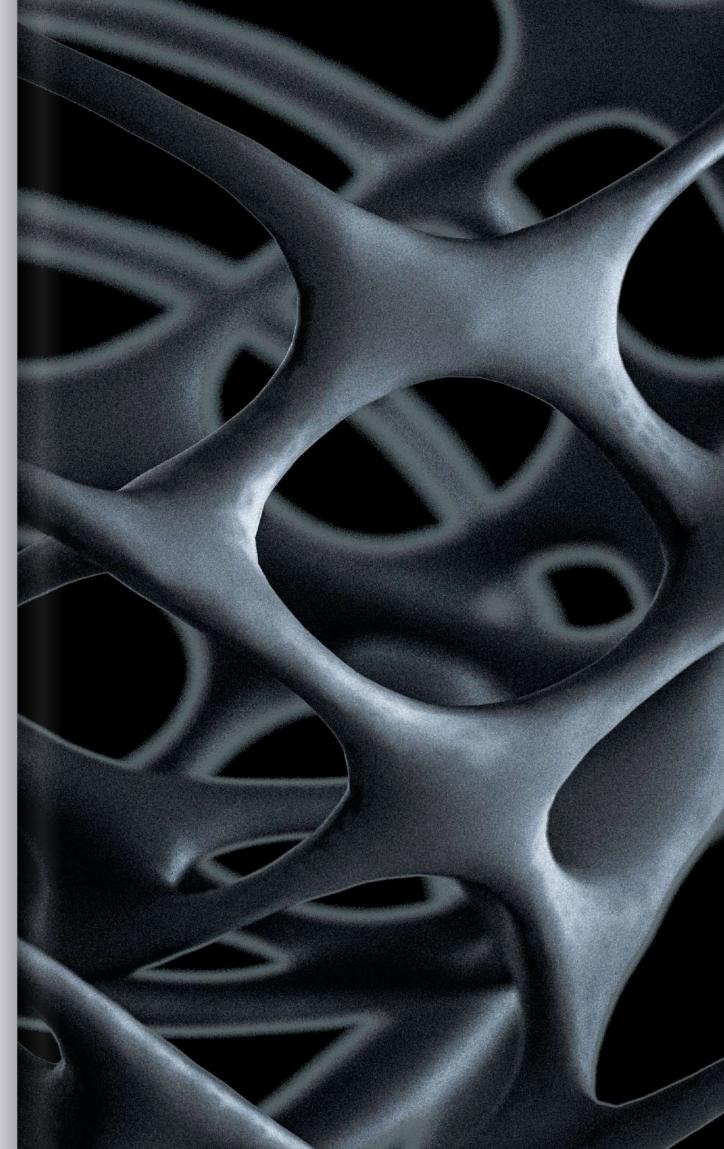








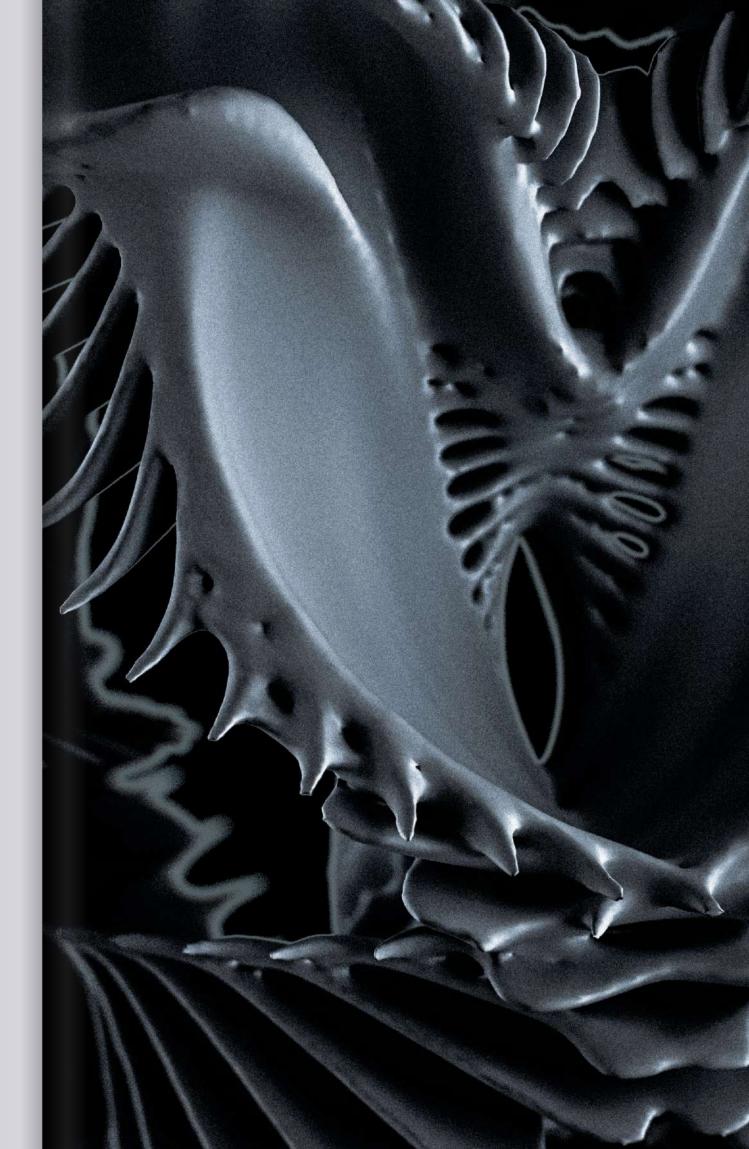








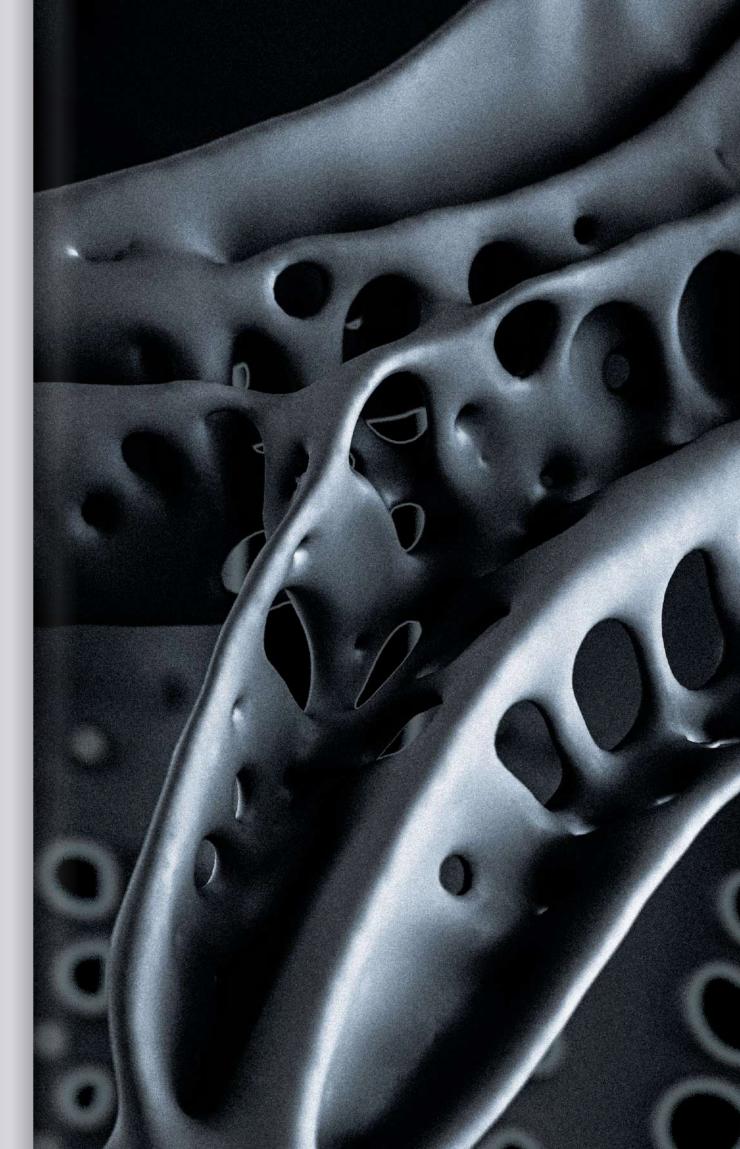












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